**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**Washington, D.C. 20549**

# FORM 10-K

**(Mark One)**

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
**For the fiscal year ended June 30, 2019**
**OR**

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
**For the transition period from_____ to_____**
**Commission File Number: 001-36410**

# Phibro Animal Health Corporation

**(Exact name of registrant as specified in its charter)**

| **Delaware** | **13-1840497** |
|---|---|
| **(State or other jurisdiction of incorporation or organization)** | **(I.R.S. Employer Identification No.)** |
| **Glenpointe Centre East, 3rd Floor**<br>**300 Frank W. Burr Boulevard, Suite 21**<br>**Teaneck, New Jersey**<br>**(Address of Principal Executive Offices)** | **07666-6712**<br>**(Zip Code)** |

**(201) 329-7300**
**(Registrant's telephone number, including area code)**

**Securities registered pursuant to Section 12(b) of the Act:**

| Title of each class | Trading Symbol(s) | Name of each exchange on which registered |
|---|---|---|
| Class A Common Stock, $0.0001 par value per share | PAHC | Nasdaq Stock Market |

**Securities registered pursuant to Section 12(g) of the Act: None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files.) Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated filer | ☒ |
| Non-accelerated filer | ☐ | Smaller reporting company | ☐ |
| Emerging Growth Company | ☐ | | |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any or new revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the registrant's Class A common stock and Class B common stock held by non-affiliates of the registrant was $648,379,497 as of December 31, 2018, the last business day of the registrant's most recently completed second fiscal quarter based on the closing price of the common stock on the Nasdaq Stock Market. The registrant has no non-voting common stock.

As of August 20, 2019, there were 20,287,574 shares of the registrant's Class A common stock, par value $0.0001 per share, and 20,166,034 shares of the registrant's Class B common stock, par value $0.0001 per share, outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE:**

Portions of the registrant's Proxy Statement for the 2019 Annual Meeting of Shareholders to be held on November 4, 2019 (hereinafter referred to as the "2019 Proxy Statement") are incorporated herein by reference in Part III of this Annual Report on Form 10-K. Such proxy statement will be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended June 30, 2019.

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**Forward-Looking Statements**

This Annual Report on Form 10-K contains forward-looking statements that are subject to risks and uncertainties. All statements other than statements of historical or current fact included in this report are forward-looking statements. Forward-looking statements discuss our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business. You can identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. These statements may include words such as "aim," "anticipate," "believe," "estimate," "expect," "forecast," "outlook," "potential," "project," "projection," "plan," "intend," "seek," "believe," "may," "could," "would," "will," "should," "can," "can have," "likely," the negatives thereof and other words and terms of similar meaning in connection with any discussion of the timing or nature of future operating or financial performance or other events. For example, all statements we make relating to our estimated and projected earnings, revenues, costs, expenditures, cash flows, growth rates and financial results, our plans and objectives for future operations, growth or initiatives, strategies, or the expected outcome or impact of pending or threatened litigation are forward-looking statements. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected. Examples of such risks and uncertainties include:

- perceived adverse effects on human health linked to the consumption of food derived from animals that utilize our products could cause a decline in the sales of those products;
- restrictions on the use of antibacterials in food-producing animals may become more prevalent;
- a material portion of our sales and gross profits are generated by antibacterials and other related products;
- competition in each of our markets from a number of large and small companies, some of which have greater financial, research and development ("R&D"), production and other resources than we have;
- outbreaks of animal diseases could significantly reduce demand for our products;
- our business may be negatively affected by weather conditions and the availability of natural resources;
- the continuing trend toward consolidation of certain customer groups as well as the emergence of large buying groups;
- our ability to control costs and expenses;
- any unforeseen material loss or casualty;
- exposure relating to rising costs and reduced customer income;
- competition deriving from advances in veterinary medical practices and animal health technologies;
- unanticipated safety or efficacy concerns;
- our dependence on suppliers having current regulatory approvals;
- our raw materials are subject to price fluctuations and their availability can be limited;
- natural and man-made disasters, including but not limited to fire, snow and ice storms, flood, hail, hurricanes and earthquakes;
- terrorist attacks, particularly attacks on or within markets in which we operate;
- our ability to successfully implement our strategic initiatives;
- our reliance on the continued operation of our manufacturing facilities and application of our intellectual property;
- adverse U.S. and international economic market conditions, including currency fluctuations;

- failure of our product approval, R&D, acquisition and licensing efforts to generate new products;
- the risks of product liability claims, legal proceedings and general litigation expenses;
- the impact of current and future laws and regulatory changes;
- modification of foreign trade policy may harm our food animal product customers
- our dependence on our Israeli and Brazilian operations;
- our substantial level of indebtedness and related debt-service obligations;
- restrictions imposed by covenants in our debt agreements;
- the risk of work stoppages; and
- other factors as described in "Risk Factors" in Item 1A. of this Annual Report on Form 10-K.

While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. Important factors that could cause actual results to differ materially from our expectations, or cautionary statements, are disclosed under "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." All forward-looking statements are expressly qualified in their entirety by these cautionary statements. You should evaluate all forward-looking statements made in this report in the context of these risks and uncertainties.

We caution you that the important factors referenced above may not contain all of the factors that are important to you. In addition, we cannot assure you that we will realize the results or developments we expect or anticipate or, even if substantially realized, that they will result in the consequences we anticipate or affect us or our operations in the way we expect. The forward-looking statements included in this report are made only as of the date hereof. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law. If we do update one or more forward-looking statements, no inference should be made that we will make additional updates with respect to those or other forward-looking statements.

**Market, Ranking and Other Industry Data**

Unless otherwise indicated, information contained in this report concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market share, is based on management estimates and on information from Vetnosis Limited ("Vetnosis"), a research and consulting firm specializing in global animal health and veterinary medicine. The Vetnosis information cited in this document was not prepared by Vetnosis on our behalf. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. We believe these estimates are reasonable as of the date of this report, or if an earlier date is specified, as of such earlier date. However, this information may prove to be inaccurate because of the method by which we obtained some of the data for our estimates or because this information is subject to change and cannot always be verified due to limits on the availability and reliability of independent sources, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey of market shares. In addition, purchasing patterns and consumer preferences can and do change. As a result, you should be aware that market share, ranking and other similar data set forth in this report, and estimates and beliefs based on such data, may not be reliable.

**Trademarks, Service Marks and Trade Names**

The following trademarks and service marks used throughout this report belong to, are licensed to, or are otherwise used by us in our business: AB20®; Animate®; Aviax®; Aviax Plus™; Avi-Carb®; Banminth®; Bloat Guard®; Boviprol™; Cellerate Yeast Solutions®; Cerdimix™; Cerditac™; Chromax®; Coxistac™; Emulsigen®; Eskalin™; Gemstone®; Lactrol®; Magni-Phi®; MB-1™; Mecadox®; MJPRRS®; MVP Adjuvants®; Neo-Terramycin®; Neo-TM™; Nicarb®; Nicarmix®; OmniGen-AF®; pHi-Tech™; Posistac™; Procreatin 7®; Provia Prime™; Rumatel®; Safmannan®; Stafac®; TAbic®; Tailor Made®; Terramycin®; TM-50®; TM-100™; V.H.®; and, V-Max®.

# PART I

## Item 1. Business

### Overview

Phibro Animal Health Corporation is a leading global diversified animal health and mineral nutrition company. We strive to be a trusted partner with livestock producers, veterinarians and farmers by providing solutions to help them maintain and enhance the health of their animals and produce healthy, affordable food while using fewer natural resources. We sell more than 1,500 product presentations in over 75 countries to approximately 3,500 customers. We develop, manufacture and market a broad range of products for food animals including poultry, swine, beef and dairy cattle and aquaculture. Our products help prevent, control and treat diseases, enhance nutrition to help improve health and contribute to balanced mineral nutrition. We sell animal health and mineral nutrition products either directly to integrated poultry, swine and cattle integrators or through commercial animal feed manufacturers, wholesalers and distributors.

Our products include:

- Animal health products such as antibacterials, anticoccidials, nutritional specialty products and vaccines that help improve the animal's health and therefore improve performance, food safety and animal welfare. Our Animal Health segment also includes antibacterials and other processing aids used to improve production efficiency in the ethanol fermentation industry.
- Mineral nutrition products that fortify the animal's diet and help maintain optimal health.

We have focused our efforts in regions where the majority of livestock production is consolidated in large commercial farms. We believe we are well positioned to grow our sales with our established network of sales, marketing and distribution professionals in markets in North America, Latin America, Asia Pacific, Europe and Africa.

We are investing resources to develop future products for the companion animal sector. Our business is currently concentrated in the livestock sector.

In addition to animal health and mineral nutrition products, we manufacture and market specific ingredients for use in the personal care, industrial chemical and chemical catalyst industries. We sell performance products directly to customers in the aforementioned industries.

Our Class A common stock trades on the Nasdaq Stock Market ("Nasdaq") under the trading symbol "PAHC." Our Class B common stock is not listed or traded on any stock exchange. We are a Delaware corporation.

Unless otherwise indicated or the context requires otherwise, references in this report to "we," "our," "us," "the Company," "Phibro," "PAHC" and similar expressions refer to Phibro Animal Health Corporation and its subsidiaries.

### Business Segments

We manage our business in three segments—Animal Health, Mineral Nutrition and Performance Products—each with its own dedicated management and sales team, for enhanced focus and accountability. Net sales by segments, species and regions were:

| | Segments | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| Animal Health | $532 | $532 | $498 | $ 0 | *0%* | $34 | *7%* | *64%* | *65%* | *65%* |
| Mineral Nutrition | 234 | 235 | 218 | (1) | *(0)%* | 17 | *8%* | *28%* | *29%* | *29%* |
| Performance Products | 62 | 53 | 48 | 9 | *17%* | 5 | *11%* | *8%* | *7%* | *6%* |
| Total | $828 | $820 | $764 | $ 8 | *1%* | $56 | *7%* | | | |

| For the Year Ended June 30 | Species | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| Poultry | $316 | $321 | $301 | $ (5) | *(2)%* | $20 | *7%* | *38%* | *39%* | *39%* |
| Dairy | 170 | 177 | 157 | (7) | *(4)%* | 20 | *13%* | *21%* | *22%* | *21%* |
| Cattle | 88 | 80 | 76 | 8 | *10%* | 4 | *5%* | *11%* | *10%* | *10%* |
| Swine | 101 | 100 | 93 | 1 | *1%* | 7 | *8%* | *12%* | *12%* | *12%* |
| Other[1] | 153 | 142 | 137 | 11 | *8%* | 5 | *4%* | *18%* | *17%* | *18%* |
| Total | $828 | $820 | $764 | $ 8 | *1%* | $56 | *7%* | | | |

| For the Year Ended June 30 | Regions[2] | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| United States | $481 | $491 | $484 | $(10) | *(2)%* | $ 7 | *1%* | *58%* | *60%* | *63%* |
| Latin America and Canada | 152 | 143 | 113 | 9 | *6%* | 30 | *27%* | *18%* | *17%* | *15%* |
| Europe, Middle East and Africa | 105 | 110 | 96 | (5) | *(5)%* | 14 | *15%* | *13%* | *13%* | *13%* |
| Asia Pacific | 90 | 76 | 71 | 14 | *18%* | 5 | *7%* | *11%* | *9%* | *9%* |
| Total | $828 | $820 | $764 | $ 8 | *1%* | $56 | *7%* | | | |

(1) Other includes sales related to: Performance Products customers; the ethanol industry; aquaculture and other minor species; adjuvants for animal vaccine manufacturers; and Mineral Nutrition pet food manufacturers, plant nutrition and other customers.

(2) Net sales by region are based on country of destination.

Certain amounts and percentages may reflect rounding adjustments.

Adjusted EBITDA by segment was:

| For the Year Ended June 30 | Adjusted EBITDA[1] | | | Change | | | | Percentage of total[2] | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| Animal Health | $136 | $142 | $130 | $ (6) | *(4)%* | $12 | *9%* | *87%* | *87%* | *87%* |
| Mineral Nutrition | 16 | 19 | 17 | (3) | *(15)%* | 1 | *7%* | *10%* | *11%* | *12%* |
| Performance Products | 5 | 2 | 2 | 3 | *151%* | (0) | *(9)%* | *3%* | *1%* | *1%* |
| Corporate | (38) | (33) | (30) | (5) | * | (4) | * | | | |
| Total | $118 | $129 | $120 | $(11) | *(8)%* | $ 9 | *7%* | | | |

(1) See "Management's Discussion and Analysis of Financial Condition and Results of Operations General description of non-GAAP financial measures" for description of Adjusted EBITDA.

(2) Before unallocated corporate costs

Certain amounts and percentages may reflect rounding adjustments.

Net identifiable assets by segment were:

| As of June 30 | Net Identifiable Assets | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| Animal Health | $509 | $456 | $442 | $53 | *12%* | $14 | *3%* | *70%* | *68%* | *71%* |
| Mineral Nutrition | 68 | 70 | 55 | (2) | *(3)%* | 15 | *26%* | *9%* | *10%* | *9%* |
| Performance Products | 33 | 24 | 24 | 9 | *37%* | 0 | *1%* | *5%* | *4%* | *4%* |
| Corporate | 117 | 122 | 102 | (5) | *(4)%* | 20 | *20%* | *16%* | *18%* | *16%* |
| Total | $727 | $672 | $623 | $54 | *8%* | $49 | *8%* | | | |

Corporate assets include cash and cash equivalents, short-term investments, debt issuance costs, income tax related assets and certain other assets.

Certain amounts and percentages may reflect rounding adjustments.

**Animal Health**

Our Animal Health business develops, manufactures and markets more than 900 product presentations, including:

- antibacterials, which inhibit the growth of pathogenic bacteria that cause bacterial infections in animals; anticoccidials, which inhibit the growth of coccidia (parasites) that damage the intestinal tract of animals; and related products (MFAs and other);
- nutritional specialty products, which enhance nutrition to help improve health and performance (nutritional specialties); and
- vaccines, which induce an increase in antibody levels against a specific virus or bacterium, thus preventing disease from that viral or bacterial antigen (vaccines).

Our animal health products help our customers prevent, control and treat diseases and enhance nutrition to help improve health, enabling our customers to more efficiently produce high-quality, wholesome and affordable animal protein products for human consumption. We develop, manufacture and market a broad range of animal health products for food animals including poultry, swine, beef and dairy cattle and aquaculture. We provide technical and product support directly to our customers to ensure the optimal use of our products. The animal health industry and demand for many of our animal health products in a particular region are affected by changing disease pressures and by weather conditions, as usage of our products follows varying weather patterns and seasons. As a result, we may experience regional and seasonal fluctuations in our animal health segment. Animal Health net sales by product group and regions were:

| | Product Groups | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| MFAs and other | $350 | $337 | $321 | $ 13 | *4%* | $16 | *5%* | *66%* | *63%* | *65%* |
| Nutritional specialties | 113 | 123 | 111 | (10) | *(8)%* | 12 | *11%* | *21%* | *23%* | *22%* |
| Vaccines | 68 | 72 | 65 | (4) | *(5)%* | 7 | *11%* | *13%* | *14%* | *13%* |
| Animal Health | $532 | $532 | $498 | $ (0) | *(0)%* | $34 | *7%* | | | |

| | Regions[1] | | | Change | | | | Percentage of total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| For the Years Ended June 30 | 2019 | 2018 | 2017 | 2019/2018 | | 2018/2017 | | 2019 | 2018 | 2017 |
| | ($ in millions) | | | | | | | | | |
| United States | $199 | $220 | $230 | $(21) | *(10)%* | $(10) | *(4)%* | *37%* | *41%* | *46%* |
| Latin America and Canada | 142 | 129 | 104 | 13 | *10%* | 25 | *24%* | *27%* | *24%* | *21%* |
| Europe, Middle East and Africa | 103 | 108 | 93 | (5) | *(5)%* | 15 | *16%* | *19%* | *20%* | *19%* |
| Asia Pacific | 88 | 75 | 71 | 13 | *17%* | 4 | *6%* | *17%* | *14%* | *14%* |
| Total | $532 | $532 | $498 | $ — | *0%* | $ 34 | *7%* | | | |

(1) Net sales by region are based on country of destination

Certain amounts and percentages may reflect rounding adjustments.

*MFAs and Other*

Our MFAs and other products primarily consists of concentrated medicated products administered through animal feeds, commonly referred to as Medicated Feed Additives ("MFAs"). Our MFAs and other products primarily consists of the production and sale of antibacterials (including

Stafac®, Terramycin®, Neo-Terramycin® and Mecadox®) and anticoccidials (including Nicarb®, Aviax®, Aviax Plus™, Coxistac™ and amprolium). MFAs and other products also include antibacterial products and other processing aids, used to improve production efficiencies in the ethanol fermentation industry.

Approximately 50% of our MFAs and other sales in fiscal year 2019 were to the poultry industry, with sales to swine, cattle, dairy and other customers accounting for the remainder. We sell our MFAs and other products in all regions where we do business, with the largest region (as measured by net sales) accounting for approximately one-third of the product group's net sales.

*Nutritional Specialties*

Many of our proprietary nutritional specialty products have been developed through basic research in cooperation with private research companies or by leading universities with whom we collaborate and then further develop through commercial trials with customers. Our nutritional specialty products include OmniGen-AF®, a patented nutritional specialty product that has been shown in several studies to help maintain a cow's healthy immune system; Animate®, an anionic nutritional specialty product that helps optimize the health and performance of the transition dairy cow; Magni-Phi®, a proprietary nutritional specialty product that has been shown to help improve immune response in poultry; and, Cellerate Yeast Solutions®, a line of proprietary yeast culture products that are used in all classes of livestock to help improve digestive health, which may lead to improved animal health and performance. We sell our nutritional specialty products in the United States and various other countries internationally.

In August 2019, we acquired the business and assets of Osprey Biotechnics, Inc. ("Osprey"). Osprey is a developer, manufacturer and marketer of microbial products and bioproducts for a variety of applications serving animal health and nutrition, environmental, industrial and agricultural customers. Osprey also produces key components of our recently launched Provia Prime™ direct fed microbial product for poultry.

*Vaccines*

Our vaccines products are primarily focused on preventing diseases in poultry and swine. We market vaccines in all regions in which we operate. We market our vaccine products to protect animals from either viral or bacterial disease challenges.

We have developed and distribute over 20 licensed vaccine presentations for prevention of diseases in poultry, including vaccines to protect against Infectious Bursal Disease, Infectious Bronchitis, Newcastle Disease, Salmonella and Coryza.

We develop, manufacture and distribute autogenous vaccines against animal diseases, primarily for swine, in the United States. Our autogenous vaccines allow us to produce custom vaccines for veterinarians that contain antigens specific to each farm, allowing Phibro to provide comprehensive health management solutions to our customers. Our autogenous vaccine products include the Tailor Made® line of vaccines and the MJPRRS® vaccine. We also market adjuvants to animal vaccine manufacturers.

We have developed TAbic®, an innovative and proprietary delivery platform for vaccines. TAbic is a patented technology for formulation and delivery of vaccine antigens in effervescent tablets, packaged in sealed aluminum blister packages. The technology replaces the glass bottles that are in common use today, and offers significant advantages including storage requirements, customer handling and disposal. Several of our vaccine products are available in the patented TAbic format.

We also focus on innovation to produce new antigens or new presentations of antigens, and have developed new vaccines, such as MB-1™, a live attenuated vaccine for Infectious Bursal disease, developed from the M.B. strain, adapted for in-ovo or subcutaneous injection at the hatchery, the inactivated subunit Infectious Bursal Disease Virus and Egg Drop Syndrome vaccines, being sold as monovalent vaccines or in combinations with other antigens.

We are making operational a vaccine production facility in Sligo, Ireland to produce poultry vaccines, with longer-term expectations to add swine and cattle vaccines. The facility is currently idle.

**Mineral Nutrition**

Our Mineral Nutrition business manufactures and markets approximately 400 formulations and concentrations of trace minerals such as zinc, manganese, copper, iron and other compounds, with a focus on customers in North America. Our customers use these products to fortify the daily feed requirements of their livestock's diets and maintain an optimal balance of trace elements in each animal. We manufacture and market a broad range of mineral nutrition products for food animals including poultry, swine and beef and dairy cattle. Volume growth in the mineral nutrition sector is primarily driven by livestock production numbers, while pricing is largely based on costs of the underlying commodity metals. Demand for our mineral nutrition products can vary in different seasons of the year and due to changes in weather conditions in a particular region, both of which may cause animal feed consumption to fluctuate. As a result, we may experience regional and seasonal fluctuations in our Mineral Nutrition segment.

**Performance Products**

Our Performance Products business manufactures and markets a number of specialty ingredients for use in the personal care, industrial chemical and chemical catalyst industries, predominantly in the United States.

**Our Products**

***Animal Health***

*MFAs and Other*

Our MFAs and other products primarily consists of the production and sale of antibacterials (Stafac, Terramycin, Neo-Terramycin and Mecadox) and anticoccidials (Nicarb, Aviax, Aviax Plus, Coxistac and amprolium). We sell our MFAs and other products in all regions where we do business.

*Antibacterials and Anticoccidials*

We manufacture and market a broad range of antibacterials and other medicated products to the global livestock industry. These products provide therapeutic benefits for the animals and increased feed conversion efficiency, which are proven drivers of profitability for animal producers. The table below presents our core MFA products:

| Product | Active Ingredient | Market Entry of Active Ingredient | Description |
|---|---|---|---|
| Terramycin®/TM-50®/ TM-100™ | oxytetracycline | 1951 | Antibacterial with multiple applications for a wide number of species |
| Nicarb® | nicarbazin | 1954 | Anticoccidial for poultry |
| amprolium | amprolium | 1960 | Anticoccidial for poultry and cattle |
| Bloat Guard® | poloxalene | 1967 | Anti-bloat treatment for cattle |
| Banminth® | pyrantel tartrate | 1972 | Anthelmintic for livestock |
| Mecadox® | carbadox | 1972 | Antibacterial for swine to control Salmonellosis and dysentery |
| Stafac®/Eskalin™/V-Max® | virginiamycin | 1975 | Antibacterial used to prevent and control diseases in poultry, swine and cattle |
| Coxistac™/Posistac™ | salinomycin | 1979 | Anticoccidial for poultry, cattle and swine |
| Rumatel® | morantel tartrate | 1981 | Anthelmintic for livestock |
| Cerditac™/Cerdimix™ | oxibendazole | 1982 | Anthelmintic for livestock |

| Product | Active Ingredient | Market Entry of Active Ingredient | Description |
|---|---|---|---|
| Aviax® | semduramicin | 1995 | Anticoccidial for poultry |
| Neo-Terramycin®/Neo-TM™ | oxytetracycline + neomycin | 1999 | Combination of two antibacterials with multiple applications for a wide number of species |
| Aviax® Plus/Avi-Carb® | semduramicin + nicarbazin | 2010 | Anticoccidial for poultry |

Antibacterials are biological or chemical products used in the animal health industry to treat or to prevent bacterial diseases, thereby promoting animal health, resulting in more efficient livestock growth. Several factors contribute to limit the efficiency, weight gain and feed conversions of livestock production, including stress, poor nutrition, environmental and management challenges and disease. Antibacterials help prevent, control and treat disease in livestock, which can also lead to improved overall health of the animals, improved rate of weight gain and more efficient feed conversion. Our antibacterial products include:

- *Oxytetracycline and Neomycin*. Terramycin® utilizes the active ingredient oxytetracycline and Neo-Terramycin® combines the active ingredients neomycin and oxytetracycline to prevent, control and treat a wide range of diseases in chickens, turkeys, cattle, swine and aquaculture. We sell Terramycin and Neo-Terramycin products primarily to livestock and aquaculture producers, feed companies and distributors.

- *Virginiamycin*. Virginiamycin is an antibacterial marketed under the brand names Stafac® to poultry, swine and cattle producers, Eskalin™ to dairy cows and beef cattle producers and V-Max® for beef cattle producers. Virginiamycin is used primarily to prevent necrotic enteritis in chickens, treat and control swine dysentery and aid in the prevention or reduce the incidence of liver abscesses in cattle. Our experience in the development and production of virginiamycin has enabled us to develop significant intellectual property through trade secret know-how, which has helped protect against competition from generics. We are the sole worldwide manufacturer and marketer of virginiamycin.

- *Carbadox*. We market carbadox under the brand name Mecadox® for use in swine feeds to control swine Salmonellosis and swine dysentery and, as a result, improve animal health and performance. Mecadox is sold primarily in the United States to feed companies and large integrated swine producers.

Anticoccidials are produced through fermentation or chemical synthesis, and are primarily used to prevent and control the disease coccidiosis in poultry and cattle, thereby promoting animal health, resulting in more efficient livestock growth. Coccidiosis is a disease of the digestive tract that has considerable health consequences to livestock and, as a result, is of great concern to livestock producers. We sell our anticoccidials primarily to integrated poultry producers and feed companies and to international animal health companies. Our anticoccidial products include:

- *Nicarbazin*. We produce and market nicarbazin, a broad-spectrum anticoccidial used for coccidiosis prevention in poultry. We market nicarbazin under the trademarks Nicarb® and Nicarmix® and as an active pharmaceutical ingredient.

- *Amprolium*. We produce and market amprolium primarily as an active pharmaceutical ingredient.

- *Salinomycin and Semduramicin*. We produce and market Coxistac®, Aviax®/Aviax Plus™/Avi-Carb® and Posistac™, which are in a class of compounds known as ionophores, to combat coccidiosis in poultry and increase feed efficiency in swine.

Anthelmintics are used to treat infestations of parasitic intestinal worms. Our anthelmintic products include Rumatel® and Banminth®, which are both marketed to control major internal nematode parasites in beef and dairy cattle and swine.

Bloat Guard® is an anti-bloat treatment used in cattle to control bloat in animals grazing on legume or wheat-pasture.

*Nutritional Specialties*

Our primary nutritional specialty products have been identified, developed and commercialized by our staff of nutritionists and veterinarians working with private research companies, leading universities, and customers with whom we collaborate. For those of our nutritional specialty products that are not proprietary or exclusive to us, we typically maintain unique supply agreements or exclusive distributor status with the product developers giving us preferential access to trademarks, territories and research data.

Our nutritional specialty products include:

| Product | Market Entry | Description |
|---|---|---|
| AB20® | 1989 | Natural flow agent that improves overall feed quality |
| Animate® | 1999 | Maintains proper blood calcium levels in dairy cows during critical transition period |
| Omnigen-AF® | 2004 | Optimizes immune status in dairy cows |
| Provia 6086™ | 2013 | Direct fed microbial (B.coagulans) for all classes of livestock |
| Magni-Phi® | 2015 | Proprietary blend that helps to improve immune response and may lead to improved absorption and utilization of nutrients for poultry |
| Cellerate Yeast Solutions® | 2017 | Proprietary yeast culture products for all classes of livestock to help improve digestive health |
| Provia Prime™ | 2019 | 4-way combination direct-fed microbial for optimization of gut health in poultry |

AB20® is a natural flow agent that, when added to feed, improves the overall feed quality. The product is one of the most thoroughly researched in the flow agent product category.

Animate® is a patented anionic mineral supplement that helps optimize the health and performance of the transition dairy cow and improves profitability for dairy producers.

OmniGen-AF® is a proprietary nutritional specialty product that has been shown in various studies to help maintain a cow's healthy immune system and improve their natural response to potential environmental stressors and health challenges.

Magni-Phi® is a proprietary blend of saponins, triterpenoids and polyphenols (classes of phytogenic feed additives or natural botanicals) that helps improve immune response and may lead to improved absorption and utilization of nutrients for poultry.

Cellerate Yeast Solutions® is a line of proprietary yeast culture and yeast culture blends with yeast fractions and/or live cell yeast used in all classes of livestock and companion animals for improved digestive health, feed intake and/or pathogen inhibition. Improved digestive health may lead to improved animal health and performance.

Provia Prime™ is a proprietary combination of four strains of bacillus-based direct-fed microbials that have been shown to promote beneficial gut bacteria, which can help promote health, immunity and weight gain in poultry and may also lead to lower pathogens (such as Clostridium perfringens, E. coli and Salmonella) in commercial poultry production.

We market nutritional specialty products to livestock producers by working through key influencers, such as animal nutritionists and veterinarians.

*Vaccines*

We develop, manufacture and market fully licensed and autogenous vaccines for poultry, swine, cattle and aquaculture globally. We also develop, manufacture and market vaccination equipment. We produce vaccines that protect animals from either viral or bacterial disease challenges. Our vaccine products include:

| Product | Market Entry | Description |
|---|---|---|
| V.H.® | 1974 | Live vaccine for the prevention of Newcastle Disease in poultry |
| Tailor Made® Vaccines | 1982 | Autogenous vaccines against either bacterial or viral diseases in poultry, swine and cattle |
| MVP Adjuvants® | 1982 | Components of veterinary vaccines that enhance the immune response to a vaccine |
| TAbic® M.B. | 2004 | Live vaccine for the prevention of Infectious Bursal Disease in poultry |
| MJPRRS® | 2007 | Autogenous vaccine for the prevention of porcine reproductive and respiratory syndrome ("PRRS") in swine |
| TAbic® IB VAR | 2009 | Live vaccine for the prevention of Infectious Bronchitis variant 1 strain 233A in poultry |
| TAbic® IB VAR206 | 2010 | Live vaccine for the prevention of Infectious Bronchitis variant 206 in poultry |
| MB-1™ | 2017 | Live hatchery vaccine for the prevention of Infections Bursal Disease in poultry |
| pHi-Tech™ | 2019 | Portable electronic injection device enabling management and proper delivery of vaccines |

The V.H. strain of Newcastle Disease vaccine is a pathogenic strain and is effective when applied by aerosol, coarse spray, drinking water or eye-drops. It has been used successfully under various management and climate conditions in many breeds of poultry.

Tailor Made® Vaccines are autogenous vaccines against either bacterial or viral diseases which contain antigens specific to each farm. We manufacture and sell these vaccines to veterinarians for use primarily in swine and cattle.

MVP Adjuvants® are integral components used in inactivated veterinary vaccines which enhance the immune response to a vaccine. Our adjuvants include Emulsigen®, Carbigen and Polygen.

The M.B. strain of Gumboro vaccine is an intermediate virulence live vaccine strain used for the prevention of Infectious Bursal Disease in poultry. The intermediate strain was developed to provide protection against the new field epidemic virus, which is more virulent than those previously encountered.

MJPRRS®, an autogenous vaccine for swine, is administered to pregnant sows to protect their offspring from PRRS. This vaccine includes multiple PRRS isolates representing different groups of PRRS viruses.

TAbic® IB VAR and TAbic® IB VAR206 vaccines are intermediate virulence live vaccine strains used for the prevention of infectious bronchitis in poultry. Both vaccines have become significant tools in the increasing fight against infectious bronchitis in regions throughout the world.

MB-1™ is a live attenuated vaccine for Infectious Bursal disease, developed from the M.B. strain, adapted for in-ovo or subcutaneous injection in the hatchery.

pHi-Tech™ is a portable electronic vaccination device that offers new technology and injection management to ensure proper delivery of vaccines.

We focus on innovation to produce new antigens or new presentations of antigens, and have developed new vaccines, such as the inactivated subunit Infectious Bursal Disease Virus and Egg Drop Syndrome vaccines, being sold as monovalent vaccines or in combinations with other antigens.

***Mineral Nutrition***

Our mineral nutrition products principally include inorganic and organic compounds of copper, zinc, cobalt, iron, selenium, manganese, magnesium and iodine. Our mineral nutrition products also include GemStone®, our exclusive line of chelated organic trace minerals, including zinc, manganese, copper and iron glycine chelates. These organic trace minerals improve bioavailability for livestock production and are available in a highly concentrated, easy-flowing granule.

Our major mineral nutrition customers are regional and national feed companies, distributors, co-ops, premixers, integrated swine, beef and poultry operations and pet food companies. The majority of our customers have nutrition staffs who determine their own formulae for custom trace mineral premixes.

Trace mineral costs fluctuate with commodity markets, and therefore, these products are price-sensitive. Their sale requires a focused effort on cost management, quality control, customer service, pricing and logistics execution to be profitable.

***Performance Products***

Our Performance Products business manufactures and markets products for use in the personal care, industrial chemical and chemical catalyst industries. We operate the business through our PhibroChem (a division of PAHC), Ferro Metal and Chemical Corporation Limited and Phibro-Tech, Inc. ("Phibro-Tech") business units.

**Sales and Marketing**

Our sales organization includes sales, marketing and technical support employees. In markets where we do not have a direct commercial presence, we generally contract with distributors that provide logistics and sales and marketing support for our products. Together, our Animal Health and Mineral Nutrition businesses have a sales, marketing and technical support organization of approximately 350 employees plus approximately 200 distributors who market our portfolio of approximately 1,400 product presentations to livestock producers, animal feed companies and distributors in over 75 countries.

In direct sales markets, we sell our animal health and mineral nutrition products through our local sales offices, either directly to integrated poultry, swine and cattle integrators or through commercial animal feed manufacturers, wholesalers and distributors. Our sales representatives visit our customers, including animal feed companies, distributors and livestock producers, to inform, promote and sell our products and services. In direct service markets, our technical operations specialists provide scientific consulting focused on disease management and herd management, training and education on diverse topics, including responsible product use.

We sell our Performance Products through our local sales offices to the personal care, industrial chemical and chemical catalyst industries. We market these products predominately in the United States.

**Customers**

We have approximately 3,500 customers, of which approximately 3,200 customers are served by our Animal Health and Mineral Nutrition businesses. We consider a diverse set of livestock producers, including poultry and swine operations and beef and dairy farmers, to be the primary customers of our livestock products. We sell our products directly to livestock and aquaculture producers and to distributors that typically re-sell the products to livestock producers. We do not consider the business to be dependent on a single customer or a few customers, and we believe the loss of any one customer would not have a material adverse effect on our results.

We typically sell pursuant to purchase orders from customers and generally do not enter into long-term delivery contracts.

**Product Registrations, Patents and Trademarks**

We own certain product registrations, patents, trade names and trademarks, and use know-how, trade secrets, formulae and manufacturing techniques, which assist in maintaining the competitive positions of certain of our products. We believe that technology is an important component of our competitive

position, and it provides us with low cost positions enabling us to produce high quality products. Patents protect some of our technology, but a significant portion of our competitive advantage is based on know-how built up over many years of commercial operation, which is protected as trade secrets. We own, or have exclusive rights to use under license, approximately 250 patents or pending applications in more than 50 countries but we believe that no single patent is of material importance to our business and, accordingly, that the expiration or termination thereof would not materially affect our business.

We market our animal health products under hundreds of governmental product registrations approving many of our products with respect to animal drug safety and efficacy. The use of many of our medicated products is regulated by authorities that are specific to each country (e.g., the FDA in the United States, Health Canada in Canada and European Food Safety Authority ("EFSA") and the European Medicines Agency ("EMA") in Europe. Medicated product registrations and requirements are country- and product-specific for each country in which they are sold. We continuously monitor, maintain and update the appropriate registration files pertaining to such regulations and approvals. In certain countries where we work with a third party distributor, local regulatory requirements may require registration in the name of such distributor. As of June 30, 2019, we had approximately 750 Animal Health product registrations globally, including approximately 400 MFA registrations and approximately 350 vaccine registrations. Our MFA global registrations included 94 registrations for virginiamycin.

Additionally, many of our vaccine products are based on proprietary master seeds, proprietary adjuvant formulations or patented virus grouping technology. We actively seek to protect our proprietary information, including our trade secrets and proprietary know-how, by seeking to require our employees, consultants, advisors and partners to enter into confidentiality agreements and other arrangements upon the commencement of their employment or engagement.

We seek to file and maintain trademark registrations around the world based on commercial activities in most regions where we have, or desire to have, a business presence for a particular product or service. We currently maintain, or have rights to use under license, approximately 1,600 trademark registrations or pending applications globally, identifying goods and services related to our business.

Our technology, brands and other intellectual property are important elements of our business. We rely on patent, trademark, copyright and trade secret laws, as well as non-disclosure agreements, to protect our intellectual property rights. Our policy is to vigorously protect, enforce and defend our rights to our intellectual property, as appropriate.

**Regulatory**

Many of our animal health and mineral nutrition products require licensing by a governmental agency before marketing. To maintain compliance with these regulatory requirements, we have established processes, systems and dedicated resources with end-to-end involvement from product concept to launch and maintenance in the market. Our regulatory function seeks to engage in dialogue with various global agencies regarding their policies that relate to animal health products. For products that are currently subject to formal licensing by government agencies, our business relies on the ongoing approval and/or periodic re-approval of those licenses. Failure to maintain and, where applicable, renew those licenses for any reason including, but not limited to, changing regulations, more stringent technical, legal or regulatory requirements, or failure of the company or its agents to make timely, complete or accurate submissions, could result in suspension or loss of the company's rights to market its products in one or more countries.

*United States*

In the United States, governmental oversight of animal nutrition and health products is conducted primarily by the United States Department of Agriculture ("USDA") and/or the FDA. The United States Environmental Protection Agency (the "EPA") has jurisdiction over certain products applied topically to animals or to premises to control external parasites and shares regulatory jurisdiction of ethanol manufactured in biofuel manufacturing facilities with the FDA.

The USDA and the FDA are the agencies responsible for the safety and wholesomeness of the U.S. human food supply. The FDA regulates foods intended for human consumption and, through the Center for Veterinary Medicine ("CVM"), regulates the manufacture and distribution of animal drugs

marketed in the U.S. including those administered to animals from which human foods are derived. All manufacturers of animal health pharmaceuticals marketed in the United States, must show their products to be safe, effective and produced by a consistent method of manufacture as defined under the Federal Food, Drug, and Cosmetic Act. To protect the food and drug supply, the FDA develops technical standards for human and animal drug safety, effectiveness, labeling and Good Manufacturing Practice. The CVM evaluates data necessary to support approvals of veterinary drugs. Drug sponsors are required to file reports of certain product quality defects and adverse events in accordance with agency requirements.

The main regulatory body in the United States for veterinary pesticides is the EPA. The EPA's Office of Pesticide Programs is responsible for the regulation of pesticide products applied to animals. All manufacturers of animal health pesticides must show their products will not cause "unreasonable adverse effects to man or the environment" as stated in the Federal Insecticide, Fungicide, and Rodenticide Act. Within the United States, pesticide products that are approved by the EPA must also be approved by individual state pesticide authorities before distribution in that state. Post-approval monitoring of products is required, with reports provided to the EPA and some state regulatory agencies.

FDA approval of Type A/B/C Medicated Feed Articles and drugs is based on satisfactory demonstration of safety, efficacy, manufacturing quality standards and appropriate labeling. Efficacy requirements are based on the desired label claim and encompass all species for which label indication is desired. Safety requirements include target animal safety and, in the case of food animals, human food safety (HFS). HFS reviews include drug residue levels and the safety of those residue levels. In addition to the safety and efficacy requirements for animal drugs used in food-producing animals, environmental safety must be demonstrated. Depending on the compound, the environmental studies may be quite extensive and expensive. In many instances, the regulatory hurdles for a drug that will be used in food-producing animals are at least as stringent as, if not more so than, those required for a drug used in humans. In addition, certain safety requirements relating to antimicrobial resistance must be met for antimicrobial products.

The CVM Office of New Animal Drug Evaluation is responsible for reviewing information submitted by drug sponsors who wish to obtain approval to manufacture and sell animal drugs. A new animal drug is deemed unsafe unless there is an approved New Animal Drug Application ("NADA"). Virtually all animal drugs are "new animal drugs" within the meaning of the term in the Federal Food, Drug, and Cosmetic Act. An approved Abbreviated New Animal Drug Application ("ANADA") is a generic equivalent of an NADA previously approved by the FDA. Both are regulated by the FDA. The drug development process for human therapeutics can be more involved than that for animal drugs. However, because human food safety and environmental safety are issues for food-producing animals, the animal drug approval process for food-producing animals typically takes longer than for non-food-producing animals, such as companion animals.

The FDA may deny an NADA or ANADA if applicable regulatory criteria are not satisfied, require additional testing or information, or require post-marketing testing and surveillance to monitor the safety or efficacy of a product. There can be no assurances that FDA approval of any NADA or ANADA will be granted on a timely basis, or at all. Moreover, if regulatory approval of a product is granted, such approval may entail limitations on the indicated uses for which it may be marketed. Finally, product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing. Among the conditions for NADA or ANADA approval is the requirement that the prospective manufacturer's quality control and manufacturing procedures conform to FDA's current Good Manufacturing Practice ("cGMP") regulations. A manufacturing facility is periodically inspected by the FDA for determination of compliance with cGMP after an initial pre-approval inspection. Certain subsequent manufacturing changes must be approved by the FDA prior to implementation. In complying with standards set forth in these regulations, manufacturers must continue to expend time, monies and effort in the area of production and quality control to ensure compliance. The process of seeking FDA approvals can be costly, time consuming, and subject to unanticipated and significant delays. There can be no assurance that such approvals will be granted on a timely basis, or at all. Any delay in obtaining or any failure to obtain FDA or foreign government approvals, or the suspension or revocation of such approvals, would adversely affect our ability to introduce and market our products and to generate revenue.

The issue of the potential for increased bacterial resistance to certain antibiotics used in certain food-producing animals is the subject of discussions on a worldwide basis and, in certain instances, has led to government restrictions on the use of antibiotics in these food-producing animals. The sale of antibiotics is a material portion of our business. Legislative bills are introduced in the United States Congress from time to time that, if adopted, could have an adverse effect on our business. One of these initiatives is a proposed bill called the Preservation of Antibiotics for Medical Treatment Act, which has been introduced in almost every Congress since the mid 2000's. To date, such bills have not had sufficient support to become law. Should statutory, regulatory or other developments result in restrictions on the sale of our products, it could have a material adverse impact on our financial position, results of operations and cash flows.

In November 2004, the CVM released a draft for comment of its risk assessment of streptogramin resistance for treatment of certain infections in humans attributable to the use of streptogramins in animals (the "risk assessment"). The risk assessment was initiated after approval of a human drug called Synercid® (quinupristin/dalfopristin) for treating vancomycin resistant Enterococcus faecium (VREf), which led to increased attention regarding the use of streptogramins in animals. Synercid and virginiamycin (the active ingredient in our Stafac product) are both members of the streptogramin class of antimicrobial drugs. The risk assessment was unable to produce any firm conclusions as to whether, and, if so, how much, the use of virginiamycin in food animals contributes to the occurrence of streptogramin-resistant infections in humans via a foodborne pathway.

In classifying streptogramins in 2003 as a "medically important antimicrobial" ("MIA") on the CVM's Guidance for Industry ("GFI") 152 list, a guidance document for evaluating the microbial safety of antimicrobial new animal drugs on food for human consumption, the FDA's stated concern was the potential impact on use of Synercid for treating VREf in humans. In 2010, the U.S. label for Synercid was changed and the VREf indication was removed. The FDA determined that data submitted by the sponsor of Synercid failed to verify clinical benefit of the product for the treatment of VREf infections in humans. We have requested that the FDA remove the streptogramin class of antimicrobials from GFI 152 to reflect that they are not "medically important" for human therapy, however, the FDA has declined our request. There can be no assurance that we will be successful in the future in gaining the FDA's agreement with our view that streptogramins are no longer medically important and accordingly that this antimicrobial class should be removed from the GFI 152 list of MIAs.

Effective January 2017, the CVM's revised Veterinary Feed Directive ("VFD") regulations, which included changes to the control and use of antimicrobial products for use in animal feed, require that affected antimicrobial products may only be used if authorized by a veterinarian in accordance with the regulations. Prior to implementation of the revised VFD regulations, many approved antimicrobial products could be obtained and used without formal veterinary authorization.

In January 2017, the FDA and industry completed the process of label changes for MIA products to remove production claims and to limit the use of MIAs to those uses that are considered necessary for assuring animal health, namely for the prevention, control, and/or treatment of disease, and that MIA use in food-producing animals should include veterinary oversight or consultation. The label changes were the result of recommendations from the CVM, as described in GFI 213 ("New Animal Drugs and New Animal Drug Combination Products Administered in or on Medicated Feed or Drinking Water of Food-Producing Animals: Recommendations for Drug Sponsors for Voluntarily Aligning Product Use Conditions with GFI 209") and GFI 209 ("The Judicious Use of Medically Important Antimicrobial Drugs in Food-Producing Animals"). We completed the process for label changes as described in GFI 213 by January 2017, within the timeline requested by the FDA.

In April 2016, the FDA began initial steps to withdraw approval of Mecadox (carbadox), due to concerns that certain residues from the product may persist in tissues for longer than previously determined. In July 2016, we submitted our data, analyses and information to the FDA that we believe support the continued safe use of Mecadox. In March 2018, the FDA indefinitely stayed the withdrawal proceedings; we continue to submit data to the FDA and respond to their questions. There is no timeline for the conclusion of this matter. The initial action by the FDA does not prohibit the sale or use of Mecadox in the United States. We have complete confidence in the safety of Mecadox. Mecadox has been approved and sold in the United States for more than 40 years and is a widely used treatment for controlling bacterial

diseases including Salmonella and swine dysentery. Mecadox is not used in human medicine and the class of drug is not considered a medically important antimicrobial. The approved Mecadox label requires a 42-day withdrawal period pre-harvesting, and to date we have not seen any hazardous residues of carbadox being detected from pig meat treated in accordance with the approved label.

The FDA routinely carries out audits related to cGMP standards for manufacturing facilities that make veterinary drug products and active pharmaceutical ingredients approved for sale in the U.S. The FDA inspectors may make observations during the course of these inspections, which may require corrective action in order for the manufacturing facility to remain in compliance with cGMP standards. Failure to take such corrective actions could result in the manufacturing facility being ineligible to receive future FDA approvals. In very serious cases of noncompliance with cGMP standards, the FDA may issue a warning letter which could result in products produced in such manufacturing facility no longer being eligible for sale in the U.S. Although it is our objective to remain in full conformance with U.S. cGMP standards, we have in the past received adverse observations and may in the future receive adverse observations or warning letters. Failure to comply with cGMP standards could have a material impact on our business and financial results.

*European Union*

European Union ("E.U.") legislation requires that veterinary medicinal products must have a marketing authorization before they are placed on the market in the European Union. A veterinary medicinal product must meet certain quality, safety, efficacy and environmental criteria to receive a marketing authorization. The European Medicines Agency (and its main veterinary scientific committee, the Committee for Medicinal Products for Veterinary Use) and the national authorities in the various E.U. Member States, are responsible for administering this regime.

A separate E.U. regime applies to feed additives. It provides for a re-registration process for existing additives and this process is ongoing. For certain types of additives, the authorizations are not generic in nature (so that they can be relied upon by any operator) but are limited to the company that obtained the marketing authorization. They are known as Brand Specific Approvals ("BSA"). The system is similar to the U.S. system, where regulatory approval is for the formulated product or "brand."

The EFSA is responsible for the E.U. risk assessment regarding food and feed safety. Operating under the European Commission, in close collaboration with national authorities and in open consultation with its stakeholders, the EFSA provides independent scientific advice and communication on existing and emerging risks. The EFSA may issue advice regarding the process of adopting or revising European legislation on food or feed safety, deciding whether to approve regulated substances such as pesticides and food additives, or developing new regulatory frameworks and policies, for instance, in the field of nutrition. The EFSA aims to provide appropriate, consistent, accurate and timely communications on food safety issues to all stakeholders and the public at large, based on the Authority's risk assessments and scientific expertise. The containment of antimicrobial resistance is one of the key areas of concern for the EFSA, EMA, the European Commission and its Directorates, the European Parliament and European Member State Governments.

A number of manufacturers, including us, submitted dossiers in order to re-register various anticoccidials for the purpose of obtaining regulatory approval from the European Commission. The BSA for our nicarbazin product was published in October 2010. We sell nicarbazin under our own BSA and as an active ingredient for another marketer's product that has obtained a BSA and is sold in the European Union. Similarly, a BSA for our semduramicin product, Aviax, was published in 2006 and required reauthorization in October 2016. We have submitted a dossier for reauthorization in accordance with the requirements of the EFSA and responded to request for additional information from the EFSA by submitting additional data. Because the EFSA's requests were in addition to standard reauthorization requirements, the current BSA remains valid while the EFSA reviews the additional data we have submitted. There can be no guarantee that these submissions will be reviewed favorably or in a timely manner. Failure to gain reauthorization in a timely manner could have an adverse financial impact on our business.

In December 2018, the European Parliament and Council of the E.U. promulgated new veterinary medicinal products regulations known as E.U. 2019/6. The implementing act for these regulations has not yet been passed but includes rules that could require animals or animal origin products imported into the

E.U. from other countries to be produced under the same conditions as are required in the E.U. This may preclude the use of veterinary products not approved in the E.U. or require animal health products to be used in the manner approved in the E.U. If such restrictions are implemented, they could result in a reduction or elimination of the use of our products, especially our antibacterial products, in countries that export animals or animal derived products to the E.U. and other countries that align their regulations with E.U. regulations.

*Brazil*

The Ministry of Agriculture, Livestock Production and Supply ("MAPA") is the regulatory body in Brazil responsible for the regulation and control of pharmaceuticals, biologicals and medicinal feed additives for animal use. MAPA's regulatory activities are conducted through the Secretary of Agricultural Defense and its Livestock Products Inspection Department. These activities include the inspection and licensing of both manufacturing and commercial establishments for veterinary products, as well as the submission, review and approval of pharmaceuticals, biologicals and medicinal feed additives.

*Rest of world*

We are subject to regulatory requirements governing investigation, clinical trials and marketing approval for animal drugs in many other countries in which our products are sold. The regulatory approval process includes similar risks to those associated with the FDA and European Commission approvals set forth above.

*Global policy and guidance*

Country-specific regulatory laws have provisions that include requirements for certain labeling, safety, efficacy and manufacturers' quality procedures (to assure the consistency of the products), as well as company records and reports. With the exception of Australia, Canada, Japan and New Zealand, most other countries' regulatory agencies will generally refer to the FDA, USDA, European Union and other international animal health entities, including the World Organization for Animal Health, Codex Alimentarius Commission, the recognized international standard-setting body for food ("Codex"), before establishing their own standards and regulations for veterinary pharmaceuticals and vaccines.

The Joint FAO/WHO Expert Committee on Food Additives is an international expert scientific committee that is administered jointly by the Food and Agriculture Organization of the United Nations and the World Health Organization. It provides risk assessments and safety evaluations of residues of veterinary drugs in animal products as well as exposure and residue definition and maximum residue limit proposals for veterinary drugs in traded food commodities. These internationally published references may also be used by national authorities when setting domestic standards. We work with the national authorities to establish acceptable safe levels of residual product in food-producing animals after treatment. This in turn enables the calculation of appropriate withdrawal times for our products prior to an animal entering the food chain.

In July 2014, the Codex adopted risk management advice language for a number of compounds including carbadox. The advice language states "authorities should prevent residues of carbadox in food. This can be accomplished by not using carbadox in food producing animals." The advice language is to provide advice only and is not binding on individual national authorities, and almost all national authorities already have long-established regulatory standards for carbadox, including prohibiting the use of carbadox in swine production within their territory, prohibiting the importation of pork from swine that are fed carbadox, or permitting the importation of pork from swine that are fed carbadox provided there is no detection of carbadox residues in the meat. The advice language may be considered by national authorities in making future risk management determinations. To the extent additional national authorities elect to follow the advice and prohibit the use of carbadox in food-producing animals and/or the importation of pork from swine that are fed carbadox, such decisions could have an adverse effect on our sales of carbadox in those countries or in countries that produce meat for export to those countries.

*Advertising and promotion review*

Promotion of animal health products is controlled by regulations in many countries. These rules generally restrict advertising and promotion to those approved claims and uses that have been reviewed and

endorsed by the applicable agency. We conduct a review of promotion material for compliance with the local and regional requirements in the markets where we sell animal health products.

*Food Safety Inspection Service/Generally Recognized As Safe*

The FDA is authorized to determine the safety of substances (including "generally recognized as safe" substances, and food and feed additives), as well as prescribing safe conditions of use. The FDA, which has the responsibility for determining the safety of substances, together with the Food Safety and Inspection Service, the food safety branch within the USDA, maintain the authority in the United States to determine that new substances and new uses of previously approved substances are suitable for use in meat, milk and poultry products.

**Competition**

We are engaged in highly competitive industries and, with respect to all of our major products, face competition from a substantial number of global and regional competitors. Some competitors have greater financial, R&D, production and other resources than we have. Our competitive position is based principally on our product registrations, customer service and support, breadth of product line, product quality, manufacturing technology, facility location, and product prices. We face competition in every market in which we participate. Many of our products face competition from products that may be used as an alternative or substitute.

There has been, and there may continue to be, consolidation in the animal health market, which could strengthen our competitors. Our competitors can be expected to continue to improve the design and performance of their products and to introduce new products with competitive price and performance characteristics. There can be no assurance that we will have sufficient resources to maintain our current competitive position, however, we believe the following strengths create sustainable competitive advantages that will enable us to continue our growth as a leader in our industry:

*Products Aligned with Need for Increased Protein Production*

Increased scarcity of natural resources is increasing the need for efficient production of food animals such as poultry, swine and cattle. Our animal health products, including our MFAs, vaccines and nutritional specialty products, help prevent and manage disease outbreaks and enhance nutrition to help support natural defenses against diseases. These products are often critical to our customers' efficient production of healthy animals. Our leading MFAs product franchise, Stafac/V-Max/Eskalin, is approved in over 30 countries for use in poultry, swine and cattle and is regarded as one of the leading MFA products for production animals. Our nicarbazin and amprolium MFAs are globally recognized anticoccidials. Our nutritional specialty product offerings such as OmniGen-AF and Animate are used increasingly in the global dairy industry, and Magni-Phi is rapidly becoming an important product for poultry producers. Our vaccine products are effective against critical diseases in poultry, swine and cattle.

*Global Presence with Existing Infrastructure in Key High-Growth Markets*

We have an established direct presence in many important emerging markets, and we believe we are a leader in many of the emerging markets in which we operate. Our existing operations and established sales, marketing and distribution network in over 75 countries provide us with opportunities to take advantage of global growth opportunities. Outside of the United States, our global footprint reaches to key high growth regions (countries where the livestock production growth rate is expected to be higher than the average growth rate) including Brazil and other countries in South America, China, India and Southeast Asia, Russia and former CIS countries, Mexico, Turkey, Australia, Canada and South Africa and other countries in Africa. Our operations in countries outside of the United States contributed approximately 63% of our Animal Health segment revenues for the year ended June 30, 2019.

*Leading Positions in High Growth Sub-sectors of the Animal Health Market*

We are a global leader in the development, manufacture and commercialization of MFA and nutritional specialty products for the animal health market. We believe we are well positioned in the fastest growing food animal species segments of the animal health market with significant presence in poultry and

swine, which are projected by Vetnosis to grow globally at compound annual rates from 2018 through 2023 of 5.7% and 2.6%, respectively. Our sales of MFA products were third largest in the animal health market. According to Vetnosis, MFA products are projected to grow at a compound annual rate of approximately 2.3% between 2018 and 2023.

*Diversified and Complementary Product Portfolio with Strong Brand Name Recognition*

We market products across the three largest livestock species (poultry, cattle and swine) and aquaculture and in the major product categories (MFAs, vaccines and nutritional specialty products). We believe our diversity of species and product categories enhances our sales mix and lowers our sales concentration risk. The complementary nature of our Animal Health and Mineral Nutrition portfolio provides us with unique cross-selling opportunities that can be used to gain access to new customers or deepen our relationships with existing customers. We believe we have strong brand name recognition for the Phibro name and for many of our animal health and mineral nutrition products, and we believe Phibro vaccines are recognized as an industry standard in efficacy against highly virulent disease challenges. Our diverse portfolio of products also allows us to address the distinct growing conditions of livestock in different regions.

*Experienced Sales Force and Technical Support Staff with Strong, Consultative Customer Relationships*

Within our Animal Health and Mineral Nutrition segments, utilizing both our sales, marketing and technical support organization of approximately 350 employees and a broad distribution network, we market our portfolio of more than 1,400 product presentations to livestock producers and veterinarians in over 75 countries. We interact with customers at both their corporate and operating level, which we believe allows us to develop an in-depth understanding of their needs. Our technical support and research personnel are also important contributors to our overall sales effort. We have a total of approximately 170 technical, field service and quality control/quality assurance personnel throughout the world. These professionals interface directly with our key customers to provide practical solutions to derive optimum benefits from our products.

*Experienced, Committed Employees and Management Team*

We have a diverse and highly skilled team of animal health professionals, including technical and field service personnel located in key countries throughout the world. These individuals have extensive field experience and are vital to helping us maintain and grow our business. Many of our field team have more than 20 years of experience in the animal health industry and many have been with us for more than 10 years.

We have a strong management team with a proven track record of success at both the corporate and operating levels. The executive management team has diverse backgrounds and an average of approximately 20 years of experience in the animal health industry.

**Employees**

As of June 30, 2019, we had approximately 1,600 employees. Employees at our Guarulhos, Brazil facility are covered by a multi-employer regional industry-specific union. Certain of our Israeli employees are covered by site-specific collective bargaining agreements. Certain employees are covered by individual employment agreements. We believe our relations with union and non-union employees are good.

**Manufacturing**

The Animal Health business segment manufactures many products internally and supplements that production with contract manufacturing organizations (“CMOs”) as necessary.

We manufacture active pharmaceutical ingredients for certain of our antibacterial and anticoccidial products in Guarulhos, Brazil and Braganca Paulista, Brazil. We manufacture active pharmaceutical ingredients for certain of our anticoccidial and antimocirobal products in Neot Hovav, Israel. We produce vaccines in Beit Shemesh, Israel and Omaha, Nebraska. We produce adjuvants in

Omaha, Nebraska. We produce pharmaceuticals, disinfectants and other animal health products in Petach Tikva, Israel. We produce certain of our major nutritional specialty and mineral nutrition products in Quincy and Chillicothe, Illinois, and we produce certain of our mineral nutrition products in Omaha, Nebraska.

We supplement internal manufacturing and production capabilities with CMOs. We purchase certain active pharmaceutical ingredients for other medicated products from CMOs in China, India, Mexico and other locations. We then formulate the final dosage form in our facilities and in contract facilities located in Argentina, Australia, Brazil, Canada, China, Israel, Malaysia, Mexico, South Africa and the United States.

We purchase certain raw materials necessary for the commercial production of our products from a variety of third-party suppliers. Such raw materials are generally available from multiple sources, are purchased worldwide and are normally available in quantities adequate to meet the needs of the Company's business.

We believe that our existing facilities, as supplemented by CMOs, are adequate for our current requirements and for our operations in the foreseeable future.

**Research and Development**

Most of our manufacturing facilities have chemists and technicians on staff involved in product development, quality assurance, quality control and providing technical services to customers. Research, development and technical service efforts are conducted by our veterinarians (DVMs) and nutritionists at various facilities.

We operate Animal Health R&D and product testing at our facilities in: Guarulhos, Brazil; Beit Shemesh, Israel; Neot Hovav, Israel; Ma'ayan Tzvi, Israel; Quincy, Illinois; Corvallis, Oregon; State College, Pennsylvania; Manhattan, Kansas; St. Paul, Minnesota; and Omaha, Nebraska.

These facilities provide R&D services relating to: fermentation development and micro-biological strain improvement; vaccine development; chemical synthesis and formulation development; nutritional specialty product development; and ethanol-related products.

**Environmental, Health and Safety**

Our operations and properties are subject to Environmental Laws (as defined below) and regulations. We have incurred, and will continue to incur, expenses to attain and maintain compliance with Environmental Laws. While we believe that our operations are currently in material compliance with Environmental Laws, we have, from time to time, received notices of violation from governmental authorities, and have been involved in civil or criminal action for such violations, including for odor releases in Guarulhos, Brazil. Additionally, at various sites, our subsidiaries are engaged in continuing investigation, remediation and/or monitoring to address contamination associated with historical operations. We maintain accruals for costs and liabilities associated with Environmental Laws, which we currently believe are adequate. In many instances, it is difficult to predict the ultimate costs under Environmental Laws and the time period during which such costs are likely to be incurred.

Governmental authorities have the power to enforce compliance with their regulations. Violators of Environmental Laws may be subject to civil, criminal and administrative penalties, injunctions or both. Failure to comply with Environmental Laws may result in the temporary or permanent suspension of operations and/or permits, limitations on production, or increased operating costs. In addition, private plaintiffs may initiate lawsuits for personal injury, property damage, diminution in property value or other relief as a result of our operations. Environmental Laws, and the interpretation or enforcement thereof, are subject to change and may become more stringent in the future, potentially resulting in substantial future costs or capital or operating expenses. We devote considerable resources to complying with Environmental Laws and managing environmental liabilities. We have developed programs to identify requirements under and maintain compliance with Environmental Laws; however, we cannot predict with certainty the impact of increased and more stringent regulation on our operations, future capital expenditure requirements, or

the cost of compliance. Based upon our experience to date, we believe that the future cost of compliance with existing Environmental Laws, and liabilities for known environmental claims pursuant to such Environmental Laws, will not have a material adverse effect on our financial position, results of operations, cash flows or liquidity.

***Environmental Health and Safety Regulations***

The following summarizes the principal Environmental Laws affecting our business.

*Waste Management.* Our operations are subject to statutes and regulations addressing the contamination by, and management of, hazardous substances and solid and hazardous wastes. In the United States, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), also known as the "Superfund" law, and comparable state laws, generally impose strict joint and several liability for costs of investigation and remediation and related liabilities, on defined classes of "potentially responsible parties" ("PRPs"). PRPs can be required to bear all of such costs regardless of fault, the legality of the original disposal or ownership of the disposal site. We have been, and may become, subject to liability under CERCLA for cleanup costs or investigation or clean up obligations or related third-party claims in connection with releases of hazardous substances at or from our current or former sites or offsite waste disposal facilities used by us, including those caused by predecessors or relating to divested properties or operations.

We must also comply with the Resource Conservation and Recovery Act of 1976, as amended ("RCRA"), and comparable state laws regulating the treatment, storage, disposal, remediation and transportation of solid and hazardous wastes. These laws impose management requirements on generators and transporters of such wastes and on the owners and operators of treatment, storage and disposal facilities. As current or historic recyclers of chemical waste, certain of our subsidiaries have been, and are likely to be, the focus of extensive compliance reviews by environmental regulatory authorities under RCRA. Our subsidiary Phibro-Tech currently has a RCRA operating permit for its Santa Fe Springs, California facility, for which a renewal application is under review. Phibro-Tech initially submitted an application for renewal of its permit for the Santa Fe Springs facility in 1996. We are unable to predict when the State of California will issue a draft permit for public review and comment. Until the State of California issues its final decision on the renewal application, the facility is continuing to operate under the exiting permit. In addition, because we or our subsidiaries have closed several facilities that had been the subject of RCRA permits, we or our subsidiaries have been and will be required to investigate and remediate certain environmental contamination conditions at these shutdown plant sites within the requirements of RCRA corrective action programs.

*Federal Water Pollution Control Act, as amended.* We must comply with regulations related to the discharge of pollutants to the waters of the United States without governmental authorization, including those pursuant to the Federal Water Pollution Control Act.

*Chemical Product Registration Requirements.* We must comply with regulations related to the testing, manufacturing, labeling, registration and safety analysis of our products in order to distribute many of our products, including, for example, in the United States, the federal Toxic Substances Control Act and Federal Insecticide, Fungicide and Rodenticide Act, and in the European Union, the Regulation on Registration, Evaluation, Authorization and Restriction of Chemical Substances ("REACH").

*Air Emissions.* Our operations are subject to the U.S. Clean Air Act (the "CAA") and comparable U.S. state and foreign statutes and regulations, which regulate emissions of various air pollutants and contaminants. Certain of the CAA's regulatory programs are the subject of ongoing review and/or are subject to ongoing litigation, such as the rules establishing new Maximum Achievable Control Technology for industrial boilers; significant expenditures may be required to meet current and emerging air quality standards. Regulatory agencies can also impose administrative, civil and criminal penalties for non-compliance with air permits or other air quality regulations. States may choose to set more stringent air emissions rules than those in the CAA. State, national and international authorities have also issued requirements focusing on greenhouse gas reductions. In the United States, the EPA has promulgated federal greenhouse gas regulations under the CAA affecting certain sources. In addition, a number of state, local

and regional greenhouse gas initiatives are also being developed or are already in place. In Israel and Brazil, implementation of the Kyoto Protocol requirements regarding greenhouse gas emission reductions consists of energy efficiency regulations, carbon dioxide emissions allowances trading and renewable energy requirements.

***Capital Expenditures***

We have incurred and expect to continue to incur costs to maintain compliance with environmental, health and safety laws and regulations. Our capital expenditures relating to environmental, health and safety regulations were $5.4 million for fiscal year ended June 30, 2019. We estimate that our capital expenditures for compliance will be $6.4 million and $4.6 million for fiscal years 2020 and 2021, respectively; however, these estimates are subject to change given the uncertainty of future Environmental Laws and the interpretation and enforcement thereof, as further described in this Annual Report on Form 10-K. Our environmental capital expenditure plans cover, among other things, the currently expected costs associated with known permit requirements relating to facility improvements.

***Contamination and Hazardous Substance Risks***

*Investigation, Remediation and Monitoring Activities*. Certain of PAHC's subsidiaries that are currently or were historically engaged in recycling and other activities involving hazardous materials have been required to perform site investigations at their active, closed and former facilities and neighboring properties. Contamination of soil, groundwater and other environmental media has been identified or is suspected at several of these locations, including Santa Fe Springs, California; Powder Springs, Georgia; Union, Illinois; Sewaren, New Jersey; Sumter, South Carolina; and Joliet, Illinois, and regulatory authorities have required, and will continue to require, further investigation, corrective action and monitoring over future years. These subsidiaries also have been, and in the future may be, required to undertake additional capital improvements as part of these actions. In addition, RCRA and other applicable statutes and regulations require these subsidiaries to develop closure and post-closure plans for their facilities and in the event of a facility closure, obtain a permit that sets forth a closure plan for investigation, remediation and monitoring and requires post-closure monitoring and maintenance for up to 30 years. We believe we are in material compliance with these requirements and maintain adequate reserves to complete remediation and monitoring obligations at these locations.

In connection with past acquisitions and divestitures, we have undertaken certain indemnification obligations that require us, or may in the future require us, to conduct or finance environmental cleanups at sites we no longer own or operate. Under the terms of the sale of the former facility in Joliet, Illinois, Phibro-Tech remains responsible for any required investigation and remediation of the site attributable to conditions at the site at the time of the February 2011 sale date, and we believe we have sufficient reserves to cover the cost of the remediation.

*PRP at Omega Chemical Superfund Site.* The EPA is investigating and planning for the remediation of offsite contaminated groundwater that has migrated from the Omega Chemical Corporation Superfund Site ("Omega Chemical Site"), which is upgradient of Phibro-Tech's Santa Fe Springs, California facility. The EPA has named Phibro-Tech and certain other subsidiaries of PAHC as PRPs due to groundwater contamination from Phibro-Tech's Santa Fe Springs facility that has allegedly commingled with contaminated groundwater from the Omega Chemical Site. In September 2012, the EPA notified approximately 140 PRPs, including Phibro-Tech and the other subsidiaries, that they have been identified as potentially responsible for remedial action for the groundwater plume affected by the Omega Chemical Site and for EPA oversight and response costs. Phibro-Tech contends that any groundwater contamination at its site is localized and due to historical operations that pre-date Phibro-Tech and/or contaminated groundwater that has migrated from upgradient properties. In addition, a successor to a prior owner of the Phibro-Tech site has asserted that PAHC and Phibro-Tech are obligated to provide indemnification for its potential liability and defense costs relating to the groundwater plume affected by the Omega Chemical Site. Phibro-Tech has vigorously contested this position and has asserted that the successor to the prior owner is required to indemnify Phibro-Tech for its potential liability and defense costs. Furthermore, a group of companies that sent chemicals to the Omega Chemical Site for processing and recycling has filed a complaint under CERCLA and RCRA in the United States District Court for the Central District of

California against many of the PRPs allegedly associated with the groundwater plume affected by the Omega Chemical Site (including Phibro-Tech) for contribution toward past and future costs associated with the investigation and remediation of the groundwater plume affected by the Omega Chemical Site. Due to the ongoing nature of the EPA's investigation, the preliminary stage of the ongoing litigation and Phibro-Tech's dispute with the prior owner's successor, at this time we cannot predict with any degree of certainty what, if any, liability Phibro-Tech or the other subsidiaries may ultimately have for investigation, remediation and the EPA oversight and response costs associated with the affected groundwater plume.

*Potential Claims.* In addition to cleanup obligations, we could also be held liable for any and all consequences arising out of human exposure to hazardous substances or other environmental damage, which liability may not be covered by insurance.

*Environmental Accruals and Financial Assurance.* We have established environmental accruals to cover known remediation and monitoring costs at certain of our current and former facilities. Our accruals for environmental liabilities are recorded by calculating our best estimate of probable and reasonably estimable future costs using current information that is available at the time of the accrual. Our accruals for environmental liabilities totaled $5.9 million and $6.8 million as of June 30, 2019 and 2018, respectively.

In certain instances, regulatory authorities have required us to provide financial assurance for estimated costs of remediation, corrective action, monitoring and closure and post-closure plans. Our subsidiaries, in most instances, have chosen to provide the required financial assurance by means of surety bonds or letters of credit, issued pursuant to our revolving credit facility. As of June 30, 2019, surety bonds and letters of credit provided $11.7 million of financial assurance.

***Workplace Health and Safety***

We are committed to manufacturing safe products and achieving a safe workplace. Our Environmental Health and Safety ("EHS") Global Director, along with regional and site-based EHS professionals, manage environmental, health and safety matters throughout the Company. The site managers are responsible for implementing the established EHS controls. To protect employees, we have established health and safety policies, programs and processes at all our manufacturing sites. An external EHS audit is performed at each of our sites as needed based on the conditions at the respective sites.

***Where You Can Find More information***

We are subject to the information and periodic and current reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and, in accordance therewith, will file periodic and current reports, proxy statements and other information with the Securities and Exchange Commission ("SEC"). Such periodic and current reports, proxy statements and other information will be available to the public on the SEC's website at www.sec.gov and through our website at www.pahc.com.

**Item 1A. Risk Factors**

You should carefully consider all of the information set forth in this Annual Report on Form 10-K, including the following risk factors, before deciding to invest in our Class A common stock. If any of the following risks actually occurs, our business, financial condition, results of operation or cash flows could be materially adversely affected. In any such case, the trading price of our Class A common stock could decline, and you could lose all or part of your investment. The risks below are not the only ones the Company faces. Additional risks not currently known to the Company or that the Company presently deems immaterial may also impair its business operations. This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. The Company's results could materially differ from those anticipated in these forward-looking statements as a result of certain factors, including the risks it faces described below and elsewhere. See also "Forward-Looking Statements."

**Risk Factors Relating to Our Business**

***Perceived adverse effects on human health linked to the consumption of food derived from animals that utilize our products could cause a decline in the sales of those products.***

Our business depends heavily on a healthy and growing livestock industry. Some in the public perceive risks to human health related to the consumption of food derived from animals that utilize certain

of our products, including certain of our MFA products. In particular, there is increased focus, primarily in the United States and other countries, on the use of medically important antimicrobials, as defined by the FDA. Medically important antimicrobials include classes that are prescribed in animal and human health and are listed in the Appendix of the FDA-CVM Guidance for Industry (GFI) 152. As defined by the FDA, medically important antimicrobials ("MIAs") include classes that are prescribed in animal and human health and are listed in the Appendix of the FDA-CVM Guidance for Industry (GFI) 152. Our products that contain virginiamycin, oxytetracycline or neomycin are classified by the FDA as medically important antimicrobials. In addition to the United States, the World Health Organization (WHO), the E.U., Australia and Canada have promulgated rating lists for antimicrobials that are used in veterinary medicine and that include certain of our products. The classification of our products as MIAs or similar listings may lead to a decline in the demand for and production of food products derived from animals that utilize our products and, in turn, demand for our products. Livestock producers may experience decreased demand for their products or reputational harm as a result of evolving consumer views of nutrition and health-related concerns, animal rights and other concerns. Any reputational harm to the livestock industry may also extend to companies in related industries, including us. In addition, campaigns by interest groups, activists and others with respect to perceived risks associated with the use of our products in animals, including position statements by livestock producers and their customers based on non-use of certain medicated products in livestock production, whether or not scientifically-supported, could affect public perceptions and reduce the use of our products. Those adverse consumer views related to the use of one or more of our products in animals could have a material adverse effect on our financial condition and results of operations.

***Restrictions on the use of antibacterials in food-producing animals may become more prevalent.***

The issue of the potential transfer of antibacterial resistance from bacteria from food-producing animals to human bacterial pathogens, and the causality and impact of that transfer, are the subject of global scientific and regulatory discussion. Antibacterials refer to molecules that can be used to treat or prevent bacterial infections and are a sub-categorization of the products that make up our medicated feed additives portfolios. In some countries, this issue has led to government restrictions on the use of specific antibacterials in some food-producing animals, regardless of the route of administration (in feed, water, intra-mammary, topical, injectable or other route of administration.) These restrictions include prohibitions on use of antibacterials for non-therapeutic uses, preventative use, duration of use and requiring veterinary oversight to use products. These restrictions are more prevalent in countries where animal protein is plentiful and governments are willing to take action even when there is scientific uncertainty.

Effective January 1, 2017, we voluntarily removed non-therapeutic claims from several of our antibacterial products sold in the United States, in order to align with the FDA's GFI 209 and GFI 213. The FDA objective, as described in GFI 209 and GFI 213, was to eliminate the production (non-therapeutic) uses of medically important antimicrobials administered in feed or water to food producing animals while providing for the continued use of medically important antimicrobials in food-producing animals for treatment, control and prevention of disease ("therapeutic" use) under the supervision of a veterinarian. The FDA indicated that it took this action to help preserve the efficacy of medically important antimicrobials to treat infections in humans.

Our Mecadox (carbadox) product has been approved for use in food animals in the United States for over 40 years. Certain regulatory bodies have raised concerns about the possible presence of certain residues of our carbadox product in meat from animals that consume the product. The product was banned for use in the European Union in 1998 and has been banned in several other countries outside the United States. In July 2014, the Codex adopted risk management advice language for a number of compounds including carbadox. The advice language states "authorities should prevent residues of carbadox in food. This can be accomplished by not using carbadox in food producing animals." The advice language is to provide advice only and is not binding on individual national authorities, and almost all national authorities already have long-established regulatory standards for carbadox. The advice language may be considered by national authorities in making future risk management determinations. To the extent additional national authorities elect to follow the risk management advice and prohibit the use of carbadox in food-producing animals, those decisions could have an adverse effect on our sales of carbadox in those countries or in countries like the United States that produce meat for export to those countries.

In April 2016, the FDA began initial steps to withdraw approval of Mecadox (carbadox), due to concerns that certain residues from the product may persist in tissues for longer than previously determined. In July 2016, we submitted our data, analyses and information to the FDA that we believe support the continued safe use of Mecadox. In March 2018, the FDA indefinitely stayed the withdrawal proceedings; however, we continue to submit data to the FDA and respond to their questions. There is no timeline for the conclusion of this matter. The initial action by the FDA does not prohibit the sale or use of Mecadox in the United States. We have complete confidence in the safety of Mecadox. Mecadox has been approved and sold in the United States for more than 40 years and is a widely used treatment for controlling bacterial diseases including Salmonella and swine dysentery. Mecadox is not used in human medicine and the class of drug is not considered a medically important antimicrobial. The approved Mecadox label requires a 42-day withdrawal period pre-harvesting, and to date we have not seen any hazardous residues of carbadox being detected from pig meat treated in accordance with the approved label. Should we be unable to successfully defend the safety of the product, the loss of Mecadox sales would have a negative impact to the results of our operations.

Our global sales of antibacterials, anticoccidials and other products were $350 million, $337 million and $321 million for the years ended June 30, 2019, 2018 and 2017, respectively. We cannot predict whether concerns regarding the use of antibacterials will result in additional restrictions, expanded regulations or consumer preferences to discontinue or reduce use of antibacterials in food-producing animals, which could materially adversely affect our operating results and financial condition.

***A material portion of our sales are generated by antibacterials and other related products.***

Our medicated products business is comprised of a relatively small number of compounds and accounted for 42% and 41% of net sales for the years ended June 30, 2019 and 2018, respectively. The significant loss of antibacterial or other related product sales for any reason, including product bans or restrictions, public perception, competition or any of the other risks related to such products as described in this Annual Report on Form 10-K, could have a material adverse effect on our business.

***We face competition in each of our markets from a number of large and small companies, some of which have greater financial, R&D, production and other resources than we have.***

Many of our products face competition from alternative or substitute products. We are engaged in highly competitive industries and, with respect to all of our major products, face competition from a substantial number of global and regional competitors. We believe many of our competitors are conducting R&D activities in areas served by our products and in areas in which we are developing products. Some competitors have greater financial, R&D, production and other resources than we have. Some of our principal competitors include Ceva Santé Animale, Boehringer Ingelheim International GmbH, Elanco Animal Health, Huvepharma Inc., Merck & Co., Inc. (Merck Animal Health and MSD Animal Health), Southeastern Minerals, Inc. and Zoetis Inc. To the extent these companies or new entrants offer comparable animal health, mineral nutrition or performance products at lower prices, our business could be adversely affected. New entrants could substantially reduce our market share or render our products obsolete. Furthermore, many of our competitors have relationships with key distributors and, because of their size, have the ability to offer attractive pricing incentives, which may negatively impact or hinder our relationships with these distributors.

In certain countries, because of our size and product mix, we may not be able to capitalize on changes in competition and pricing as fully as our competitors. In recent years, there have been new generic medicated products introduced to the livestock industry, particularly in the United States.

There has been and likely will continue to be consolidation in the animal health market, which could strengthen our competitors. Our competitors can be expected to continue to improve the formulation and performance of their products and to introduce new products with competitive price and performance characteristics. There can be no assurance that we will have sufficient resources to maintain our current competitive position or market share. We also face competitive pressures arising from, among other things, more favorable safety and efficacy product profiles, limited demand growth or a significant number of additional competitive products being introduced into a particular market, price reductions by competitors, the ability of competitors to capitalize on their economies of scale and the ability of competitors to produce

or otherwise procure animal health products at lower costs than us. To the extent that any of our competitors are more successful with respect to any key competitive factor, or we are forced to reduce, or are unable to raise, the price of any of our products in order to remain competitive, our business, financial condition and results of operations could be materially adversely affected.

***Outbreaks of animal diseases could significantly reduce demand for our products.***

Sales of our food animal products could be materially adversely affected by the outbreak of disease carried by food animals, which could lead to the widespread death or precautionary destruction of food animals as well as the reduced consumption and demand for animal protein. The demand for our products could be significantly affected by outbreaks of animal diseases, and such occurrences may have a material adverse impact on the sale of our products and our financial condition and results of operations. The outbreaks of disease are beyond our control and could significantly affect demand for our products and consumer perceptions of certain meat products. An outbreak of disease could result in governmental restrictions on the import and export of chicken, pork, beef or other products to or from our customers. This could also create adverse publicity that may have a material adverse effect on our ability to sell our products successfully and on our financial condition and results of operations. In addition, outbreaks of disease carried by animals may reduce regional or global sales of particular animal-derived food products or result in reduced exports of such products, either due to heightened export restrictions or import prohibitions, which may reduce demand for our products due to reduced herd or flock sizes.

Most recently, outbreaks of African Swine Fever, primarily in China, have reduced animal populations and have reduced consumer demand for pork in the affected markets. In the past decade, there has been substantial publicity regarding H1N1, known as North American (or Swine) Influenza and, previously, H5N1, known as Highly Pathogenic Avian Influenza, in the human population. There have also been concerns relating to E. coli in beef and Salmonella in poultry and other food poisoning micro-organisms in meats and other foods. Consumers may associate human health fears with animal diseases, food, food production or food animals whether or not it is scientifically valid, which may have an adverse impact on the demand for animal protein. Occurrences of this type could significantly affect demand for animal protein, which in turn could affect the demand for our products in a manner that has a significant adverse effect on our financial condition and results of operations. Also, the outbreak of any highly contagious disease near our main production sites could require us to immediately halt production of our products at such sites or force us to incur substantial expenses in procuring raw materials or products elsewhere.

Outbreaks of an exotic or highly contagious disease in a country where we produce our products (particularly vaccines produced at our Israeli facility) may result in other countries halting importation of our products for fear that our product may be contaminated with the exotic organism.

***Our business may be negatively affected by weather conditions and the availability of natural resources.***

The animal health industry and demand for many of our animal health products in a particular region are affected by changing disease pressures and by weather conditions, as usage of our products follows varying weather patterns and weather-related pressures from diseases. As a result, we may experience regional and seasonal fluctuations in our results of operations.

In addition, livestock producers depend on the availability of natural resources, including abundant rainfall to sustain large supplies of drinking water, grasslands and grain production. Their animals' health and their ability to operate could be adversely affected if they experience a shortage of fresh water due to human population growth or floods, droughts or other weather conditions. In the event of adverse weather conditions or a shortage of fresh water, livestock producers may purchase less of our products.

***Our operations could be subject to the effects of climate change.***

Our operations and customers may be subject to potential physical impacts of climate change, including changes in weather patterns and the potential for extreme weather events, which could affect the manufacture and distribution of our products, agricultural yields and the demand for our products and result in additional regulation that increase our operating costs.

***The testing, manufacturing, and marketing of certain of our products are subject to extensive regulation by numerous government authorities in the United States and other countries, including, but not limited to, the FDA.***

Among other requirements, FDA approval of antibacterials and other medicated products, including the manufacturing processes and facilities used to produce such products, is required before such products may be marketed in the United States. Further, cross-clearance approvals are generally required for such products to be used in combination in animal feed. Similarly, marketing approval by a foreign governmental authority is typically required before such products may be marketed in a particular foreign country. In addition to approval of the product and its labeling, regulatory authorities typically require approval and periodic inspection of the manufacturing facilities. In order to obtain FDA approval of a new animal health product, we must, among other things, demonstrate to the satisfaction of the FDA that the product is safe and effective for its intended uses and that we are capable of manufacturing the product with procedures that conform to FDA's current cGMP regulations, which must be followed at all times.

In February 2015, the FDA conducted an inspection at our Teaneck, NJ headquarters to verify changes to and corrective actions related to various analytical test results and practices, expiration dating and reporting requirements regarding specification non-conformance. A Form 483 was issued, which contained one inspectional observation citing two examples of the observed violation. The observation questioned whether or not we are able to confirm that the drug components (of Type A medicated products) remain uniformly dispersed and stable under ordinary conditions of shipment, storage and use. We responded to the inspectional observation in writing in March 2015. This inspectional observation has not impacted our ability to market products in the United States or any other country. We believe the Form 483 observation has been satisfactorily addressed, however, we have not yet received a formal response from the FDA to our written response.

In May 2018, the FDA conducted a routine audit of our manufacturing facility at Guarulhos, Brazil and did not issue any inspectional observations. Accordingly, this site is considered to be in conformance with U.S. cGMP standards. In March 2016, the FDA also conducted a cGMP audit of this facility and issued six inspectional observations (Form 483). Audits related to cGMP standards are typically carried out by the FDA on a two year cycle. Although it is our objective to remain in full conformance with U.S. cGMP standards, there can be no assurance that future inspections will not raise adverse inspectional observation. Failure to comply with cGMP standards could have a material impact on our business and financial results.

The process of seeking FDA approvals can be costly, time consuming, and subject to unanticipated and significant delays. There can be no assurance that such approvals will be granted to us on a timely basis, or at all. Any delay in obtaining or any failure to obtain FDA or foreign government approvals or the suspension or revocation of such approvals would adversely affect our ability to introduce and market medicated feed additive products and to generate product revenue. For more information on FDA and foreign government approvals and cGMP issues, see "Business—Regulatory."

***We may experience declines in the sales volume and prices of our products as the result of the continuing trend toward consolidation of certain customer and distributor groups as well as the emergence of large buying groups.***

We make a majority of our sales to integrated poultry, swine and cattle operations and to a number of regional and national feed companies, distributors, co-ops and blenders. Food animal producers, particularly, swine and poultry producers, and our distributors have seen recent consolidation in their industries. Significant consolidation of our customers and distributors may result in these groups gaining additional purchasing leverage and consequently increasing the product pricing pressures facing our business. Additionally, the emergence of large buying groups potentially could enable such groups to attempt to extract price discounts on our products. Moreover, if, as a result of increased leverage, customers require us to reduce our pricing such that our gross margins are diminished, we could decide not to sell our products to a particular customer, which could result in a decrease in our revenues. Consolidation among our customer base may also lead to reduced demand for our products and replacement of our products by the combined entity with those of our competitors. The result of these developments could have a material adverse effect on our business, financial condition and results of operations.

***Our business is subject to risk based on customer exposure to rising costs and reduced customer income.***

Livestock producers may experience increased feed, fuel, transportation and other key costs or may experience decreased animal protein prices or sales. International trade disputes and tariffs could reduce demand for our customers' products. Either of these trends could cause deterioration in the financial condition of our livestock producer customers, potentially inhibiting their ability to purchase our products or pay us for products delivered. Our livestock producer customers may offset rising costs by reducing spending on our products, including by switching to lower-cost alternatives to our products.

***Generic products may be viewed as more cost-effective than certain of our products.***

We face competition from products produced by other companies, including generic alternatives to certain of our products. We depend primarily on trade secrets to provide us with competitive advantages for many of our products. The protection afforded is limited by the availability of new competitive products or generic versions of existing products that can successfully compete with our products. As a result, we may face competition from new competitive products or lower-priced generic alternatives to many of our products. Generic competitors are becoming more aggressive in terms of pricing, and generic products are an increasing percentage of overall animal health sales in certain regions. If animal health customers increase their use of new or existing generic products, our financial condition and results of operations could be materially adversely affected.

***Advances in veterinary medical practices and animal health technologies could negatively affect the market for our products.***

The market for our products could be impacted negatively by the introduction and/or broad market acceptance of newly developed or alternative products that address the diseases and conditions for which we sell products, including "green" or "holistic" health products or specially bred disease-resistant animals. In addition, technological breakthroughs by others may obviate our technology and reduce or eliminate the market for our products. Introduction or acceptance of such products or technologies could materially adversely affect our business, financial condition and results of operations.

***The misuse or extra-label use of our products may harm our reputation or result in financial or other damages.***

Our products have been approved for use under specific circumstances for, among other things, the prevention, control and/or treatment of certain diseases and conditions in specific species, in some cases subject to certain dosage levels or minimum withdrawal periods prior to the slaughter date. There may be increased risk of product liability if livestock producers or others attempt any extra-label use of our products, including the use of our products in species for which they have not been approved, or at dosage levels or periods prior to withdrawal that have not been approved. If we are deemed by a governmental or regulatory agency to have engaged in the promotion of any of our products for extra-label use, such agency could request that we modify our training or promotional materials and practices and we could be subject to significant fines and penalties. The imposition of these sanctions could also affect our reputation and position within the industry. Even if we were not responsible for having promoted the extra-label use, concerns could arise about the safety of the resulting meat in the human food supply. Any of these events could materially adversely affect our financial condition and results of operations.

***The public perception of the safety and efficacy of certain of our animal health products may harm our reputation.***

The public perception of the safety and efficacy of certain of our animal health products, whether or not these concerns are scientifically or clinically supported, may lead to product recalls, withdrawals, suspensions or declining sales as well as product liability and other claims.

Regulatory actions based on these types of safety, quality or efficacy concerns could impact all, or a significant portion of a product's sales and could, depending on the circumstances, materially adversely affect our results of operations.

In addition, we depend on positive perceptions of the safety and quality of our products, and animal health products generally, by our customers, veterinarians and end-users, and such concerns may harm our reputation. In some countries, these perceptions may be exacerbated by the existence of

counterfeit versions of our products, which, depending on the legal and law enforcement recourse available in the jurisdiction where the counterfeiting occurs, may be difficult to police or stop. These concerns and the related harm to our reputation could materially adversely affect our financial condition and results of operations, regardless of whether such reports are accurate.

***We are dependent on suppliers having current regulatory approvals, and the failure of those suppliers to maintain these approvals or other challenges in replacing any of those suppliers could affect our supply of materials or affect the distribution or sale of our products.***

Suppliers and third party contract manufacturers for our animal health and mineral nutrition products or the active pharmaceutical ingredients or other materials we use in our products, like us, are subject to extensive regulatory compliance. If any one of these third parties discontinues its supply to us because of changes in the regulatory environment to which such third parties are subject, significant regulatory violations or for any other reason, or an adverse event occurs at one of their facilities, the interruption in the supply of these materials could decrease sales of our affected products. In this event, we may seek to enter into agreements with third parties to purchase active ingredients, raw materials or products or to lease or purchase new manufacturing facilities. We may be unable to find a third party willing or able to provide the necessary products or facilities suitable for manufacturing pharmaceuticals on terms acceptable to us or the cost of those pharmaceuticals may be prohibitive. If we have to obtain substitute materials or products, additional regulatory approvals will likely be required, as approvals are typically specific to a single product produced by a specified manufacturer in a specified facility and there can be no assurances that such regulatory approvals will be obtained. As such, the use of new facilities also requires regulatory approvals. While we take measures where economically feasible and available to secure back-up suppliers, the continued receipt of active ingredients or products from a sole source supplier could create challenges if a sole source was interrupted. We may not be able to provide adequate and timely product to eliminate any threat of interruption of supply of our products to customers and these problems may materially adversely impact our business.

***The raw materials used by us and our third party contract manufacturers in the manufacture of our products can be subject to price fluctuations and their availability can be limited.***

While the selling prices of our products tend to increase or decrease over time with the cost of raw materials, such changes may not occur simultaneously or to the same degree. The costs of certain of our significant raw materials are subject to considerable volatility, and we generally do not engage in activities to hedge the costs of our raw materials and our third party contract manufacturers may demand price increases related to increases in the costs of raw materials. Although no single raw material accounted for more than 5% of our cost of goods sold for the year ended June 30, 2019, volatility in raw material costs can result in significant fluctuations in our costs of goods sold of the affected products. The costs of raw materials used by our Mineral Nutrition business are particularly subject to fluctuations in global commodities markets and cost changes in the underlying commodities markets typically lead directly to a corresponding change in our revenues. Although we attempt to adjust the prices of our products to reflect significant changes in raw material costs, we may not be able to pass any increases in raw material costs through to our customers in the form of price increases. Significant increases in the costs of raw materials, if not offset by product price increases, could have a material adverse effect on our financial condition and results of operations. The supply of certain of our raw materials is dependent on third party suppliers. There is no guarantee that supply shortages of such raw materials will not occur. In addition, if any one of these third parties discontinues its supply to us, or an adverse event occurs at one of their facilities, the interruption in the supply of these materials could decrease sales of our affected products. In the event that we cannot procure necessary major raw materials from other suppliers, the occurrence of any of these may have an adverse impact on our business.

***Our revenues are dependent on the continued operation of our various manufacturing facilities.***

Although presently all our manufacturing facilities are considered to be in good condition, the operation of our manufacturing facilities involves many risks which could cause product interruptions, including the breakdown, failure or substandard performance of equipment, construction delays, mislabeling, shortages of materials, labor problems, power outages, the improper installation or operation

of equipment, natural disasters, terrorist activities, the outbreak of any highly contagious diseases near our production sites and the need to comply with environmental and other directives of governmental agencies. In addition, regulatory authorities such as the FDA typically require approval and periodic inspection of the manufacturing facilities to confirm compliance with applicable regulatory requirements, and those requirements may be enforced by various means, including seizures and injunctions. Certain of our product lines are manufactured at a single facility, and certain of our product lines are manufactured at a single facility with limited capacity at a second facility, and production would not be easily transferable to another site. The occurrence of material operational problems, including but not limited to the above events, may adversely affect our financial condition and results of operations.

Our manufacturing network may be unable to meet the demand for our products or we may have excess capacity if demand for our products changes. The unpredictability of a product's regulatory or commercial success or failure, the lead time necessary to construct highly technical and complex manufacturing sites, and shifting customer demand (including as a result of market conditions or entry of branded or generic competition) increase the potential for capacity imbalances. In addition, construction of manufacturing sites is expensive, and our ability to recover costs will depend on the market acceptance and success of the products produced at the new sites, which is uncertain.

***We could be subject to changes in our tax rates, the adoption of new U.S. or foreign tax legislation or exposure to additional tax liabilities.***

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Changes in the relevant tax laws, regulations and interpretations could adversely affect our future effective tax rates. Modifications to key elements of the U.S. or international tax framework could have a material adverse effect on our consolidated financial statements.

Our consolidated effective tax rate is subject to potential risks that various taxing authorities may challenge the pricing of our cross-border arrangements and subject us to additional tax, adversely affecting our expected consolidated effective tax rate and our tax liability. If our effective tax rates were to increase, particularly in the U.S. or other material foreign jurisdictions, our business, financial condition and results of operations could be materially adversely affected. In addition, our tax returns and other tax filings and positions are subject to review by the Internal Revenue Service (the "IRS") and other tax authorities and governmental bodies. We regularly assess the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of our provision for taxes. There can be no assurance as to the outcome of these examinations or the effects on our consolidated financial statements.

***A significant portion of our operations are conducted in foreign jurisdictions and are subject to the economic, political, legal and business environments of the countries in which we do business.***

Our international operations could be limited or disrupted by any of the following:

- volatility in the international financial markets;
- compliance with governmental controls;
- difficulties enforcing contractual and intellectual property rights;
- compliance with a wide variety of laws and regulations, such as the U.S. Foreign Corrupt Practices Act ("FCPA") and similar non-U.S. laws and regulations;
- compliance with foreign labor laws;
- compliance with Environmental Laws;
- burdens to comply with multiple and potentially conflicting foreign laws and regulations, including those relating to environmental, health and safety requirements;
- changes in laws, regulations, government controls or enforcement practices with respect to our business and the businesses of our customers;
- political and social instability, including crime, civil disturbance, terrorist activities and armed conflicts;

- trade restrictions, export controls and sanctions laws and restrictions on direct investments by foreign entities, including restrictions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury;
- government limitations on foreign ownership;
- government takeover or nationalization of business;
- changes in tax laws and tariffs;
- imposition of anti-dumping and countervailing duties or other trade-related sanctions;
- costs and difficulties and compliance risks in staffing, managing and monitoring international operations;
- corruption risk inherent in business arrangements and regulatory contacts with foreign government entities;
- longer payment cycles and increased exposure to counterparty risk; and
- additional limitations on transferring personal information between countries or other restrictions on the processing of personal information.

The multinational nature of our business subjects us to potential risks that various taxing authorities may challenge the pricing of our cross-border arrangements and subject us to additional tax, adversely impacting our effective tax rate and our tax liability.

In addition, international transactions may involve increased financial and legal risks due to differing legal systems and customs. Compliance with these requirements may prohibit the import or export of certain products and technologies or may require us to obtain a license before importing or exporting certain products or technology. A failure to comply with any of these laws, regulations or requirements could result in civil or criminal legal proceedings, monetary or non-monetary penalties, or both, disruptions to our business, limitations on our ability to import and export products and services, and damage to our reputation. In addition, variations in the pricing of our products in different jurisdictions may result in the unauthorized importation of our products between jurisdictions. While the impact of these factors is difficult to predict, any of them could materially adversely affect our financial condition and results of operations. Changes in any of these laws, regulations or requirements, or the political environment in a particular country, may affect our ability to engage in business transactions in certain markets, including investment, procurement and repatriation of earnings.

***We are subject to product registration and authorization regulations in many of the jurisdictions in which we operate and/or distribute our products, including the United States and member states of the European Union.***

We are subject to regulations related to testing, manufacturing, labeling, registration, and safety analysis in order to lawfully distribute many of our products, including for example, in the United States, the federal Toxic Substances Control Act and the Federal Insecticide, Fungicide, and Rodenticide Act, and in the European Union, the Regulation on REACH. We are also subject to similar requirements in many of the other jurisdictions in which we operate and/or distribute our products. In some cases, such registrations are subject to periodic review by relevant authorities. Such regulations may lead to governmental restrictions or cancellations of, or refusal to issue, certain registrations or authorizations, or cause us or our customers to make product substitutions in the future. Such regulations may also lead to increased third party scrutiny and personal injury or product liability claims. Compliance with these regulations can be difficult, costly and time consuming and liabilities or costs relating to such regulations could have a material adverse effect on our business, financial condition and results of operations.

***We have significant assets located outside the United States and a significant portion of our sales and earnings is attributable to operations conducted abroad.***

As of June 30, 2019, we had manufacturing and direct sales operations in 20 countries and sold our products in over 75 countries. Our operations outside the United States accounted for 59% and 56% of our consolidated assets as of June 30, 2019 and 2018, respectively, and 42% and 40% of our consolidated net sales for the years ended June 30, 2019 and 2018, respectively. Our foreign operations are subject to

currency exchange fluctuations and restrictions, political instability in some countries, and uncertainty of, and governmental control over, commercial rights.

Changes in the relative values of currencies take place from time to time and could in the future adversely affect our results of operations as well as our ability to meet interest and principal obligations on our indebtedness. To the extent that the U.S. dollar fluctuates relative to the applicable foreign currency, our results are favorably or unfavorably affected. We may from time to time manage this exposure by entering into foreign currency contracts. Such contracts generally are entered into with respect to anticipated costs denominated in foreign currencies for which timing of the payment can be reasonably estimated. No assurances can be given that such hedging activities will not result in, or will be successful in preventing, losses that could have an adverse effect on our financial condition or results of operations. There are times when we do not hedge against foreign currency fluctuations and therefore are subject to the risks associated with fluctuations in currency exchange rates.

In addition, international manufacturing, sales and raw materials sourcing are subject to other inherent risks, including possible nationalization or expropriation, labor unrest, political instability, price and exchange controls, limitation on foreign participation in local enterprises, health-care regulation, export duties and quotas, domestic and international customs and tariffs, compliance with export controls and sanctions laws, the Foreign Corrupt Practices Act and other laws and regulations governing international trade, unexpected changes in regulatory environments, difficulty in obtaining distribution and support, and potentially adverse tax consequences. Although such risks have not had a material adverse effect on us in the past, these factors could have a material adverse impact on our ability to increase or maintain our international sales or on our results of operations in the future.

***We have manufacturing facilities located in Israel and a portion of our net sales and earnings is attributable to products produced and operations conducted in Israel.***

Our Israeli manufacturing facilities and local operations accounted for 28% and 27% of our consolidated assets, as of June 30, 2019 and 2018, respectively, and 20% and 21% of our consolidated net sales for the years ended June 30, 2019 and 2018. We maintain manufacturing facilities in Israel, which manufacture:

- anticoccidials and antimicrobials, most of which are exported;
- vaccines, a substantial portion of which are exported; and
- animal health pharmaceuticals, nutritional specialty products and trace minerals for the domestic animal industry.

A substantial portion of this production is exported from Israel to major world markets. Accordingly, our Israeli operations are dependent on foreign markets and the ability to reach those markets. Hostilities between Israel and its neighbors may hinder Israel's international trade. This, in turn, could have a material adverse effect on our business, financial condition and results of operations.

Certain countries, companies and organizations continue to participate in a boycott of Israeli firms and other companies doing business in Israel or with Israeli companies. We do not believe that the boycott has had a material adverse effect on us, but we cannot provide assurance that restrictive laws, policies or practices directed toward Israel or Israeli businesses will not have an adverse impact on our operations or expansion of our business. Our business, financial condition and results of operations in Israel may be adversely affected by factors outside of our control, such as currency fluctuations, energy shortages and other political, social and economic developments in or affecting Israel.

***We have manufacturing facilities located in Brazil and a portion of our sales and earnings is attributable to products produced and operations conducted in Brazil.***

Our Brazilian manufacturing facilities and local operations accounted for 13% of our consolidated assets, as of June 30, 2019 and 2018, and 22% and 20% of our consolidated net sales for the years ended June 30, 2019 and 2018, respectively. We maintain manufacturing facilities in Brazil, which manufacture virginiamycin, semduramicin and nicarbazin. Our Brazilian facilities also produce Stafac,

Aviax, Aviax Plus, Coxistac, Nicarb and Terramycin granular formulations. A substantial portion of the production is exported from Brazil to major world markets. Accordingly, our Brazilian operations are dependent on foreign markets and the ability to reach those markets.

Our business, financial condition and results of operations in Brazil may be adversely affected by factors outside of our control, such as currency fluctuations, energy shortages and other political, social and economic developments in or affecting Brazil.

***Certain of our employees are covered by collective bargaining or other labor agreements.***

As of June 30, 2019, approximately 250 of our Israeli employees and 415 of our Brazilian employees were covered by collective bargaining agreements. We believe we have satisfactory relations with our employees. There can be no assurance that we will not experience a work stoppage or strike at our manufacturing facilities. A prolonged work stoppage or strike at any of our manufacturing facilities could have a material adverse effect on our business, financial condition and results of operations.

***The loss of key personnel may disrupt our business and adversely affect our financial results.***

Our operations and future success are dependent on the continued efforts of our senior executive officers and other key personnel. Although we have entered into employment agreements with certain executives, we may not be able to retain all of our senior executive officers and key employees. These senior executive officers and other key employees may be hired by our competitors, some of which have considerably more financial resources than we do. The loss of the services of any of our senior executive officers or other key personnel, or the inability to hire and retain qualified employees, could have a material adverse effect on our business, financial condition and results of operations.

***Our R&D relies on evaluations in animals, which may become subject to bans or additional regulations.***

As a company that produces animal health medicines and vaccines, evaluation of our existing and new products in animals is required in order to be able to register our products. Animal testing in certain industries has been the subject of controversy and adverse publicity. Some organizations and individuals have attempted to ban animal testing or encourage the adoption of additional regulations applicable to animal testing. To the extent that the activities of such organizations and individuals are successful, our R&D, and by extension our financial condition and results of operations, could be materially adversely affected. In addition, negative publicity about us or our industry could harm our reputation.

***Our operations, properties and subsidiaries are subject to a wide variety of complex and stringent federal, state, local and foreign environmental laws and regulations.***

We are subject to environmental, health and safety laws and regulations, including those governing pollution; protection of the environment; the use, management and release of hazardous materials, substances and wastes; air emissions; greenhouse gas emissions; water use, supply, and discharges; the investigation and remediation of contamination; the manufacture, distribution and sale of regulated materials, including pesticides; the importing, exporting and transportation of products; and the health and safety of our employees and the public (collectively, "Environmental Laws"). See "Business—Environmental, Health and Safety."

Pursuant to Environmental Laws, certain of our subsidiaries are required to obtain and maintain numerous governmental permits, licenses, registrations, authorizations and approvals, including "RCRA Part B" hazardous waste permits, to conduct various aspects of their operations (collectively "Environmental Permits"), any of which may be subject to suspension, revocation, modification, termination or denial under certain circumstances or which may not be renewed upon their expiration for various reasons, including noncompliance. See "Business—Environmental, Health and Safety." These Environmental Permits can be difficult, costly and time consuming to obtain and may contain conditions that limit our operations. Additionally, any failure to obtain and maintain such Environmental Permits could restrict or otherwise prohibit certain aspects of our operations, which could have a material adverse effect on our business, financial condition and results of operations.

We have expended, and may be required to expend in the future, substantial funds for compliance with Environmental Laws. As recyclers of hazardous metal-containing chemical wastes, certain of our subsidiaries have been, and are likely to be, the focus of extensive compliance reviews by environmental regulatory authorities under Environmental Laws, including those relating to the generation, transportation, treatment, storage and disposal of solid and hazardous wastes under the RCRA. In the past, some of our subsidiaries have paid fines and entered into consent orders to address alleged environmental violations. See "Business—Environmental, Health and Safety." We cannot assure you that our operations or activities or those of certain of our subsidiaries, including with respect to compliance with Environmental Laws, will not result in civil or criminal enforcement actions or private actions, regulatory or judicial orders enjoining or curtailing operations or requiring corrective measures, installation of pollution control equipment or remedial measures or costs, revocation of required Environmental Permits, or fines, penalties or damages, which could have a material adverse effect on our business, financial condition and results of operations. In addition, we cannot predict the extent to which Environmental Laws, and the interpretation or enforcement thereof, may change or become more stringent in the future, each of which may affect the market for our products or give rise to additional capital expenditures, compliance costs or liabilities that could be material.

***Our operations or products may impact the environment or cause or contribute to contamination or exposure to hazardous substances.***

Given the nature of our current and former operations, particularly at our chemical manufacturing sites, we have incurred, are currently incurring and may in the future incur liabilities under CERCLA, or under other federal, state, local and foreign Environmental Laws related to releases of or contamination by hazardous substances, with respect to our current or former sites, adjacent or nearby third-party sites, or offsite disposal locations. See "Business—Environmental, Health and Safety." Certain Environmental Laws, including CERCLA, can impose strict, joint, several, and retroactive liability for the cost of investigation and cleanup of contaminated sites on owners and operators of such sites, as well as on persons who dispose of or arrange for disposal of hazardous substances at such sites. Accordingly, we could incur liability, whether as a result of government enforcement or private claims, for known or unknown liabilities at, or caused by migration from or hazardous waste transported from, any of our current or former facilities or properties, including those owned or operated by predecessors or third parties. See "Business—Environmental, Health and Safety." Such liability could have a material adverse effect on our business, financial condition and results of operations.

The nature of our current and former operations also exposes us to the risk of claims under Environmental Laws. We could be subject to claims by environmental regulatory authorities, individuals and other third parties seeking damages for alleged personal injury, property damage, and damages to natural resources resulting from hazardous substance contamination or human exposure caused by our operations, facilities or products, and there can be no assurance that material costs and liabilities will not be incurred in connection with any such claims. Our insurance may not be sufficient to cover any of these exposures, product, injury or damage claims.

Furthermore, regulatory agencies are showing increasing concern over the impact of animal health products and livestock operations on the environment. This increased regulatory scrutiny may necessitate that additional time and resources be spent to address these concerns for both new and existing products and could affect product sales and materially adversely affect our business, financial condition or results of operations.

We cannot assure you that our liabilities arising from past or future releases of, or exposure to, hazardous substances will not materially adversely affect our business, financial condition or results of operations.

***We have been and may continue to be subject to claims of injury from direct exposure to certain of our products that constitute or contain hazardous substances and from indirect exposure when such substances are incorporated into other companies' products.***

Because certain of our products constitute or contain hazardous substances, and because the production of certain chemicals involves the use, handling, processing, storage and transportation of hazardous substances, from time to time we are subject to claims of injury from direct exposure to such

substances and from indirect exposure when such substances are incorporated into other companies' products. There can be no assurance that as a result of past or future operations, there will not be additional claims of injury by employees or members of the public due to exposure, or alleged exposure, to such substances. We are also party to a number of claims and lawsuits arising out of the normal course of business, including product liability claims and allegations of violations of governmental regulations, and face present and future claims with respect to workplace exposure, workers' compensation and other matters. In most cases, such claims are covered by insurance and, where applicable, workers' compensation insurance, subject to policy limits and exclusions; however, our insurance coverage, to the extent available, may not be adequate to protect us from all liabilities that we might incur in connection with the manufacture, sale and use of our products. Insurance is expensive and in the future may not be available on acceptable terms, if at all. A successful claim or series of claims brought against us in excess of our insurance coverage could have a materially adverse effect on our business, financial condition and results of operations. In addition, any claims, even if not ultimately successful, could adversely affect the marketplace's acceptance of our products.

***We are subject to risks from litigation that may materially impact our operations.***

We face an inherent business risk of exposure to various types of claims and lawsuits. We are involved in various legal proceedings that arise in the ordinary course of our business. Although it is not possible to predict with certainty the outcome of every pending claim or lawsuit or the range of probable loss, we believe these pending lawsuits and claims will not individually or in the aggregate have a material adverse impact on our results of operations. However, we could, in the future, be subject to various lawsuits, including intellectual property, product liability, personal injury, product warranty, environmental or antitrust claims, among others, and incur judgments or enter into settlements of lawsuits and claims that could have a material adverse effect on our results of operations in any particular period.

***We are subject to risks that may not be covered by our insurance policies.***

In addition to pollution and other environmental risks, we are subject to risks inherent in the animal health, mineral nutrition and performance products industries, such as explosions, fires, spills or releases. Any significant interruption of operations at our principal facilities could have a material adverse effect on us. We maintain general liability insurance, pollution legal liability insurance, and property and business interruption insurance with coverage limits that we believe are adequate. Because of the nature of industry hazards, it is possible that liabilities for pollution and other damages arising from a major occurrence may not be covered by our insurance policies or could exceed insurance coverages or policy limits or that such insurance may not be available at reasonable rates in the future. Any such liabilities, which could arise due to injury or loss of life, severe damage to and destruction of property and equipment, pollution or other environmental damage or suspension of operations, could have a material adverse effect on our business.

***Adverse U.S. and international economic and market conditions may adversely affect our product sales and business.***

Current U.S. and international economic and market conditions are uncertain. Our revenues and operating results may be affected by uncertain or changing economic and market conditions, including the challenges faced in the credit markets and financial services industry. If domestic and global economic and market conditions remain uncertain or persist or deteriorate further, we may experience material impacts on our business, financial condition and results of operations. Adverse economic conditions impacting our customers, including, among others, increased taxation, higher unemployment, lower customer confidence in the economy, higher customer debt levels, lower availability of customer credit, higher interest rates and hardships relating to declines in the stock markets, could cause purchases of meat products to decline, resulting in a decrease in purchases of our products, which could adversely affect our financial condition and results of operation. Adverse economic and market conditions could also negatively impact our business by negatively affecting the parties with whom we do business, including among others, our customers, our manufacturers and our suppliers.

***We may not be able to realize the expected benefits of our investments in emerging markets.***

We have been taking steps to take advantage of the rise in global demand for animal protein in emerging markets, including by expanding our manufacturing presence, sales, marketing and distribution in these markets. Failure to continue to maintain and expand our business in emerging markets could also materially adversely affect our operating results and financial condition.

Some countries within emerging markets may be especially vulnerable to periods of local, regional or global economic, political or social instability or crisis. For example, our sales in certain emerging markets have suffered from extended periods of disruption due to natural disasters. Furthermore, we have also experienced lower than expected sales in certain emerging markets due to local, regional and global restrictions on banking and commercial activities in those countries. For all these and other reasons, sales within emerging markets carry significant risks.

***Modification of foreign trade policy may harm our food animal product customers.***

Changes in laws, agreements and policies governing foreign trade in the territories and countries where our customers do business could negatively impact such customers' businesses and adversely affect our results of operations. A number of our customers, particularly U.S.-based food animal producers, benefit from free trade agreements, such as the North American Free Trade Agreement ("NAFTA"). The U.S., Canada and Mexico reached an agreement to replace NAFTA with the United States-Mexico-Canada Agreement (USMCA). The USMCA must be ratified by each country's legislature. Most provisions of the USMCA will not begin until 2020. These new provisions, as well as any other changes to international trade agreements or policies could harm our customers, and as a result, negatively impact our financial condition and results of operations.

Additionally, in response to new U.S. tariffs affecting foreign imports, some foreign governments, including China, have instituted or are considering instituting tariffs on certain U.S. goods. While the scope and duration of these and any future tariffs remain uncertain, tariffs imposed by the U.S. or foreign governments on our customers' products, or on our products or the active pharmaceutical ingredients or other components thereof, could negatively impact our financial condition and results of operations.

***We may not be able to expand through acquisitions or integrate successfully the products, services and personnel of acquired businesses.***

From time to time, we may make selective acquisitions to expand our range of products and services and to expand the geographic scope of our business. However, we may be unable to identify suitable targets, and competition for acquisitions may make it difficult for us to consummate acquisitions on acceptable terms or at all. We may not be able to locate any complementary products that meet our requirements or that are available to us on acceptable terms or we may not have sufficient capital resources to consummate a proposed acquisition. In addition, assuming we identify suitable products or partners, the process of effectively entering into these arrangements involves risks that our management's attention may be diverted from other business concerns. Further, if we succeed in identifying and consummating appropriate acquisitions on acceptable terms, we may not be able to integrate successfully the products, services and personnel of any acquired businesses on a basis consistent with our current business practice. In particular, we may face greater than expected costs, time and effort involved in completing and integrating acquisitions and potential disruption of our ongoing business. Furthermore, we may realize fewer, if any, synergies than envisaged. Our ability to manage acquired businesses may also be limited if we enter into joint ventures or do not acquire full ownership or a controlling stake in the acquired business. In addition, continued growth through acquisitions may significantly strain our existing management and operational resources. As a result, we may need to recruit additional personnel, particularly at the level below senior management, and we may not be able to recruit qualified management and other key personnel to manage our growth. Moreover, certain transactions could adversely impact earnings as we incur development and other expenses related to the transactions and we could incur debt to complete these transactions. Debt instruments could contain contractual commitments and covenants that could adversely affect our cash flow and our ability to operate our business, financial condition and results of operations.

***We may not successfully implement our business strategies or achieve expected gross margin improvements.***

We are pursuing and may continue to pursue strategic initiatives that management considers critical to our long-term success, including, but not limited to, increasing sales in emerging markets, base revenue growth through new product development and value added product lifecycle development; improving operational efficiency through manufacturing efficiency improvement and other programs; and expanding our complementary products and services. There are significant risks involved with the execution of these types of initiatives, including significant business, economic and competitive uncertainties, many of which are outside of our control. Accordingly, we cannot predict whether we will succeed in implementing these strategic initiatives. It could take several years to realize the anticipated benefits from these initiatives, if any benefits are achieved at all. We may be unable to achieve expected gross margin improvements on our products or technologies. Additionally, our business strategy may change from time to time, which could delay our ability to implement initiatives that we believe are important to our business.

***Our product approval, R&D, acquisition and licensing efforts may fail to generate new products and product lifecycle developments.***

Our future success depends on both our existing product portfolio, including our ability to obtain cross-clearances enabling the use of our medicated products in conjunction with other products, approval for use of our products with new species, approval for new claims for our products, approval of our products in new markets, and our pipeline of new products, including new products that we may develop through joint ventures and products that we are able to obtain through license or acquisition. The majority of our R&D programs focus on product lifecycle development, which is defined as R&D programs that leverage existing animal health products by adding new species or claims, achieving approvals in new markets or creating new combinations and reformulations. We commit substantial effort, funds and other resources to expanding our product approvals and R&D, both through our own dedicated resources and through collaborations with third parties.

We may be unable to determine with accuracy when or whether any of our expanded product approvals for our existing product portfolio or any of our products now under development will be approved or launched, or we may be unable to obtain expanded product approvals or develop, license or otherwise acquire product candidates or products. In addition, we cannot predict whether any products, once launched, will be commercially successful or will achieve sales and revenues that are consistent with our expectations. The animal health industry is subject to regional and local trends and regulations and, as a result, products that are successful in some of our markets may not achieve similar success when introduced into new markets. Furthermore, the timing and cost of our R&D may increase, and our R&D may become less predictable. For example, changes in regulations applicable to our industry may make it more time-consuming and/or costly to research, test and develop products.

Products in the animal health industry are sometimes derived from molecules and compounds discovered or developed as part of human health research. We may enter into collaboration or licensing arrangements with third parties to provide us with access to compounds and other technology for purposes of our business. Such agreements are typically complex and require time to negotiate and implement. If we enter into these arrangements, we may not be able to maintain these relationships or establish new ones in the future on acceptable terms or at all. In addition, any collaboration that we enter into may not be successful, and the success may depend on the efforts and actions of our collaborators, which we may not be able to control. If we are unable to access human health-generated molecules and compounds to conduct R&D on cost-effective terms, our ability to develop new products could be limited.

***The actual or purported intellectual property rights of third parties may negatively affect our business.***

A third party may sue us, our distributors or licensors, or otherwise make a claim, alleging infringement or other violation of the third-party's patents, trademarks, trade dress, copyrights, trade secrets, domain names or other intellectual property rights. If we do not prevail in this type of litigation, we may be required to:

- pay monetary damages;

- obtain a license in order to continue manufacturing or marketing the affected products, which may not be available on commercially reasonable terms, or at all; or
- stop activities, including any commercial activities, relating to the affected products, which could include a recall of the affected products and/or a cessation of sales in the future.

The costs of defending an intellectual property claim could be substantial and could materially adversely affect our operating results and financial condition, even if we successfully defend such claims. We may also incur costs in connection with an obligation to indemnify a distributor, licensor or other third party. Moreover, even if we believe that we do not infringe a validly existing third-party patent, we may choose to license such patent, which would result in associated costs and obligations. We may also incur costs in connection with an obligation to indemnify a distributor, licensor or other third party.

The intellectual property positions of animal health medicines and vaccines businesses frequently involve complex legal and factual questions, and an issued patent does not guarantee us the right to practice the patented technology or develop, manufacture or commercialize the patented product. We cannot be certain that a competitor or other third party does not have or will not obtain rights to intellectual property that may prevent us from manufacturing, developing or marketing certain of our products, regardless of whether we believe such intellectual property rights are valid and enforceable or we believe we would be otherwise able to develop a more commercially successful product, which may harm our financial condition and results of operations.

***If our intellectual property rights are challenged or circumvented, competitors may be able to take advantage of our R&D efforts. We are also dependent upon trade secrets, which generally are difficult to protect.***

Our long-term success largely depends on our ability to market technologically competitive products. We rely and expect to continue to rely on a combination of intellectual property, including patent, trademark, trade dress, copyright, trade secret and domain name protection laws, as well as confidentiality and license agreements with our employees and others, to protect our intellectual property and proprietary rights. If we fail to obtain and maintain adequate intellectual property protection, we may not be able to prevent third parties from using our proprietary technologies or from marketing products that are very similar or identical to ours. Our currently pending or future patent applications may not result in issued patents, or be approved on a timely basis, or at all. Similarly, any term extensions that we seek may not be approved on a timely basis, if at all. In addition, our issued patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products or provide us with any competitive advantage, including exclusivity in a particular product area. The scope of our patent claims also may vary between countries, as individual countries have their own patent laws. For example, some countries only permit the issuance of patents covering a novel chemical compound itself, and its first use, and thus further methods of use for the same compound, may not be patentable. We may be subject to challenges by third parties regarding our intellectual property, including claims regarding validity, enforceability, scope and effective term. The validity, enforceability, scope and effective term of patents can be highly uncertain and often involve complex legal and factual questions and proceedings. Our ability to enforce our patents also depends on the laws of individual countries and each country's practice with respect to enforcement of intellectual property rights. In addition, if we are unable to maintain our existing license agreements or other agreements pursuant to which third parties grant us rights to intellectual property, including because such agreements expire or are terminated, our financial condition and results of operations could be materially adversely affected.

In addition, patent law reform in the United States and other countries may also weaken our ability to enforce our patent rights, or make such enforcement financially unattractive. For instance, in September 2011, the United States enacted the America Invents Act, which will permit enhanced third-party actions for challenging patents and implement a first-to-invent system, and, in April 2012, Australia enacted the Intellectual Property Laws Amendment (Raising the Bar) Act, which provides higher standards for obtaining patents. These reforms could result in increased costs to protect our intellectual property or limit our ability to patent our products in these jurisdictions.

Additionally, certain foreign governments have indicated that compulsory licenses to patents may be granted in the case of national emergencies, which could diminish or eliminate sales and profits from those regions and materially adversely affect our operating results and financial condition.

Likewise, in the United States and other countries, we currently hold issued trademark registrations and have trademark applications pending, any of which may be the subject of a governmental or third party objection, which could prevent the maintenance or issuance of the same and thus create the potential need to rebrand or relabel a product. As our products mature, our reliance on our trademarks to differentiate us from our competitors increases and as a result, if we are unable to prevent third parties from adopting, registering or using trademarks and trade dress that infringe, dilute or otherwise violate our trademark rights, our business could be materially adversely affected.

Our competitive position is also dependent upon unpatented trade secrets, which generally may be difficult to protect. Others may independently develop substantially equivalent proprietary information and techniques or may otherwise gain access to our trade secrets, trade secrets may be disclosed or we may not be able to protect our rights to unpatented trade secrets.

Many of our vaccine products and other products are based on or incorporate proprietary information, including proprietary master seeds and proprietary or patented adjuvant formulations. We actively seek to protect our proprietary information, including our trade secrets and proprietary know-how, by requiring our employees, consultants, other advisors and other third parties to execute confidentiality agreements upon the commencement of their employment, engagement or other relationship. Despite these efforts and precautions, we may be unable to prevent a third party from copying or otherwise obtaining and using our trade secrets or our other intellectual property without authorization and legal remedies may not adequately compensate us for the damages caused by such unauthorized use. Further, others may independently and lawfully develop substantially similar or identical products that circumvent our intellectual property by means of alternative designs or processes or otherwise.

The misappropriation and infringement of our intellectual property, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States, may occur even when we take steps to prevent it. In the future, we may be party to patent lawsuits and other intellectual property rights claims that are expensive and time consuming, and if resolved adversely, could have a significant impact on our business and financial condition. In the future, we may not be able to enforce intellectual property that relates to our products for various reasons, including licensor restrictions and other restrictions imposed by third parties, and that the costs of doing so may outweigh the value of doing so, and this could have a material adverse impact on our business and financial condition.

***We are subject to the U.S. Foreign Corrupt Practices Act and other anti-corruption laws or trade control laws, as well as other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, which could adversely affect our business, financial condition and results of operations.***

Our operations are subject to anti-corruption laws, including the FCPA and other anti-corruption laws that apply in countries where we do business. The FCPA, UK Bribery Act and other laws generally prohibit us and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. We operate in a number of jurisdictions that pose a high risk of potential FCPA violations, and we participate in relationships with third parties whose actions could potentially subject us to liability under the FCPA or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the U.S. Department of Commerce's Bureau of Industry and Security, the U.S. Department of Treasury's Office of Foreign Asset Control, and various non-U.S. government entities, including applicable export control regulations, economic sanctions on countries and persons, customs requirements, currency exchange regulations and transfer pricing regulations (collectively, the "Trade Control laws").

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anticorruption laws, including the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the FCPA and other anti-corruption laws or Trade Control laws, we

may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Likewise, any investigation of any potential violations of the FCPA other anti-corruption laws or Trade Control laws by U.S. or foreign authorities could also have an adverse impact on our reputation, business, financial condition and results of operations

***Increased regulation or decreased governmental financial support for the raising, processing or consumption of food animals could reduce demand for our animal health products.***

Companies in the animal health industry are subject to extensive and increasingly stringent regulations. If livestock producers are adversely affected by new regulations or changes to existing regulations, they may reduce herd sizes or become less profitable and, as a result, they may reduce their use of our products, which may materially adversely affect our operating results and financial condition. Furthermore, adverse regulations related, directly or indirectly, to the use of one or more of our products may injure livestock producers' market position. More stringent regulation of the livestock industry or our products could have a material adverse effect on our operating results and financial condition. Also, many industrial producers, including livestock producers, benefit from governmental subsidies, and if such subsidies were to be reduced or eliminated, these companies may become less profitable and, as a result, may reduce their use of our products.

***We have substantial debt and interest payment requirements that may restrict our future operations and impair our ability to meet our obligations under our indebtedness. Restrictions imposed by our outstanding indebtedness, including the restrictions contained in our Credit Facilities, may limit our ability to operate our business and to finance our future operations or capital needs or to engage in other business activities.***

As of June 30, 2019, we had $231.3 million of outstanding indebtedness under our Term A loan (reflects the principal amount), $96.0 million of outstanding borrowings under our revolving credit facility (the "Revolver", and together with the Term A loan, the "Credit Facilities") and $3.0 million of outstanding letters of credit. Subject to restrictions in our Credit Facilities, we may incur significant additional indebtedness. If we and our subsidiaries incur significant additional indebtedness, the related risks that we face could intensify.

Our substantial debt may have important consequences. For instance, it could:

- make it more difficult for us to satisfy our financial obligations, including those relating to the Credit Facilities;
- require us to dedicate a substantial portion of any cash flow from operations to the payment of interest and principal due under our debt, which will reduce funds available for other business purposes, including capital expenditures and acquisitions;
- increase our vulnerability to general adverse economic and industry conditions;
- limit our flexibility in planning for or reacting to changes in our business and the industry in which we operate;
- place us at a competitive disadvantage compared with some of our competitors that may have less debt and better access to capital resources; and
- limit our ability to obtain additional financing required to fund working capital and capital expenditures and for other general corporate purposes.

Our ability to satisfy our obligations and to reduce our total debt depends on our future operating performance and on economic, financial, competitive and other factors, many of which are beyond our control. Our business may not generate sufficient cash flow, and future financings may not be available to provide sufficient net proceeds, to meet these obligations or to successfully execute our business strategy.

The terms of the Credit Facilities contain certain covenants that limit our ability and that of our subsidiaries to create liens, merge or consolidate, dispose of assets, incur indebtedness and guarantees, repurchase or redeem capital stock and indebtedness, make certain investments or acquisitions, enter into certain transactions with affiliates or change the nature of our business. As a result of these covenants and

restrictions, we will be limited in how we conduct our business, and we may be unable to raise additional debt or equity financing to compete effectively or to take advantage of new business opportunities. The terms of any future indebtedness we may incur could include more restrictive covenants. We may not be able to maintain compliance with the covenants in any of our debt instruments in the future and, if we fail to do so, we may not be able to obtain waivers from the lenders and/or amend the covenants.

***We may not be able to generate sufficient cash to service all of our indebtedness and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.***

Our ability to make scheduled payments on or refinance our debt obligations depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business, legislative, regulatory and other factors beyond our control. We may be unable to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal and interest on our indebtedness.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures, or to dispose of material assets or operations, alter our dividend policy, seek additional debt or equity capital or restructure or refinance our indebtedness. We may not be able to effect any such alternative measures on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow us to meet our scheduled debt service obligations. The instruments that govern our indebtedness may restrict our ability to dispose of assets and may restrict the use of proceeds from those dispositions and may also restrict our ability to raise debt or equity capital to be used to repay other indebtedness when it becomes due. We may not be able to consummate those dispositions or to obtain proceeds in an amount sufficient to meet any debt service obligations when due.

In addition, we conduct our operations through our subsidiaries. Accordingly, repayment of our indebtedness will depend on the generation of cash flow by our subsidiaries, including our international subsidiaries, and their ability to make such cash available to us, by dividend, debt repayment or otherwise. Our subsidiaries may not have any obligation to pay amounts due on our indebtedness or to make funds available for that purpose. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments in respect of our indebtedness. Each subsidiary is a distinct legal entity, and under certain circumstances, legal, tax and contractual restrictions may limit our ability to obtain cash from our subsidiaries or may subject any transfer of cash from our subsidiaries to substantial tax liabilities. In the event that we do not receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness.

Our inability to generate sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, may materially adversely affect our operating results, financial condition and liquidity and our ability to satisfy our obligations under our indebtedness or pay dividends on our common stock.

***We are subject to change of control provisions.***

We are a party to certain contractual arrangements that are subject to change of control provisions. In this context, “change of control” is generally defined as including (a) any person or group, other than Mr. Jack C. Bendheim and his family and affiliates (the current holders of approximately 90.9% of the combined voting power of all classes of our outstanding common stock), becoming the beneficial owner of more than 50% of the total voting power of our stock, and (b) a change in any twelve month period in the majority of the members of the Board that is not approved by Mr. Bendheim and/or his family and affiliates or by the majority of directors in office at the start of such period.

Mr. Bendheim and his family and affiliates may choose to dispose of part or all of their stakes in us and/or may cease to exercise the current level of control they have over the appointment and removal of members of our Board. Any such changes may trigger a “change of control” event that could result in us being forced to repay the Credit Facilities or lead to the termination of a significant contract to which we are a party. If any such event occurs, this may negatively affect our financial condition and operating results. In addition, we may not have sufficient funds to finance repayment of any of such indebtedness upon any such “change in control.”

***We depend on sophisticated information technology and infrastructure.***

We rely on various information systems to manage our operations, and we increasingly depend on third parties and applications on virtualized, or "cloud," infrastructure to operate and support our information technology systems. These third parties include large established vendors as well as small, privately owned companies. Failure by these providers to adequately service our operations or a change in control or insolvency of these providers could have an adverse effect on our business, which in turn may materially adversely affect our business, financial condition or results of operations.

***We may be required to write down goodwill or identifiable intangible assets.***

Under U.S. GAAP, if we determine goodwill or identifiable intangible assets are impaired, we will be required to write down these assets and record a non-cash impairment charge. As of June 30, 2019, we had goodwill of $27.3 million and identifiable intangible assets, less accumulated amortization, of $47.5 million. Identifiable intangible assets consist primarily of developed technology rights and patents, customer relationships, distribution agreements and trade names and trademarks. During fiscal year 2017, we determined certain of our intangible assets were impaired. See "Notes to Consolidated Financial Statements—Summary of Significant Accounting Policies and New Accounting Standards, Long-Lived Assets and Goodwill."

Determining whether an impairment exists and the amount of the potential impairment involves quantitative data and qualitative criteria that are based on estimates and assumptions requiring significant management judgment. Future events or new information may change management's valuation of goodwill or an intangible asset in a short amount of time. The timing and amount of impairment charges recorded in our consolidated statements of operations and write-downs recorded in our consolidated balance sheets could vary if management's conclusions change. Any impairment of goodwill or identifiable intangible assets could have a material adverse effect on our financial condition and results of operations.

***We may be unable to adequately protect our customers' privacy or we may fail to comply with privacy laws.***

The protection of customer, employee and company data is critical and the regulatory environment surrounding information security, storage, use, processing, disclosure and privacy is demanding, with the frequent imposition of new and changing requirements. In addition, our customers expect that we will adequately protect their personal information. Any actual or perceived significant breakdown, intrusion, interruption, cyber-attack or corruption of customer, employee or company data or our failure to comply with federal, state, local and foreign privacy laws could damage our reputation and result in lost sales, fines and lawsuits. Despite our considerable efforts and technology to secure our computer network, security could be compromised, confidential information could be misappropriated or system disruptions could occur. Any actual or perceived access, disclosure or other loss of information or any significant breakdown, intrusion, interruption, cyber-attack or corruption of customer, employee or company data or our failure to comply with federal, state, local and foreign privacy laws or contractual obligations with customers, vendors, payment processors and other third parties, could result in legal claims or proceedings, liability under laws or contracts that protect the privacy of personal information, regulatory penalties, disruption of our operations, and damage to our reputation, all of which could materially adversely affect our business, revenue and competitive position.

***We may be subject to information technology system failures, network disruptions and breaches in data security.***

We are increasingly dependent upon information technology systems and infrastructure to conduct critical operations and generally operate our business, which includes using information technology systems to process, transmit and store electronic information in our day-to-day operations, including customer, employee and company data. The size and complexity of our computer systems make them potentially vulnerable to breakdown, malicious intrusion and random attack. We also store certain information with third parties. Our information systems and those of our third-party vendors are subjected to computer viruses or other malicious codes, unauthorized access attempts, and cyber- or phishing-attacks and also are vulnerable to an increasing threat of continually evolving cybersecurity risks and external hazards. Disruption, degradation, or manipulation of these systems and infrastructure through intentional

or accidental means could impact key business processes. Cyber-attacks against the Company's systems and infrastructure could result in exposure of confidential information, the modification of critical data, and/or the failure of critical operations. Likewise, improper or inadvertent employee behavior, including data privacy breaches by employees and others with permitted access to our systems may pose a risk that sensitive data may be exposed to unauthorized persons or to the public. Any such breach could compromise our networks, and the information stored therein could be accessed, publicly disclosed, lost or stolen. Such attacks could result in our intellectual property and other confidential information being lost or stolen, disruption of our operations, and other negative consequences, such as increased costs for security measures or remediation costs, and diversion of management attention. Although the aggregate impact on the Company's operations and financial condition has not been material to date, the Company has been the target of events of this nature and expects them to continue as cyber-attacks are becoming more sophisticated and frequent, and the techniques used in such attacks change rapidly. The Company monitors its data, information technology and personnel usage of Company systems to reduce these risks and continues to do so on an ongoing basis for any current or potential threats. While we have invested in protection of data and information technology, there can be no assurance that our efforts will prevent breakdowns, cybersecurity attacks or breaches in our systems that could cause reputational damage, business disruption and legal and regulatory costs; could result in third-party claims; could result in compromise or misappropriation of our intellectual property, trade secrets and sensitive information; and could otherwise adversely affect our business and financial results.

**Risks Related to Ownership of Our Class A Common Stock**

***Our multiple class structure and the concentration of our voting power with certain of our stockholders will limit your ability to influence corporate matters, and conflicts of interest between certain of our stockholders and us or other investors could arise in the future.***

As of August 20, 2019, BFI Co., LLC ("BFI") beneficially owns 59.480 shares of our Class A common stock and 20,166,034 shares of our Class B common stock, which together represent approximately 90.9% of the combined voting power of all classes of our outstanding common stock. As of August 20, 2019, our other stockholders, collectively own interests representing approximately 9.1% of the combined voting power of all classes of our outstanding common stock. Because of our multiple class structure and the concentration of voting power with BFI, BFI will continue to be able to control all matters submitted to our stockholders for approval for so long as BFI holds common stock representing greater than 50% of the combined voting power of all classes of our outstanding common stock. BFI will therefore have significant influence over management and affairs and control the approval of all matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of the Company or its assets, for the foreseeable future.

***We are classified as a "controlled company" and, as a result, we qualify for, and intend to rely on, exemptions from certain corporate governance requirements. You will not have the same protections afforded to stockholders of companies that are subject to such requirements.***

BFI controls a majority of the combined voting power of all classes of our outstanding common stock. As a result, we are a "controlled company" within the meaning of the Nasdaq corporate governance standards. Under Nasdaq rules, a company of which more than 50% of the voting power is held by an individual, group or another company is a "controlled company" and may elect not to comply with certain corporate governance requirements, including:

- the requirement that a majority of the Board consists of independent directors;
- the requirement that we have a nominating and corporate governance committee and that it is composed entirely of independent directors;
- the requirement that we have a compensation committee and that it is composed entirely of independent directors; and
- the requirement for an annual performance evaluation of the nominating and corporate governance and compensation committees.

We utilize and intend to continue to utilize these exemptions. As a result, while we currently have a majority of independent directors:

- we may not have a majority of independent directors in the future;
- we will not have a nominating and corporate governance committee;
- our compensation committee will not consist entirely of independent directors; and
- we will not be required to have an annual performance evaluation of the compensation committee.

Accordingly, you will not have the same protections afforded to stockholders of companies that are subject to all of the Nasdaq corporate governance requirements.

***Our stock price may be volatile or may decline regardless of our operating performance.***

The market price of our Class A common stock may fluctuate significantly in response to a number of factors, many of which we cannot control, including those described under "—Risks Related to Our Business" and "—Risks Related to Our Indebtedness" and the following:

- changes in financial estimates by any securities analysts who follow our Class A common stock, our failure to meet these estimates or failure of those analysts to initiate or maintain coverage of our Class A common stock;
- downgrades by any securities analysts who follow our Class A common stock;
- future sales of our Class A common stock by our officers, directors and significant stockholders;
- market conditions or trends in our industry or the economy as a whole and, in particular, in the animal health industry;
- investors' perceptions of our prospects;
- announcements by us or our competitors of significant contracts, acquisitions, joint ventures or capital commitments; and
- changes in key personnel.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. If we were involved in securities litigation, we could incur substantial costs, and our resources and the attention of management could be diverted from our business.

***Our majority stockholder has the ability to control significant corporate activities and our majority stockholder's interests may not coincide with yours.***

As of August 20, 2019, approximately 90.9% of the combined voting power of all classes of our outstanding common stock is held by BFI. As a result of its ownership, so long as it holds a majority of the combined voting power of all classes of our outstanding common stock, BFI will have the ability to control the outcome of matters submitted to a vote of stockholders and, through our Board of Directors, the ability to control decision-making with respect to our business direction and policies. Matters over which BFI, directly or indirectly, exercises control include:

- the election of our Board of Directors and the appointment and removal of our officers;
- mergers and other business combination transactions, including proposed transactions that would result in our stockholders receiving a premium price for their shares;
- other acquisitions or dispositions of businesses or assets;
- incurrence of indebtedness and the issuance of equity securities;

- repurchase of stock and payment of dividends; and
- the issuance of shares to management under our equity incentive plans.

Even if BFI's ownership of our shares falls below a majority of the combined voting power of all classes of our outstanding common stock, it may continue to be able to influence or effectively control our decisions.

***Future sales of our Class A common stock, or the perception in the public markets that these sales may occur, may depress our stock price.***

Sales of substantial amounts of our Class A common stock in the public market, or the perception that these sales could occur, could adversely affect the price of our Class A common stock and could impair our ability to raise capital through the sale of additional shares. In addition, subject to certain restrictions on converting Class B common stock into Class A common stock, all of our outstanding shares of Class B common stock may be converted into Class A common stock and sold in the public market by existing stockholders. As of August 20, 2019, we had 20,287,574 shares of Class A common stock and 20,166,034 shares of Class B common stock outstanding.

BFI, which holds all of our outstanding Class B common stock, has the right to require us to register the sales of their shares under the Securities Act under the terms of an agreement between us and the holders of these securities. In the future, we may also issue our securities in connection with investments or acquisitions. The amount of shares of our Class A common stock issued in connection with an investment or acquisition could constitute a material portion of our then-outstanding shares of our Class A common stock.

***As a public company, we are subject to financial and other reporting and corporate governance requirements that did not previously apply to us and that may be difficult for us to satisfy and may divert management's attention from our business.***

As a public company, we are required to file annual and quarterly reports and other information pursuant to the Exchange Act with the SEC. We are required to ensure that we have the ability to prepare consolidated financial statements that comply with SEC reporting requirements on a timely basis. We are also subject to other reporting and corporate governance requirements, including the applicable stock exchange listing standards and certain provisions of the Sarbanes-Oxley Act and the regulations promulgated thereunder, which impose significant compliance obligations upon us. Specifically, we are required to:

- prepare and distribute periodic reports and other stockholder communications in compliance with our obligations under the federal securities laws and applicable stock exchange rules;
- maintain compliance and internal audit functions that are more comprehensive;
- maintain effective disclosure controls and procedures;
- evaluate and maintain an effective system of internal control over financial reporting, and report on management's assessment thereof, in compliance with the requirements of Section 404 and the related rules and regulations of the SEC and the Public Company Accounting Oversight Board;
- continue to enhance our investor relations function;
- maintain internal policies, including those relating to disclosure controls and procedures; and
- involve and retain outside legal counsel and accountants in connection with the activities listed above.

As a public company, we are required to commit significant resources and management time and attention to the above-listed requirements, which cause us to incur significant costs and which may place a strain on our systems and resources. As a result, our management's attention might be diverted from other business concerns. Compliance with these requirements place significant demands on our legal, accounting and finance staff and on our accounting, financial and information systems and increase our legal and

accounting compliance costs as well as our compensation expense as we have been or may be required to hire additional accounting, tax, finance and legal staff with the requisite technical knowledge, particularly now that we are no longer an "emerging growth company."

***Our management and independent registered public accounting firm have determined that there are material weaknesses in our internal controls over financial reporting. If we fail to maintain an effective system of internal controls over financial reporting, we may not be able to accurately report our financial results.***

Our management and independent registered public accounting firm have identified material weaknesses in our internal controls over financial reporting and our audit committee has agreed with the assessment of our management and independent registered public accounting firm. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. Our management and independent registered public accounting firm have concluded that we did not maintain effective internal control over financial reporting due to a lack of sufficient resources with an appropriate level of knowledge, experience and training commensurate with our financial reporting requirements. This deficiency contributed to the following material weaknesses:

- We did not maintain effective internal controls to ensure processing and reporting of valid transactions are complete, accurate, and timely. Specifically, we have not designed and implemented formal accounting policies and procedures that define how transactions across the business cycles should be initiated, authorized, processed, recorded and reported.
- We did not maintain effective internal control that restricts access to key financial systems and records to appropriate users and ensures appropriate segregation of duties is maintained. Certain personnel had access to financial application, programs and data beyond that needed to perform their individual job responsibilities and without independent monitoring. In addition, certain financial personnel had incompatible duties that allowed for the creation, review and processing of certain financial data without independent review and authorization. This material weakness affects substantially all financial statement accounts.

Each of these material weaknesses could result in a material misstatement of our annual or interim financial statements that possibly would not be prevented or detected on a timely basis. We are in the process of implementing a range of changes to our internal control over financial reporting to remediate the material weaknesses. While we will continue to implement our remediation plan, we cannot determine when our remediation plan will be fully completed, and we cannot provide any assurance that these remediation efforts will be successful or that our internal control over financial reporting will be effective as a result of these efforts. If we are unsuccessful in remediating the material weakness, or if we suffer other deficiencies or material weaknesses in our internal controls in the future, we may be unable to report financial information in a timely and accurate manner and it could result in a material misstatement of our annual or interim financial statements that would not be prevented or detected on a timely basis, which could cause investors to lose confidence in our financial reporting, negatively affect the trading price of our common stock, and could cause a default under the agreements governing our indebtedness.

***Failure to comply with requirements to design, implement and maintain effective internal controls could have a material adverse effect on our business and stock price.***

As a public company, we have significant requirements for enhanced financial reporting and internal controls. The process of designing and implementing effective internal controls is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to maintain a system of internal controls that is adequate to satisfy our reporting obligations as a public company. If we are unable to establish or maintain appropriate internal financial reporting controls and procedures, it could cause us to fail to meet our reporting obligations on a timely basis, result in material misstatements in our consolidated financial statements and harm our operating results. In addition, we are required, pursuant to Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting and a statement that our auditors have issued an attestation

report on the effectiveness of our internal controls. Testing and maintaining internal controls may divert our management's attention from other matters that are important to our business. We may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with Section 404 or our independent registered public accounting firm may not issue an unqualified opinion. If either we are unable to conclude that we have effective internal control over financial reporting or our independent registered public accounting firm is unable to provide us with an unqualified opinion, investors could lose confidence in our reported financial information, which could have a material adverse effect on the trading price of our stock.

***Anti-takeover provisions in our charter documents and Delaware law might discourage or delay acquisition attempts for us that you might consider favorable.***

Our certificate of incorporation and bylaws contain provisions that may make the acquisition of the Company more difficult without the approval of our Board of Directors. These provisions:

- authorize the issuance of undesignated preferred stock, the terms of which may be established and the shares of which may be issued without stockholder approval, and which may include super voting, special approval, dividend, or other rights or preferences superior to the rights of the holders of Class A common stock;
- prohibit, at any time after BFI and its affiliates cease to hold at least 50% of the combined voting power of all classes of our outstanding common stock, stockholder action by written consent, without the express prior consent of the Board of Directors;
- provide that the Board of Directors is expressly authorized to make, alter or repeal our amended and restated bylaws;
- establish advance notice requirements for nominations for elections to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings;
- establish a classified Board of Directors, as a result of which our Board of Directors will be divided into three classes, with each class serving for staggered three-year terms, which prevents stockholders from electing an entirely new Board of Directors at an annual meeting; and require, at any time after BFI and its affiliates cease to hold at least 50% of the combined voting power of all classes of our outstanding common stock, the approval of holders of at least three quarters of the combined voting power of all classes of our outstanding common stock for stockholders to amend the amended and restated bylaws or amended and restated certificate of incorporation.

These anti-takeover provisions and other provisions under Delaware law could discourage, delay or prevent a transaction involving a change in control of the Company, even if doing so would benefit our stockholders. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing and to cause us to take other corporate actions you desire.

***Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.***

Our certificate of incorporation provides that, subject to limited exceptions, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our by-laws, or (iv) any other action asserting a claim against us that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our certificate of incorporation described above. This choice of forum provision may limit a stockholder's

ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition and results of operations.

***Provisions of our certificate of incorporation could have the effect of preventing us from having the benefit of certain business opportunities that we would otherwise be entitled to pursue.***

Our certificate of incorporation provides that BFI and its affiliates are not required to offer corporate opportunities of which they become aware to us and could, therefore, offer such opportunities instead to other companies including affiliates of BFI. In the event that BFI obtains business opportunities from which we might otherwise benefit but chooses not to present such opportunities to us, these provisions of our restated certificate of incorporation could have the effect of preventing us from pursuing transactions or relationships that would otherwise be in the best interests of our stockholders.

***We may not pay cash dividends in the future and, as a result, you may not receive any return on investment unless you are able to sell your Class A common stock for a price greater than your initial investment.***

Though we have a paid a quarterly dividend since September 2014 on our Class A and Class B common stock and our Board of Directors has declared a cash dividend of $0.12 per share on Class A common stock and Class B common stock that is payable on September 25, 2019, any determination to pay dividends in the future will be at the discretion of our Board of Directors and will depend upon results of operations, financial condition, contractual restrictions, and our ability to obtain funds from our subsidiaries to meet our obligations. Our Credit Facilities permit us to pay distributions to stockholders out of available cash subject to certain annual limitations and so long as no default or event of default under the Credit Facilities shall have occurred and be continuing at the time such distribution is declared. Realization of a gain on your investment will depend on the appreciation of the price of our Class A common stock.

## Item 1B. Unresolved Staff Comments

None.

## Item 2. Properties

The following table lists our material properties:

| Business Segment(s) | Location | Owned/Leased | Approx. sq. Footage | Purpose(s) |
|---|---|---|---|---|
| Animal Health | Beit Shemesh, Israel | Owned/ land lease | 78,000 | Manufacturing and Research |
| Animal Health | Braganca Paulista, Brazil | Owned | 50,000 | Manufacturing and Administrative |
| Animal Health | Buenos Aires, Argentina | Owned | 43,000 | Manufacturing and Administrative |
| Animal Health | Chillicothe, Illinois | Owned | 19,000 | Manufacturing |
| Animal Health | Corvallis, Oregon | Owned | 5,000 | Research |
| Animal Health | Guarulhos, Brazil | Owned | 1,294,000 | Manufacturing, Sales, Premixing, Research and Administrative |
| Animal Health | Neot Hovav, Israel | Owned/land lease | 140,000 | Manufacturing and Research |
| Mineral Nutrition | Omaha, Nebraska | Owned | 84,000 | Manufacturing |
| Animal Health | Omaha, Nebraska | Owned | 43,000 | Manufacturing, Sales and Research |
| Animal Health | Petach Tikva, Israel | Owned | 60,000 | Manufacturing |

| Business Segment(s) | Location | Owned/Leased | Approx. sq. Footage | Purpose(s) |
|---|---|---|---|---|
| Animal Health and Mineral Nutrition | Quincy, Illinois | Owned | 306,000 | Manufacturing, Sales, Research and Administrative |
| Performance Products | Santa Fe Springs, California | Owned | 108,000 | Manufacturing |
| Animal Health | State College, Pennsylvania | Owned | 13,000 | Research |
| Animal Health | St. Paul, Minnesota | Leased | 5,000 | Research |
| Corporate | Teaneck, New Jersey | Leased | 50,000 | Corporate and Administrative |

In addition to the above facilities, we maintain leased sales offices in countries including Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Israel, Malaysia, Mexico, Russia, South Africa, Thailand, Turkey and the United Kingdom. We own a facility in Sligo, Ireland that we are developing for the production of animal vaccines.

**Item 3. Legal Proceedings**

We are from time to time subject to claims and litigation arising in the ordinary course of business. These claims and litigation may include, among other things, allegations of violation of United States and foreign competition law, labor laws, consumer protection laws, data protection laws and Environmental Laws and regulations, as well as claims or litigation relating to product liability, intellectual property, securities, breach of contract and tort. We operate in multiple jurisdictions and, as a result, a claim in one jurisdiction may lead to claims or regulatory penalties in other jurisdictions.

We do not believe that the ultimate resolution of existing claims and litigation will have a material adverse effect on our financial position, results of operations, liquidity or capital resources. However, one or more unfavorable outcomes in any claim or litigation against us could have a material adverse effect for the period in which they are resolved. In addition, regardless of their merits or their ultimate outcomes, such matters are costly, divert management's attention and may materially adversely affect our reputation, even if resolved in our favor.

**Item 4. Mine Safety Disclosures**

Not applicable.

## PART II

### Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

**Market Information for Common Stock**

Our Class A common stock is traded on Nasdaq under the trading symbol "PAHC." Our Class B common stock is not listed or traded on any stock exchange. At June 30, 2019, there were 20,287,574 Class A common shares outstanding.

During the fiscal year ended June 30, 2019, we did not sell any unregistered securities nor did we purchase any of our equity securities.

**Holders of Record**

As of August 20, 2019, there were 20,287,574 shares of our Class A common stock outstanding, which were held by one stockholder of record, not including beneficial owners of shares registered in nominee or street name. As of August 20, 2019, there were 20,166,034 shares of our Class B common stock outstanding, which were held by one stockholder of record. Each share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. Information about 5% beneficial owners of our common stock is incorporated by reference from the discussion in our 2019 Proxy Statement under the heading *Security Ownership of Certain Beneficial Owners and Management*.

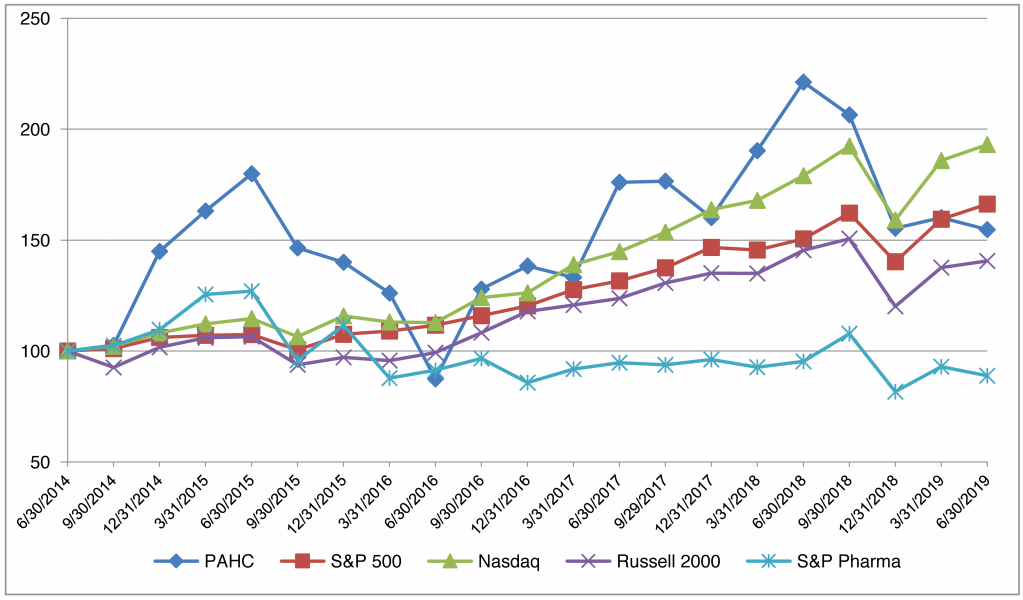
**Dividend Policy**

We intend to pay regular quarterly dividends to holders of our Class A and Class B common stock out of assets legally available for this purpose. Any future determination to pay dividends will depend upon our results of operations, financial condition, capital requirements, our ability to obtain funds from our subsidiaries and other factors that our Board of Directors deem relevant. Additionally, the terms of our current and any future agreements governing our indebtedness could limit our ability to pay dividends or make other distributions.

**Stock Performance Graph**

*This performance graph is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act.*

The following graph shows a comparison from June 30, 2014 through June 30, 2019, of the cumulative stockholder return of our Class A common stock, the S&P 500 Index, the Nasdaq Composite Index, the Russell 2000 Index and S&P Pharmaceuticals Index. The graph assumes that $100 was invested in our Class A common stock and each of the aforementioned indexes at the market close on June 30, 2014, and assumes dividends, if any, are reinvested. The stock price performance shown on the graph is not necessarily indicative of future stock price performance, and we do not make any projections of future stockholder returns.



**Item 6. Selected Financial Data**

The following table presents our selected consolidated financial data and certain other financial data. The balance sheet data as of June 30, 2019, 2018, 2017, 2016 and 2015 and the results of operations data and cash flows data for the years then ended were derived from our consolidated financial statements. The consolidated financial data and other financial data presented below should be read in conjunction with our consolidated financial statements and the related notes thereto, under the sections entitled "Financial Statements and Supplementary Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| | (in thousands, except per share amounts) | | | | |
| **Results of operations data** | | | | | |
| Net sales | $827,995 | $819,982 | $764,281 | $751,526 | $748,591 |
| Cost of goods sold | 563,371 | 553,103 | 516,038 | 512,494 | 515,311 |
| Gross profit | 264,624 | 266,879 | 248,243 | 239,032 | 233,280 |
| Selling, general and administrative expenses | 181,398 | 167,953 | 150,309 | 153,288 | 145,612 |
| Operating income | 83,226 | 98,926 | 97,934 | 85,744 | 87,668 |
| Interest expense, net | 11,776 | 11,910 | 14,906 | 16,592 | 14,305 |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | (7,609) | (5,400) |
| Loss on extinguishment of debt | — | — | 2,598 | — | — |
| Income before income taxes | 71,505 | 88,070 | 80,543 | 76,761 | 78,763 |
| Provision (benefit) for income taxes | 16,792 | 23,187 | 15,928 | (5,967) | 18,483 |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 | $ 82,728 | $ 60,280 |
| Net income per share | | | | | |
| basic | $ 1.35 | $ 1.61 | $ 1.63 | $ 2.11 | $ 1.55 |
| diluted | $ 1.35 | $ 1.61 | $ 1.61 | $ 2.07 | $ 1.51 |
| Weighted average common shares outstanding | | | | | |
| basic | 40,412 | 40,181 | 39,524 | 39,254 | 38,969 |
| diluted | 40,523 | 40,385 | 40,042 | 39,962 | 39,815 |
| Dividends per share | $ 0.46 | $ 0.40 | $ 0.40 | $ 0.40 | $ 0.40 |
| **Other financial data** | | | | | |
| Adjusted EBITDA[1] | $118,037 | $128,958 | $120,119 | $114,060 | $110,019 |
| Cash provided by operating activities[2] | 47,169 | 70,008 | 98,385 | 37,218 | 68,704 |
| Capital expenditures | 29,891 | 18,548 | 20,880 | 36,352 | 20,058 |

| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| **Balance sheet data** | | | | | |
| Cash and cash equivalents and short-term investments | $ 81,573 | $ 79,168 | $ 56,083 | $ 33,605 | $ 29,216 |
| Working capital[3] | 242,902 | 205,651 | 198,036 | 203,356 | 175,988 |
| Total assets | 726,671 | 671,679 | 623,397 | 607,835 | 490,250 |
| Total debt[4] | 326,175 | 312,381 | 313,141 | 350,172 | 286,450 |
| Long-term debt and other liabilities | 356,429 | 343,504 | 356,444 | 408,578 | 349,185 |
| Total stockholders' equity | 216,015 | 184,954 | 151,157 | 90,480 | 29,628 |

(1) See "Management's Discussion and Analysis of Financial Condition and Results of Operations—General description of non-GAAP financial measures" for descriptions of EBITDA and Adjusted EBITDA.

| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 | $ 82,728 | $ 60,280 |
| Plus: | | | | | |
| Interest expense, net | 11,776 | 11,910 | 14,906 | 16,592 | 14,305 |
| Provision (benefit) for income taxes | 16,792 | 23,187 | 15,928 | (5,967) | 18,483 |
| Depreciation and amortization | 27,564 | 26,943 | 26,001 | 23,452 | 21,604 |
| EBITDA | 110,845 | 126,923 | 121,450 | 116,805 | 114,672 |
| Restructuring costs | 6,281 | — | — | — | — |
| Stock-based compensation | 2,259 | 334 | — | — | — |
| Acquisition-related cost of goods sold | — | 1,671 | — | 2,566 | — |
| Acquisition-related accrued compensation | — | 1,152 | 1,680 | 1,680 | 747 |
| Acquisition-related transaction costs | 213 | 400 | 1,274 | 618 | — |
| Acquisition-related other, net | — | (468) | (972) | — | — |
| Other | (1,506) | — | — | — | — |
| Pension settlement cost | — | — | 1,702 | — | — |
| Gain on insurance settlement | — | — | (7,500) | — | — |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | (7,609) | (5,400) |
| Loss on extinguishment of debt | — | — | 2,598 | — | — |
| Adjusted EBITDA | $118,037 | $128,958 | $120,119 | $114,060 | $110,019 |

Acquisition-related other, net includes adjustments to contingent consideration on acquisitions and impairments of intangible assets.

(2) Cash provided (used) by operating activities:

| For the Year Ended June 30 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| EBITDA | $110,845 | $126,923 | $121,450 | $116,805 | $114,672 |
| Adjustments | | | | | |
| Restructuring costs | 6,281 | — | — | — | — |
| Stock-based compensation | 2,259 | 334 | — | — | — |
| Acquisition-related cost of goods sold | — | 1,671 | — | 2,566 | — |
| Acquisition-related accrued compensation | — | 1,152 | 1,680 | 1,680 | 747 |
| Acquisition-related transaction costs | 213 | 400 | 1,274 | 618 | — |
| Acquisition-related other, net | — | (468) | (972) | — | — |
| Other | (1,506) | — | — | — | — |
| Pension settlement cost | — | — | 1,702 | — | — |
| Gain on insurance settlement | — | — | (7,500) | — | — |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | (7,609) | (5,400) |
| Loss on extinguishment of debt | — | — | 2,598 | — | — |
| Interest paid | (12,250) | (11,208) | (14,600) | (14,215) | (12,912) |
| Income taxes paid | (16,215) | (15,191) | (14,762) | (16,828) | (10,780) |
| Changes in operating assets and liabilities and other items | (42,190) | (32,151) | 1,402 | (45,181) | (12,337) |
| Cash provided by/(used for) insurance settlement/(claim) | — | — | 7,500 | — | (5,286) |
| Cash used for acquisition-related transaction costs | (213) | (400) | (1,274) | (618) | — |
| Net cash provided by operating activities | $ 47,169 | $ 70,008 | $ 98,385 | $ 37,218 | $ 68,704 |

(3) We define working capital as total current assets (excluding cash and cash equivalents and short-term investments) less total current liabilities (excluding current portion of long-term debt). Current assets in 2015 included current deferred tax assets.

(4) Total debt includes revolving credit facility, current and long-term portions of long-term debt and capitalized lease obligations. Total debt is reduced by certain unamortized debt issuance costs and unamortized debt discount, if any.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

### Introduction

Our management's discussion and analysis of financial condition and results of operations ("MD&A") is provided to assist readers in understanding our performance, as reflected in the results of our operations, our financial condition and our cash flows. The following discussion summarizes the significant factors affecting our consolidated operating results, financial condition, liquidity and cash flows as of and for the periods presented below. This MD&A should be read in conjunction with the "Selected Financial Data" and our consolidated financial statements and related notes thereto included under the section entitled "Financial Statements and Supplementary Data." Our future results could differ materially from our historical performance as a result of various factors such as those discussed in "Risk Factors" and "Forward-Looking Statements."

### Overview of our business

Phibro Animal Health Corporation is a global diversified animal health and mineral nutrition company. We develop, manufacture and market a broad range of products for food animals including poultry, swine, beef and dairy cattle and aquaculture. Our products help prevent, control and treat diseases, enhance nutrition to help improve health and performance and contribute to balanced mineral nutrition. In addition to animal health and mineral nutrition products, we manufacture and market specific ingredients for use in the personal care, industrial chemical and chemical catalyst industries. We sell more than 1,500 product presentations in over 75 countries to approximately 3,500 customers.

### Factors affecting our performance

#### *Industry growth*

According to Vetnosis, the global livestock animal health sector represented approximately $20.9 billion of sales in 2018. The market grew at a compound annual growth rate of 1.1% between 2013 and 2018 and the market is projected to grow at a compound annual growth rate of approximately 3.6% per year between 2018 and 2023. We believe global population growth, the growth of the global middle class and the productivity improvements needed due to limitations of arable land and water supplies have supported and will continue to support this growth.

#### *Regulatory Developments*

Our business depends heavily on a healthy and growing livestock industry. Some in the public perceive risks to human health related to the consumption of food derived from animals that utilize certain of our products, including certain of our MFA products. In particular, there is increased focus, in the United States and other countries, on the use of medically important antimicrobials. As defined by the FDA, medically important antimicrobials ("MIAs") include classes that are prescribed in animal and human health and are listed in the Appendix of the FDA-CVM Guidance for Industry (GFI) 152. Our products that contain virginiamycin, oxytetracycline or neomycin are classified by the FDA as medically important antimicrobials. In addition to the United States, the World Health Organization (WHO), the E.U., Australia and Canada have promulgated rating lists for antimicrobials that are used in veterinary medicine and that include certain of our products.

The classification of our products as MIAs or similar listings may lead to a decline in the demand for and production of food products derived from animals that utilize our products and, in turn, demand for our products. Livestock producers may experience decreased demand for their products or reputational

harm as a result of evolving consumer views of nutrition and health-related concerns, animal rights, and other concerns. Any reputational harm to the livestock industry may also extend to companies in related industries, including us. In addition, campaigns by interest groups, activists and others with respect to perceived risks associated with the use of our products in animals, including position statements by livestock producers and their customers based on non-use of certain medicated products in livestock production, whether or not scientifically-supported, could affect public perceptions and reduce the use of our products. Those adverse consumer views related to the use of one or more of our products in animals could have a material adverse effect on our financial condition and results of operations.

Our business is subject to product registration and authorization regulations. Changes in the regulations could have a material impact on our business. In April 2016, the FDA began initial steps to withdraw approval of *Mecadox* (carbadox), due to concerns that certain residues from the product may persist in tissues for longer than previously determined. In July 2016, we submitted our data, analyses and information to the FDA that we believe support the continued safe use of *Mecadox*. In March 2018, the FDA indefinitely stayed the withdrawal proceedings; however, we continue to submit data to the FDA and respond to their questions. There is no timeline for the conclusion of this matter. The initial action by the FDA does not prohibit the sale or use of *Mecadox* in the United States. We have complete confidence in the safety of *Mecadox*. *Mecadox* has been approved and sold in the United States for more than 40 years and is a widely used treatment for controlling bacterial diseases including Salmonella and swine dysentery. *Mecadox* is not used in human medicine and the class of drug is not considered a medically important antimicrobial. The approved *Mecadox* label requires a 42-day withdrawal period pre-harvesting, and to date we have not seen any hazardous residues of carbadox being detected from pig meat treated in accordance with the approved label. In response to FDA inquiries several years ago, we began rigorous new studies of the continued safety of the product when used in accordance with the label. Should we be unable to successfully defend the safety of the product, the loss of *Mecadox* sales would have a negative impact to the results of our operations.

Our global sales of antibacterials, anticoccidials and other products were $350 million, $337 million and $321 million for the years ended June 30, 2019, 2018 and 2017, respectively.

***Competition***

The animal health industry is highly competitive. We believe many of our competitors are conducting R&D activities in areas served by our products and in areas in which we are developing products. Our competitors include the animal health businesses of large pharmaceutical companies and specialty animal health businesses. In addition to competition from established participants, there could be new entrants to the animal health medicines and vaccines industry in the future. Principal methods of competition vary depending on the region, species, product category or individual products, including reliability, reputation, quality, price, service and promotion to veterinary professionals and livestock producers.

***Foreign exchange***

We conduct operations in many areas of the world, involving transactions denominated in a variety of currencies. In the year ended June 30, 2019, we generated approximately 42% of our revenues from operations outside the United States. Although a portion of our revenues are denominated in various currencies, the selling prices of the majority of our sales outside the United States are referenced in U.S. dollars, and as a result, our revenues have not been significantly directly affected by currency movements. We are subject to currency risk to the extent that our costs are denominated in currencies other than those in which we earn revenues. We manufacture some of our major products in Brazil and Israel and production costs are largely denominated in local currencies, while the selling prices of the products are largely set in U.S. dollars. As such, we are exposed to changes in cost of goods sold resulting from currency movements and may not be able to adjust our selling prices to offset such movements. In addition, we incur selling and administrative expenses in various currencies and are exposed to changes in such expenses resulting from currency movements. Because our financial statements are reported in U.S. dollars, changes in currency exchange rates between the U.S. dollar and other currencies have had, and will continue to have, an impact on our results of operations.

***Climate***

The animal health industry and demand for many of our animal health products in a particular region are affected by changing disease pressures and by weather conditions, as usage of our products follows varying weather patterns and weather-related pressures from diseases. As a result, we may experience regional and seasonal fluctuations in our results of operations.

In addition, livestock producers depend on the availability of natural resources, including abundant rainfall to sustain large supplies of drinking water, grasslands and grain production. Their animals' health and their ability to operate could be adversely affected if they experience a shortage of fresh water due to human population growth or floods, droughts or other weather conditions. In the event of adverse weather conditions or a shortage of fresh water, livestock producers may purchase less of our products.

***Product development initiatives***

Our future success depends on our existing product portfolio, including additional approvals for new claims for our products, for use of our products in new markets, for use of our products with new species and for cross-clearances enabling the use of our medicated products in conjunction with other products. Our future success also depends on our pipeline of new products, including new products that we may develop through joint ventures and products that we are able to obtain through license or acquisition. The majority of our R&D programs focus on product lifecycle development, which is defined as R&D programs that leverage existing animal health products by adding new species or claims, achieving approvals in new markets or creating new combinations and reformulations. We commit substantial effort, funds and other resources to expanding our product approvals and R&D, both through our own dedicated resources and through collaborations with third parties. We also commit significant resources to development of new vaccine technologies. We currently are developing a potential vaccine for African Swine Fever, a virulent disease that is highly lethal in swine. We also are developing an innovative automated vaccination delivery system that insures vaccination injection accuracy, enables real-time oversight and offers data analytics to optimize the management of the vaccination process.

**Analysis of the consolidated statements of operations**

***Summary Results of Operations***

| For the Year Ended June 30 | 2019 | 2018 | 2017 | Change 2019/2018 | | Change 2018/2017 | |
|---|---|---|---|---|---|---|---|
| | (in thousands, except per share) | | | | | | |
| Net sales | $827,995 | $819,982 | $764,281 | $ 8,013 | *1%* | $55,701 | *7%* |
| Gross profit | 264,624 | 266,879 | 248,243 | (2,255) | *(1)%* | 18,636 | *8%* |
| Selling, general and administrative expenses | 181,398 | 167,953 | 150,309 | 13,445 | *8%* | 17,644 | *12%* |
| Operating income | 83,226 | 98,926 | 97,934 | (15,700) | *(16)%* | 992 | *1%* |
| Interest expense, net | 11,776 | 11,910 | 14,906 | (134) | *(1)%* | (2,996) | *(20)%* |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | 999 | * | (941) | * |
| Loss on extinguishment of debt | — | — | 2,598 | — | * | (2,598) | * |
| Income before income taxes | 71,505 | 88,070 | 80,543 | (16,565) | *(19)%* | 7,527 | *9%* |
| Provision for income taxes | 16,792 | 23,187 | 15,928 | (6,395) | *(28)%* | 7,259 | *46%* |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 | $(10,170) | *(16)%* | $ 268 | *0%* |
| Net income per share | | | | | | | |
| basic | $ 1.35 | $ 1.61 | $ 1.63 | $ (0.26) | | $ (0.02) | |
| diluted | $ 1.35 | $ 1.61 | $ 1.61 | $ (0.26) | | $ — | |
| Weighted average number of shares outstanding | | | | | | | |
| basic | 40,412 | 40,181 | 39,524 | | | | |
| diluted | 40,523 | 40,385 | 40,042 | | | | |
| Ratio to net sales | | | | | | | |
| Gross profit | *32.0%* | *32.5%* | *32.5%* | | | | |
| Selling, general and administrative expenses | *21.9%* | *20.5%* | *19.7%* | | | | |
| Operating income | *10.1%* | *12.1%* | *12.8%* | | | | |
| Income before income taxes | *8.6%* | *10.7%* | *10.5%* | | | | |
| Net income | *6.6%* | *7.9%* | *8.5%* | | | | |
| Effective tax rate | *23.5%* | *26.3%* | *19.8%* | | | | |

Certain amounts and percentages may reflect rounding adjustments.

* Calculation not meaningful

Changes in net sales from period to period primarily result from changes in volumes and average selling prices. Although a portion of our net sales is denominated in various currencies, the selling prices of the majority of our sales outside the United States are referenced in U.S. dollars, and as a result, currency movements have not significantly directly affected our revenues.

Our effective income tax rate has varied significantly from period to period and from the federal statutory rate, due to changes in tax rates in various jurisdictions from period to period, including the effect of the Tax Act; the mix of income tax provisions on profitable foreign jurisdictions; the effect of the 2017 release of a valuation allowance against foreign deferred income taxes; and the effects of certain other items. Our future effective income tax rate will vary due to the relative amounts of taxable income in various jurisdictions, future changes in tax rates and other laws and other factors. We intend to continue to reinvest indefinitely the undistributed earnings of our foreign subsidiaries where we could be subject to applicable non-U.S. income and withholding taxes if amounts are repatriated to the U.S. See “Notes to Consolidated Financial Statements—Income Taxes” for additional information.

***Net sales, Adjusted EBITDA and reconciliation of GAAP net income to Adjusted EBITDA***

We report Net sales and Adjusted EBITDA by segment to understand the operating performance of each segment. This enables us to monitor changes in net sales, costs and other actionable operating metrics at the segment level. See "—General description of non-GAAP financial measures" for descriptions of EBITDA and Adjusted EBITDA.

Segment net sales and Adjusted EBITDA:

| | | | | Change | | | |
|---|---|---|---|---|---|---|---|
| **For the Year Ended June 30** | **2019** | **2018** | **2017** | **2019/2018** | | **2018/2017** | |
| | | | (in thousands) | | | | |
| **Net sales** | | | | | | | |
| MFAs and other | $350,468 | $336,666 | $321,430 | $ 13,802 | *4%* | $15,236 | *5%* |
| Nutritional specialties | 113,215 | 122,978 | 111,282 | (9,763) | *(8)%* | 11,696 | *11%* |
| Vaccines | 68,291 | 72,083 | 65,033 | (3,792) | *(5)%* | 7,050 | *11%* |
| Animal Health | 531,974 | 531,727 | 497,745 | 247 | *0%* | 33,982 | *7%* |
| Mineral Nutrition | 233,782 | 234,922 | 218,298 | (1,140) | *(0)%* | 16,624 | *8%* |
| Performance Products | 62,239 | 53,333 | 48,238 | 8,906 | *17%* | 5,095 | *11%* |
| Total | $827,995 | $819,982 | $764,281 | $ 8,013 | *1%* | $55,701 | *7%* |
| **Adjusted EBITDA** | | | | | | | |
| Animal Health | $136,049 | $141,914 | $130,261 | $ (5,865) | *(4)%* | $11,653 | *9%* |
| Mineral Nutrition | 15,712 | 18,583 | 17,426 | (2,871) | *(15)%* | 1,157 | *7%* |
| Performance Products | 4,728 | 1,881 | 2,057 | 2,847 | *151%* | (176) | *(9)%* |
| Corporate | (38,452) | (33,420) | (29,625) | (5,032) | * | (3,795) | * |
| Total | $118,037 | $128,958 | $120,119 | $(10,921) | *(8)%* | $ 8,839 | *7%* |
| Adjusted EBITDA ratio to segment net sales | | | | | | | |
| Animal Health | *25.6%* | *26.7%* | *26.2%* | | | | |
| Mineral Nutrition | *6.7%* | *7.9%* | *8.0%* | | | | |
| Performance Products | *7.6%* | *3.5%* | *4.3%* | | | | |
| Corporate[(1)] | *(4.6)%* | *(4.1)%* | *(3.9)%* | | | | |
| Total[(1)] | *14.3%* | *15.7%* | *15.7%* | | | | |

(1) reflects ratio to total net sales

A reconciliation of net income, as reported under GAAP, to Adjusted EBITDA:

| For the Year Ended June 30 | 2019 | 2018 | 2017 | Change 2019/2018 | | Change 2018/2017 | |
|---|---|---|---|---|---|---|---|
| | | | (in thousands) | | | | |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 | $(10,170) | *(16)%* | $ 268 | *0%* |
| Interest expense, net | 11,776 | 11,910 | 14,906 | (134) | *(1)%* | (2,996) | *(20)%* |
| Provision for income taxes | 16,792 | 23,187 | 15,928 | (6,395) | *(28)%* | 7,259 | *46%* |
| Depreciation and amortization | 27,564 | 26,943 | 26,001 | 621 | *2%* | 942 | *4%* |
| EBITDA | 110,845 | 126,923 | 121,450 | (16,078) | *(13)%* | 5,473 | *5%* |
| Restructuring costs | 6,281 | — | — | 6,281 | * | — | * |
| Stock-based compensation | 2,259 | 334 | — | 1,925 | *576%* | 334 | * |
| Acquisition-related cost of goods sold | — | 1,671 | — | (1,671) | * | 1,671 | * |
| Acquisition-related accrued compensation | — | 1,152 | 1,680 | (1,152) | * | (528) | *(31)%* |
| Acquisition-related transaction costs | 213 | 400 | 1,274 | (187) | *(47)%* | (874) | *(69)%* |
| Acquisition-related other, net[(1)] | — | (468) | (972) | 468 | * | 504 | * |
| Other, net | (1,506) | — | — | (1,506) | * | — | * |
| Pension settlement expense | — | — | 1,702 | — | * | (1,702) | * |
| Gain on insurance settlement | — | — | (7,500) | — | * | 7,500 | * |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | 999 | * | (941) | * |
| Loss on extinguishment of debt | — | — | 2,598 | — | * | (2,598) | * |
| Adjusted EBITDA | $118,037 | $128,958 | $120,119 | $(10,921) | *(8)%* | $ 8,839 | *7%* |

(1) Acquisition-related other, net includes adjustments to contingent consideration on acquisitions and impairments of intangible assets.

Certain amounts and percentages may reflect rounding adjustments.

* Calculation not meaningful

***Comparison of the years ended June 30, 2019 and 2018***

***Net sales***

Net sales of $828.0 million for the year ended June 30, 2019, increased $8.0 million, or 1%, as compared to the year ended June 30, 2018. Animal Health net sales were comparable to the prior year. Mineral Nutrition declined $1.1 million, while Performance Products grew $8.9 million.

*Animal Health*

Net sales of $532.0 million for the year ended June 30, 2019 were comparable to the prior year. Net sales of MFAs and other increased $13.8 million, or 4%, driven by year over year international volume growth, particularly in the Asia Pacific and Latin America regions, partially offset by lower domestic demand from the poultry and swine sectors. While the Asia Pacific region reported strong sales growth for the full year, sales in the region declined in the fourth quarter of fiscal year 2019, due to reduced demand for MFAs related to African Swine Fever in China. Net sales of nutritional specialty products declined by $9.8 million, or 8%, primarily due to volume declines from the continued negative dairy industry conditions and reduced demand from poultry customers. Net sales of vaccines declined $3.8 million, or 5%, due to turbulent economic conditions in certain international countries and the loss of a domestic distribution arrangement; volume growth in other international markets partially offset the reductions.

*Mineral Nutrition*

Net sales of $233.8 million for the year ended June 30, 2019 declined $1.1 million. Lower volumes and product mix were the primarily drivers of the decline. An increase in overall selling prices partially

offset the volume decline. Our selling prices of mineral nutrition products generally move in direct correlation with the underlying commodity costs.

*Performance Products*

Net sales of $62.2 million for the year ended June 30, 2019, increased $8.9 million, or 17%, primarily due to volume growth of personal care and copper-based products.

***Gross profit***

Gross profit of $264.6 million for the year ended June 30, 2019 declined $2.3 million, or 1%, as compared to the year ended June 30, 2018. As a percentage of net sales, gross profit declined to 32.0% for the year ended June 30, 2019 as compared to 32.5% for the year ended June 30, 2018.

Animal Health gross profit decreased $3.1 million due to volume declines in the nutritional specialty and vaccine categories, partially offset by international volume growth and favorable product mix in MFAs and other. Mineral Nutrition gross profit decreased $3.5 million, primarily due to unfavorable product mix and constrained pricing in a competitive environment. Performance Products gross profit increased $2.6 million, primarily due to volume growth and manufacturing cost efficiencies. Gross profit for the year ended June 30, 2018 included $1.7 million of acquisition-related cost of goods sold.

***Selling, general and administrative expenses***

SG&A of $181.4 million for the year ended June 30, 2019, increased $13.4 million, or 8%, as compared to the year ended June 30, 2018. SG&A for the year ended June 30, 2019, included $6.3 million of restructuring-related costs, $2.3 million of stock-based compensation, $0.2 million of acquisition-related transaction costs and a $1.5 million benefit from the cancellation of a certain business arrangement. SG&A for the year ended June 30, 2018, included $0.3 million of stock-based compensation, $1.2 million in acquisition-related compensation costs, $0.4 million in acquisition-related transaction costs and a benefit of $0.5 million associated with other acquisition-related costs. Excluding the effects of these costs, SG&A increased $7.5 million, or 5%.

Animal Health SG&A increased $3.6 million primarily due to increased costs related to increased investments in marketing and product development. These increases were partially offset by close control of other spending and a reduction in variable compensation. Mineral Nutrition SG&A declined by $0.7 million on spending control. Performance Products SG&A declined $0.1 million. Corporate costs increased $4.7 million, primarily due to increased business development expenses and public company costs associated with strengthening and testing of controls over financial reporting, partially offset by a reduction in variable compensation. The restructuring-related costs, stock-based compensation, cancellation of a business arrangement, acquisition-related compensation costs and acquisition-related transaction costs resulted in a net $5.9 million increase in SG&A.

During the three months ended June 30, 2019, we recorded pre-tax charges of $6.3 million for business restructuring activities related to productivity and cost saving initiatives in the Animal Health segment. The charges included $3.5 million related to termination of a contract manufacturing agreement and $2.8 million for employee separation costs. The charges are included in selling, general and administrative expenses in our consolidated statements of operations. We expect to record an additional charge for employee separation costs of an estimated $1.0 million and complete actions by December 31, 2019.

***Interest expense, net***

Interest expense, net of $11.8 million for the year ended June 30, 2019, decreased $0.1 million, or 1%, as compared to the year ended June 30, 2018. Interest expense on the Term loan and Revolver increased $1.2 million due to higher debt levels and higher variable interest rates. Interest expense for the year ended June 30, 2018 included $1.1 million of acquisition-related accrued interest. Interest income from short-term investments improved by $0.2 million.

***Foreign currency (gains) losses, net***

Foreign currency (gains) losses, net for the year ended June 30, 2019, amounted to net gains of $(0.1) million, as compared to $(1.1) million in net gains for the year ended June 30, 2018. Foreign currency gains and losses primarily arose from cash and intercompany balances.

***Provision for income taxes***

In December 2017, the United States government enacted comprehensive income tax legislation (the "Tax Act"). The Tax Act made broad and complex changes to United States income tax law and includes numerous elements that affect the Company, including a reduced federal corporate income tax rate of 21%, creating a territorial tax system that includes a one-time mandatory transition tax on previously deferred foreign earnings and changes to business-related exclusions, deductions and credits. Our provision for income taxes reflects a statutory 21.0 % and 28.1% weighted-average federal income tax rate for our fiscal years ending June 30, 2019 and 2018, respectively. The Tax Act also has consequences related to our international operations.

The provision for income taxes, effective income tax rate and certain income tax items for the years ended June 30, 2019 and 2018, are reflected in the table below:

| For the Year Ended June 30 | 2019 | 2018 |
|---|---|---|
| | (in thousands, except percentages) | |
| Provision for income taxes | $ 16,792 | $ 23,187 |
| Effective income tax rate | 23.5% | 26.3% |
| **Certain income tax items** | | |
| Benefit from exercised employee stock options | $ (310) | $ (3,773) |
| Mandatory toll charge | (360) | 403 |
| Reduction of domestic deferred tax assets | — | 2,289 |
| Reduction of foreign deferred tax assets | — | 1,156 |
| Recognition of federal and foreign tax credits | (1,417) | (565) |
| Reclassification from accumulated other comprehensive income | — | 527 |
| Release of unrecognized tax benefits | (1,271) | (994) |
| Total | $ (3,358) | $ (957) |
| Provision for income taxes, excluding certain items | $ 20,150 | $ 24,144 |
| Effective income tax rate, excluding certain items | 28.2% | 27.4% |

The mandatory toll charge on deemed repatriation of undistributed earnings of foreign subsidiaries resulted from a one-time tax under the Tax Act.

The reduction of deferred tax assets resulted from the remeasurement of deferred tax assets and liabilities, to reflect the reduced federal statutory income tax rate under the Tax Act.

The reduction of foreign deferred tax assets resulted from the remeasurement of deferred tax assets, to reflect a reduced income tax rate in certain international jurisdictions.

The recognition of federal and foreign prior-year tax credits resulted from the implementation of the Tax Act.

The reclassification from accumulated other comprehensive income ("AOCI") reflected the reclassification of income taxes remaining in AOCI, after all related foreign currency derivatives had matured and were completely cleared from AOCI.

***Net income***

Net income of $54.7 million for the year ended June 30, 2019, decreased $10.2 million, as compared to net income of $64.9 million for the year ended June 30, 2018. Operating income declined $15.7 million, driven by a decrease in gross profit of $2.3 million and increased SG&A expenses of $13.4 million, including $6.3 million of restructuring costs. Foreign currency movements resulted in a

reduction of foreign currency gains of $1.0 million. These declines were partially offset by decreased income tax expense of $6.4 million. The year ended June 30, 2018 included additional income tax expense from the initial application of the comprehensive U.S. income tax legislation and certain other items.

***Adjusted EBITDA***

Adjusted EBITDA of $118.0 million for the year ended June 30, 2019, decreased $10.9 million, or 8%, as compared to the year ended June 30, 2018. Animal Health Adjusted EBITDA declined $5.9 million compared to the prior year. Volume declines in the nutritional specialty and vaccine categories were partially offset by year over year international volume growth and favorable unit costs and product mix in MFAs and other. Investments in organization and business development were offset by close control of other spending and a reduction in variable compensation. Mineral Nutrition Adjusted EBITDA decreased $2.9 million, or 15%, due to the effect of unfavorable product mix and constrained pricing in a competitive environment. Performance Products Adjusted EBITDA increased $2.8 million, primarily due to sales volume growth, favorable product mix and manufacturing efficiencies. Corporate expenses increased $5.0 million due to increased business development expenses and public company costs associated with strengthening and testing of controls over financial reporting, partially offset by a reduction in variable compensation.

***Comparison of the years ended June 30, 2018 and 2017***

***Net sales***

Net sales of $820.0 million for the year ended June 30, 2018, increased $55.7 million, or 7%, as compared to the year ended June 30, 2017. Each of the segments contributed to the sales growth. Animal Health, Mineral Nutrition and Performance Products grew $34.0 million, $16.6 million and $5.1 million, respectively.

*Animal Health*

Net sales of $531.7 million for the year ended June 30, 2018, grew $34.0 million, or 7%. Net sales of MFAs and other grew $15.2 million, or 5%. International net sales of MFAs and other increased $29.3 million due to growth across most regions, notably due to additional penetration in the cattle sector, plus favorable seasonal demand for certain products and the incremental benefit of a recent acquisition. Domestic net sales of MFAs and other declined $14.1 million due to $5.9 million lower sales of medically important antimicrobials and lower volumes of certain antibacterial and anticoccidial products. We believe domestic sales of medically important antimicrobials have stabilized at current levels. Net sales of nutritional specialty products grew $11.7 million, or 11%, primarily due to volume growth of our products for the poultry and dairy industries in various international countries and in the United States. Net sales of vaccines grew $7.1 million, or 11%, primarily due to volume growth in international markets; domestic growth was moderate due to reduced disease pressure.

*Mineral Nutrition*

Net sales of $234.9 million increased $16.6 million, or 8%, for the year ended June 30, 2018. The increased revenue primarily was driven by higher average selling prices, consistent with the underlying raw material commodity price increases.

*Performance Products*

Net sales of $53.3 million increased $5.1 million, or 11%, for the year ended June 30, 2018, primarily due to increased volumes of copper-based products and ingredients used in personal care products and higher average selling prices of copper-based products.

***Gross profit***

Gross profit of $266.9 million for the year ended June 30, 2018, increased $18.6 million, or 8%, as compared to the year ended June 30, 2017. Gross profit as a percentage of net sales for the year ended June 30, 2018, was in-line with the prior year at 32.5%. The year ended June 30, 2018, included $1.7 million

of acquisition-related cost of goods sold. Excluding the effects of the acquisition-related cost of goods sold, Animal Health gross profit increased $19.7 million due to volume growth in international MFAs and other and nutritional specialty products, partially offset by volume declines in domestic MFAs and other sales and short-term cost increases in the production of certain vaccine products. The declines in domestic MFAs and other sales were primarily driven by medically important antimicrobials. Favorable international demand for certain MFAs and other products and overall lower unit costs from improved manufacturing efficiencies for certain products also contributed to the gross profit increase. Mineral Nutrition gross profit increased $1.1 million due to volume growth, favorable product mix and higher average selling prices, partially offset by higher raw material costs. Performance Products gross profit decreased $0.5 million due to higher raw material costs, partially offset by higher average selling prices of copper-based products.

***Selling, general and administrative expenses***

SG&A of $168.0 million for the year ended June 30, 2018, increased $17.6 million, or 12%, as compared to the year ended June 30, 2017. SG&A for the years ended June 30, 2018 and 2017, included acquisition-related transaction costs of $0.4 million and $1.3 million, respectively. SG&A for the year ended June 30, 2017, included a $1.7 million charge for a partial settlement of the pension plan and a $7.5 million gain from an insurance settlement. Excluding these items, SG&A increased $12.7 million or 8%.

Animal Health SG&A increased $8.3 million as compared to the prior year, driven by investments in product and organizational development. A recent acquisition also contributed to the Animal Health increase. Mineral Nutrition SG&A costs were flat compared to the prior year. Performance Products SG&A decreased $0.2 million. Excluding the acquisition-related transaction costs, the pension settlement cost and the insurance settlement gain, Corporate SG&A increased $4.6 million due to increased employee-related costs and higher professional and business development fees, partially offset by reduced pension expense.

***Interest expense, net***

Interest expense, net of $11.9 million for the year ended June 30, 2018, decreased $3.0 million, or 20%, as compared to the year ended June 30, 2017. Interest expense decreased $3.3 million compared to the prior year, primarily due to lower interest rates from the new Credit Facilities completed in June 2017. Interest income decreased $0.3 million due to less interest income on deposits in foreign jurisdictions.

***Foreign currency (gains) losses, net***

Foreign currency (gains) losses, net for the year ended June 30, 2018, amounted to net gains of ($1.1) million, as compared to net gains of ($0.1) million for the year ended June 30, 2017. The net foreign currency gains during the year ended June 30, 2018, primarily were driven by the movement of the currencies of Turkey, Brazil, Argentina and Mexico relative to the U.S. dollar.

***Loss on extinguishment of debt***

Our consolidated statements of operations for the year ended June 30, 2017, included a $2.6 million loss on extinguishment of debt for unamortized debt issuance costs and debt discount related to retired debt.

***Provision for income taxes***

In December 2017, the United States government enacted comprehensive income tax legislation (the "Tax Act"). The Tax Act made broad and complex changes to United States income tax law and includes numerous elements that affect the Company, including a reduced federal corporate income tax rate from 35% to 21%, creating a territorial tax system that includes a one-time mandatory transition tax on previously deferred foreign earnings and changes to business-related exclusions, deductions and credits. Our provision for income taxes reflects a statutory 28.1% weighted-average federal income tax rate for our fiscal year ending 2018. The Tax Act also has consequences related to our international operations.

As of June 30, 2018, we recorded provisional amounts for the effects of the Tax Act. As such, we could adjust such amounts in the future if additional new information so requires.

The provision for income taxes, effective income tax rate and certain income tax items for the years ended June 30, 2018 and 2017, are reflected in the table below:

| For the Year Ended June 30 | 2018 | 2017 |
|---|---|---|
| | (in thousands, except percentages) | |
| Provision for income taxes | $ 23,187 | $ 15,928 |
| Effective income tax rate | *26.3%* | *19.8%* |
| **Certain income tax items** | | |
| Benefit from exercised employee stock options . | $ (3,773) | $ (3,096) |
| Mandatory toll charge | 403 | — |
| Reduction of domestic deferred tax assets | 2,289 | — |
| Reduction of foreign deferred tax assets | 1,156 | — |
| Recognition of foreign tax credits | (565) | — |
| Reclassification from accumulated other comprehensive income | 527 | — |
| Release of unrecognized tax benefits | (994) | (500) |
| Release of foreign valuation allowance | — | (4,118) |
| Total | $ (957) | $ (7,714) |
| Provision for income taxes, excluding certain items | $ 24,144 | $ 23,642 |
| Effective income tax rate, excluding certain items | *27.4%* | *29.3%* |

The mandatory toll charge on deemed repatriation of undistributed earnings of foreign subsidiaries resulted from a one-time tax under the Tax Act.

The reduction of deferred tax assets resulted from the remeasurement of deferred tax assets and liabilities, to reflect the reduced federal statutory income tax rate under the Tax Act.

The reduction of foreign deferred tax assets resulted from the remeasurement of deferred tax assets, to reflect a reduced income tax rate in certain international jurisdictions.

The recognition of foreign tax credits resulted from the recognition of prior-year credits that became available to be applied against current year federal income taxes.

The reclassification from accumulated other comprehensive income ("AOCI") reflected the reclassification of income taxes remaining in AOCI, after all related foreign currency derivatives had matured and were completely cleared from AOCI.

The release of a foreign valuation allowance related to a foreign subsidiary. During the year ended June 30, 2017, we concluded it was more likely than not that the value of the deferred tax assets would be realized.

***Net income***

Net income of $64.9 million for the year ended June 30, 2018, increased $0.3 million, as compared to net income of $64.6 million for the year ended June 30, 2017. The increase was primarily driven by lower interest expense of $3.0 million, higher operating income of $1.0 million and increased foreign currency gains of $0.9 million. Additionally, the prior year included a $2.6 million loss on extinguishment of debt. These increases were almost entirely offset by increased tax expense of $7.3 million. The change in operating income was influenced by infrequent items including: current-year acquisition-related cost of goods sold; prior-year gain from an insurance settlement; prior-year cost of a partial pension settlement; and the net effect of acquisition-related transaction costs, as previously discussed. Excluding the impacts of these items, operating income would have increased $7.6 million or 8%, driven by sales growth and gross profit expansion, partially offset by increased SG&A expenses for product and organizational investments to drive future growth.

***Adjusted EBITDA***

Adjusted EBITDA of $129.0 million for the year ended June 30, 2018, increased $8.8 million, or 7%, as compared to the year ended June 30, 2017. Animal Health Adjusted EBITDA increased $11.7 million, or 9%, due to sales growth and increased gross profit, partially offset by increased SG&A.

Mineral Nutrition Adjusted EBITDA increased $1.2 million, or 7%, due to volume growth, favorable product mix and higher average selling prices, partially offset by higher raw material costs. Performance Products Adjusted EBITDA declined $0.2 million, due to higher raw material costs, partially offset by higher average selling prices of copper-based products. Corporate expenses increased $3.8 million due to increased employee-related costs and higher professional and business development fees, partially offset by reduced pension expense.

**Analysis of financial condition, liquidity and capital resources**

Net increase (decrease) in cash and cash equivalents was:

| | | | | Change | |
|---|---|---|---|---|---|
| **For the Year Ended June 30** | **2019** | **2018** | **2017** | **2019/2018** | **2018/2017** |
| | | | (in thousands) | | |
| Cash provided by/(used in): | | | | | |
| Operating activities | $ 47,169 | $ 70,008 | $ 98,385 | $(22,839) | $(28,377) |
| Investing activities | (14,133) | (84,612) | (21,942) | 70,479 | (62,670) |
| Financing activities | (4,107) | (11,775) | (53,738) | 7,668 | 41,963 |
| Effect of exchange-rate changes on cash and cash equivalents | (524) | (536) | (227) | 12 | (309) |
| Net increase/(decrease) in cash and cash equivalents | $ 28,405 | $(26,915) | $ 22,478 | $ 55,320 | $(49,393) |

Net cash provided (used) by operating activities was comprised of:

| | | | | Change | |
|---|---|---|---|---|---|
| **For the Year Ended June 30** | **2019** | **2018** | **2017** | **2019/2018** | **2018/2017** |
| | | | (in thousands) | | |
| EBITDA | $110,845 | $126,923 | $121,450 | $(16,078) | $ 5,473 |
| Adjustments | | | | | |
| Restructuring costs | 6,281 | — | — | 6,281 | — |
| Stock-based compensation | 2,259 | 334 | — | 1,925 | 334 |
| Acquisition-related cost of goods sold | — | 1,671 | — | (1,671) | 1,671 |
| Acquisition-related accrued compensation | — | 1,152 | 1,680 | (1,152) | (528) |
| Acquisition-related transaction costs | 213 | 400 | 1,274 | (187) | (874) |
| Acquisition-related other, net | — | (468) | (972) | 468 | 504 |
| Other, net | (1,506) | — | — | (1,506) | — |
| Pension settlement cost | — | — | 1,702 | — | (1,702) |
| Gain on insurance settlement | — | — | (7,500) | — | 7,500 |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) | 999 | (941) |
| Loss on extinguishment of debt | — | — | 2,598 | — | (2,598) |
| Interest paid | (12,250) | (11,208) | (14,600) | (1,042) | 3,392 |
| Income taxes paid | (16,215) | (15,191) | (14,762) | (1,024) | (429) |
| Changes in operating assets and liabilities and other items | (42,190) | (32,151) | 1,402 | (10,039) | (33,553) |
| Cash provided by insurance settlement | — | — | 7,500 | — | (7,500) |
| Cash used for acquisition-related transaction costs | (213) | (400) | (1,274) | 187 | 874 |
| Net cash provided by operating activities | $ 47,169 | $ 70,008 | $ 98,385 | $(22,839) | $(28,377) |

Certain amounts may reflect rounding adjustments.

*Operating activities*

Net cash provided by operating activities was $47.2 million for the year ended June 30, 2019. Cash provided by net income, adjusted for the effect of non-cash charges, was partially offset by $35.9 million of

cash used in the ordinary course of business for changes in operating assets and liabilities. Accounts receivable used $23.7 million of cash, primarily due to the timing of sales and collections in international regions. Increased inventories used $21.0 million of cash due to the timing of sales, purchases and production, primarily in our Animal Health segment. Prepaid expenses and other current assets used $7.5 million of cash due to the timing of payments. Cash used was partially offset by $16.2 million of cash provided by accounts payable and accrued expenses, including $5.6 million of accrued restructuring costs.

For the year ended June 30, 2018, net cash provided by operating activities was $70.0 million. Cash provided by net income, adjusted for the effect of non-cash charges, was partially offset by $33.9 million of cash used in the ordinary course of business for changes in operating assets and liabilities. Increased inventories used $24.3 million of cash due to increased commodity costs of mineral nutrition products and the timing of sales, purchases and production of inventory in our Animal Health segment. In addition, the increase in accounts receivable of $11.9 million was primarily due to sales growth during the fourth quarter compared with the prior year.

*Investing activities*

Net cash used in investing activities was $14.1 million for the year ended June 30, 2019. Capital expenditures were $29.9 million as we invested in our existing asset base and for capacity expansion and productivity improvements. Cash used for business acquisitions was $9.8 million. Maturities of short-term investments provided $26.0 million of cash.

Net cash used in investing activities was $84.6 million for the year ended June 30, 2018. We purchased $50.0 million of short-term investments. We used $18.6 million for capital expenditures as we invested in our existing asset base and for capacity expansion and productivity improvements. We used $15.0 million for the acquisition of a business. Other investing activities used $1.0 million of cash.

*Financing activities*

Net cash used by financing activities was $4.1 million for the year ended June 30, 2019. We paid $18.6 million in dividends to holders of our Class A and Class B common stock. We paid $12.6 million in scheduled debt and other requirements. Net borrowings on our Revolver provided cash of $26.0 million and the issuance of common shares related to the exercise of employee stock options provided cash of $1.1 million.

Net cash used by financing activities was $11.8 million for the year ended June 30, 2018. We paid $16.1 million in dividends to holders of our Class A and Class B common stock. We paid $6.4 million in scheduled debt and other requirements. Net borrowings on our Revolver provided cash of $5.0 million and the issuance of common shares related to the exercise of employee stock options provided cash of $5.7 million.

*Liquidity and capital resources*

We believe our cash on hand, our operating cash flows and our financing arrangements, including the availability of borrowings under the Revolver and foreign credit lines, will be sufficient to support our ongoing cash needs. Our operating plan projects adequate liquidity throughout the year. However, we can provide no assurance that our liquidity and capital resources will be adequate for future funding requirements. We believe we will be able to comply with the terms of the covenants under the Credit Facilities and foreign credit lines based on our operating plan. In the event of adverse operating results and/or violation of covenants under the facilities, there can be no assurance we would be able to obtain waivers or amendments. Other risks to our meeting future funding requirements include global economic conditions and macroeconomic, business and financial disruptions that could arise. There can be no assurance that a challenging economic environment or an economic downturn would not affect our liquidity or our ability to obtain future financing. In addition, our debt covenants may restrict our ability to invest. During the year ended June 30, 2019, we spent $29.3 million on capital expenditures. We expect our capital expenditures will total approximately $45 million in the year ending June 30, 2020, primarily in our Animal Health segment, including for the expansion of production capacity, manufacturing efficiencies and compliance with environmental, health and safety regulations. We utilized availability under the Revolver to fund $55 million cash paid for the acquisition of Osprey Biotechnics in August 2019.

Certain relevant measures of our liquidity and capital resources follow:

| As of June 30 | 2019 | 2018 | 2017 | Change 2019/2018 | Change 2018/2017 |
|---|---|---|---|---|---|
| | | | (in thousands, except ratios) | | |
| Cash and cash equivalents and short-term investments | $ 81,573 | $ 79,168 | $ 56,083 | $ 2,405 | $ 23,085 |
| Working capital | 242,902 | 205,651 | 198,036 | 37,251 | 7,615 |
| Ratio of current assets to current liabilities | 2.71:1 | 2.57:1 | 2.81:1 | | |

We define working capital as total current assets (excluding cash and cash equivalents and short-term investments) less total current liabilities (excluding current portion of long-term debt). We calculate the ratio of current assets to current liabilities based on this definition.

At June 30, 2019, we had $96.0 million in outstanding borrowings under the Revolver. We had outstanding letters of credit and other commitments of $3.0 million, leaving $151.0 million available for borrowings and letters of credit.

We currently intend to pay quarterly dividends on our Class A and Class B common stock, subject to approval from the Board of Directors. Our Board of Directors has declared a cash dividend of $0.12 per share on Class A common stock and Class B common stock that is payable on September 25, 2019. Our future ability to pay dividends will depend upon our results of operations, financial condition, capital requirements, our ability to obtain funds from our subsidiaries and other factors that our Board of Directors deems relevant. Additionally, the terms of our current and any future agreements governing our indebtedness could limit our ability to pay dividends or make other distributions.

At June 30, 2019, our cash and cash equivalents and short-term investments included $80.2 million held by our international subsidiaries. There are no restrictions on cash distributions to PAHC from our international subsidiaries. The undistributed earnings of foreign subsidiaries were subject to the U.S. one-time mandatory toll charge and are eligible to be repatriated to the U.S. without additional U.S. tax under the Tax Act. If amounts are repatriated for certain of our foreign subsidiaries we could be subject to applicable non-U.S. income and withholding taxes in international jurisdictions. We consider undistributed earnings of such foreign subsidiaries to be indefinitely reinvested in our international operations.

**Analysis of the consolidated balance sheets**

| As of June 30 | 2019 | 2018 | 2017 | Change 2019/2018 | Change 2018/2017 |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| Accounts receivable–trade | $159,022 | $135,742 | $125,847 | $ 23,280 | $ 9,895 |
| DSO | 70 | 58 | 58 | | |

Payment terms outside the U.S. are typically longer than in the United States. We regularly monitor our accounts receivable for collectability, particularly in countries where economic conditions remain uncertain. We believe that our allowance for doubtful accounts is appropriate. Our assessment is based on such factors as past due history, historical and expected collection patterns, the financial condition of our customers, the robust nature of our credit and collection practices and the economic environment. We calculate DSO based on a 360-day year and compare accounts receivable with sales for the quarter ending at the balance sheet date.

| As of June 30 | 2019 | 2018 | 2017 | Change 2019/2018 | Change 2018/2017 |
|---|---|---|---|---|---|
| | | | (in thousands) | | |
| Inventories | $198,322 | $178,170 | $161,233 | $ 20,152 | $ 16,937 |

Inventory increased by $20.2 million in 2019, primarily due to timing of sales, purchases and production of inventory in our Animal Health segment and additional inventory in our Performance Products segment to meet projected customer demand.

***Contractual obligations***

Payments due under contractual obligations as of June 30, 2019, were:

| | Years | | | | |
|---|---|---|---|---|---|
| | Within 1 | Over 1 to 3 | Over 3 to 5 | Over 5 | Total |
| | (in thousands) | | | | |
| Long-term debt (including current portion) | $12,540 | $218,750 | $ — | $ — | $231,290 |
| Revolving credit facility | — | 96,000 | — | — | 96,000 |
| Interest payments | 12,100 | 22,261 | | — | 34,361 |
| Lease commitments | 5,815 | 7,351 | 2,309 | 765 | 16,240 |
| Acquisition-related consideration | 70 | 140 | 140 | 140 | 490 |
| Other | 1,990 | 792 | 198 | — | 2,980 |
| Total contractual obligations | $32,515 | $345,294 | $ 2,647 | $ 905 | $381,361 |

For purposes of estimating interest payments, we assumed long-term debt will decrease in accordance with the scheduled payments and the Revolver continues unchanged at the June 30, 2019, balance. We assumed future interest rates are the same as the rates at June 30, 2019.

Excluded from the contractual obligations table is the liability for unrecognized tax benefits totaling $7.1 million. This liability for unrecognized tax benefits has been excluded because we cannot make a reliable estimate of the periods in which the liability will be realized.

Our Board of Directors declared a cash dividend of $0.12 per share on Class A common stock and Class B common stock, representing $4.9 million, payable on September 25, 2019.

The Company expects to contribute approximately $0.7 million to the domestic pension plan during 2020.

***Off-balance sheet arrangements***

We do not currently use off-balance sheet arrangements for the purpose of credit enhancement, hedging transactions, investment or other financial purposes.

In the ordinary course of business, we may indemnify our counterparties against certain liabilities that may arise. These indemnifications typically pertain to environmental matters. If the indemnified party were to make a successful claim pursuant to the terms of the indemnification, we would be required to reimburse the loss. These indemnifications generally are subject to certain restrictions and limitations.

**Selected Quarterly Financial Data (Unaudited)**

To facilitate quarterly comparisons, the following unaudited information presents the quarterly results of operations, including segment data, for the years ended June 30, 2019 and 2018. This quarterly financial data was prepared on the same basis as, and should be read in conjunction with, the audited consolidated financial statements and related notes included herein.

| | Quarters | | | | Year |
|---|---|---|---|---|---|
| **For the Periods Ended** | **September 30, 2018** | **December 31, 2018** | **March 31, 2019** | **June 30, 2019** | **June 30, 2019** |
| | | | (in thousands) | | |
| Net sales | | | | | |
| MFAs and other | $ 87,004 | $ 93,054 | $ 84,095 | $ 86,315 | $350,468 |
| Nutritional Specialties | 26,970 | 29,460 | 28,227 | 28,558 | 113,215 |
| Vaccines | 17,215 | 17,048 | 16,867 | 17,161 | 68,291 |
| Animal Health | $ 131,189 | $ 139,562 | $129,189 | $132,034 | $531,974 |
| Mineral Nutrition | 54,838 | 62,319 | 60,653 | 55,972 | 233,782 |
| Performance Products | 14,126 | 16,342 | 15,894 | 15,877 | 62,239 |
| Total net sales | 200,153 | 218,223 | 205,736 | 203,883 | 827,995 |
| Cost of goods sold | 134,348 | 149,579 | 140,864 | 138,580 | 563,371 |
| Gross profit | 65,805 | 68,644 | 64,872 | 65,303 | 264,624 |
| Selling, general and administrative expenses | 42,952 | 42,938 | 42,304 | 53,204 | 181,398 |
| Operating income | 22,853 | 25,706 | 22,568 | 12,099 | 83,226 |
| Interest expense, net | 2,783 | 3,015 | 2,931 | 3,047 | 11,776 |
| Foreign currency (gains) losses, net | (2,635) | 2,617 | 122 | (159) | (55) |
| Income before income taxes | 22,705 | 20,074 | 19,515 | 9,211 | 71,505 |
| Provision for income taxes | 6,391 | 5,326 | 4,666 | 409 | 16,792 |
| Net income | $ 16,314 | $ 14,748 | $ 14,849 | $ 8,802 | $ 54,713 |
| Net income per share | | | | | |
| basic | $ 0.40 | $ 0.37 | $ 0.37 | $ 0.22 | $ 1.35 |
| diluted | $ 0.40 | $ 0.36 | $ 0.37 | $ 0.22 | $ 1.35 |
| Adjusted EBITDA | | | | | |
| Animal Health | $ 35,716 | $ 35,925 | $ 33,241 | $ 31,167 | $136,049 |
| Mineral Nutrition | 2,563 | 4,084 | 5,287 | 3,778 | 15,712 |
| Performance Products | 716 | 1,514 | 1,330 | 1,168 | 4,728 |
| Corporate | (8,886) | (9,918) | (9,850) | (9,798) | (38,452) |
| Adjusted EBITDA | $ 30,109 | $ 31,605 | $ 30,008 | $ 26,315 | $118,037 |
| Reconciliation of net income to Adjusted EBITDA | | | | | |
| Net income | $ 16,314 | $ 14,748 | $ 14,849 | $ 8,802 | $ 54,713 |
| Interest expense, net | 2,783 | 3,015 | 2,931 | 3,047 | 11,776 |
| Provision for income taxes | 6,391 | 5,326 | 4,666 | 409 | 16,792 |
| Depreciation and amortization | 6,691 | 6,841 | 6,875 | 7,157 | 27,564 |
| EBITDA | 32,179 | 29,930 | 29,321 | 19,415 | 110,845 |
| Restructuring costs | — | — | — | 6,281 | 6,281 |
| Stock-based compensation | 565 | 564 | 565 | 565 | 2,259 |
| Acquisition-related transaction costs | — | — | — | 213 | 213 |
| Other | — | (1,506) | — | — | (1,506) |
| Foreign currency (gains) losses, net | (2,635) | 2,617 | 122 | (159) | (55) |
| Adjusted EBITDA | $ 30,109 | $ 31,605 | $ 30,008 | $ 26,315 | $118,037 |

| For the Periods Ended | Quarters | | | | Year |
|---|---|---|---|---|---|
| | September 30, 2017 | December 31, 2017 | March 31, 2018 | June 30, 2018 | June 30, 2018 |
| | (in thousands) | | | | |
| Net sales | | | | | |
| MFAs and other | $ 79,603 | $ 82,018 | $ 82,935 | $ 92,110 | $336,666 |
| Nutritional Specialties | 30,777 | 32,623 | 31,366 | 28,212 | 122,978 |
| Vaccines | 18,461 | 18,204 | 18,009 | 17,409 | 72,083 |
| Animal Health | $ 128,841 | $ 132,845 | $132,310 | $137,731 | $531,727 |
| Mineral Nutrition | 52,073 | 59,616 | 62,938 | 60,295 | 234,922 |
| Performance Products | 12,498 | 13,415 | 13,660 | 13,760 | 53,333 |
| Total net sales | 193,412 | 205,876 | 208,908 | 211,786 | 819,982 |
| Cost of goods sold | 130,030 | 138,957 | 139,839 | 144,277 | 553,103 |
| Gross profit | 63,382 | 66,919 | 69,069 | 67,509 | 266,879 |
| Selling, general and administrative expenses | 40,995 | 42,981 | 42,577 | 41,400 | 167,953 |
| Operating income | 22,387 | 23,938 | 26,492 | 26,109 | 98,926 |
| Interest expense, net | 3,118 | 3,050 | 3,064 | 2,678 | 11,910 |
| Foreign currency (gains) losses, net | 325 | (323) | (960) | (96) | (1,054) |
| Income before income taxes | 18,944 | 21,211 | 24,388 | 23,527 | 88,070 |
| Provision for income taxes | 3,052 | 14,179 | 4,548 | 1,408 | 23,187 |
| Net income | $ 15,892 | $ 7,032 | $ 19,840 | $ 22,119 | $ 64,883 |
| Net income per share | | | | | |
| basic | $ 0.40 | $ 0.17 | $ 0.49 | $ 0.55 | $ 1.61 |
| diluted | $ 0.39 | $ 0.17 | $ 0.49 | $ 0.55 | $ 1.61 |
| Adjusted EBITDA | | | | | |
| Animal Health | $ 33,742 | $ 35,036 | $ 36,292 | $ 36,844 | $141,914 |
| Mineral Nutrition | 3,716 | 5,614 | 5,375 | 3,878 | 18,583 |
| Performance Products | 248 | 264 | 386 | 983 | 1,881 |
| Corporate | (7,589) | (8,436) | (8,650) | (8,745) | (33,420) |
| Adjusted EBITDA | $ 30,117 | $ 32,478 | $ 33,403 | $ 32,960 | $128,958 |
| Reconciliation of net income to Adjusted EBITDA | | | | | |
| Net income | $ 15,892 | $ 7,032 | $ 19,840 | $ 22,119 | $ 64,883 |
| Interest expense, net | 3,118 | 3,050 | 3,064 | 2,678 | 11,910 |
| Provision for income taxes | 3,052 | 14,179 | 4,548 | 1,408 | 23,187 |
| Depreciation and amortization | 6,644 | 6,631 | 6,751 | 6,917 | 26,943 |
| EBITDA | 28,706 | 30,892 | 34,203 | 33,122 | 126,923 |
| Acquisition-related cost of goods sold | 249 | 1,422 | — | — | 1,671 |
| Acquisition-related accrued compensation | 437 | 487 | 160 | 68 | 1,152 |
| Acquisition-related transaction costs | 400 | — | — | — | 400 |
| Acquisition-related other, net | — | — | — | (468) | (468) |
| Stock-based compensation | — | — | — | 334 | 334 |
| Foreign currency (gains) losses, net | 325 | (323) | (960) | (96) | (1,054) |
| Adjusted EBITDA | $ 30,117 | $ 32,478 | $ 33,403 | $ 32,960 | $128,958 |

**General description of non-GAAP financial measures**

***Adjusted EBITDA***

Adjusted EBITDA is an alternative view of performance used by management as our primary operating measure, and we believe that investors' understanding of our performance is enhanced by disclosing this performance measure. We report Adjusted EBITDA to portray the results of our operations prior to considering certain income statement elements. We have defined EBITDA as net income (loss) plus (i) interest expense, net, (ii) provision for income taxes or less benefit for income taxes, and (iii) depreciation and amortization. We have defined Adjusted EBITDA as EBITDA plus (a) (income) loss from, and disposal of, discontinued operations, (b) other expense or less other income, as separately reported on our consolidated statements of operations, including foreign currency gains and losses and loss on extinguishment of debt, and (c) certain items that we consider to be unusual, non-operational or non-recurring. The Adjusted EBITDA measure is not, and should not be viewed as, a substitute for GAAP reported net income.

The Adjusted EBITDA measure is an important internal measurement for us. We measure our overall performance on this basis in conjunction with other performance metrics. The following are examples of how our Adjusted EBITDA measure is utilized:

- senior management receives a monthly analysis of our operating results that is prepared on an Adjusted EBITDA basis;
- our annual budgets are prepared on an Adjusted EBITDA basis; and
- other goal setting and performance measurements are prepared on an Adjusted EBITDA basis.

Despite the importance of this measure to management in goal setting and performance measurement, Adjusted EBITDA is a non-GAAP financial measure that has no standardized meaning prescribed by GAAP and, therefore, has limits in its usefulness to investors. Because of its non-standardized definition, Adjusted EBITDA, unlike GAAP net income, may not be comparable to the calculation of similar measures of other companies. Adjusted EBITDA is presented to permit investors to more fully understand how management assesses performance.

We also recognize that, as an internal measure of performance, the Adjusted EBITDA measure has limitations, and we do not restrict our performance management process solely to this metric. A limitation of the Adjusted EBITDA measure is that it provides a view of our operations without including all events during a period, such as the depreciation of property, plant and equipment or amortization of purchased intangibles, and does not provide a comparable view of our performance to other companies.

***Certain significant items***

Adjusted EBITDA is calculated prior to considering certain items. We evaluate such items on an individual basis. Such evaluation considers both the quantitative and the qualitative aspect of their unusual or non-operational nature. Unusual, in this context, may represent items that are not part of our ongoing business; items that, either as a result of their nature or size, we would not expect to occur as part of our normal business on a regular basis.

We consider business restructuring activities related to productivity and cost saving initiatives, including termination of a contract manufacturing agreement and employee separation costs, to be unusual items that we do not expect to occur as part of our normal business on a regular basis. We consider foreign currency gains and losses to be non-operational because they arise principally from intercompany transactions and are largely non-cash in nature.

**New accounting standards**

We adopted Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*, effective July 1, 2018.

For discussion of new accounting standards, see "Notes to Consolidated Financial Statements—Summary of Significant Accounting Policies and New Accounting Standards."

**Significant accounting policies and application of critical accounting estimates**

In presenting our financial statements in conformity with GAAP, we are required to make estimates and assumptions that affect the reported amounts of assets, liabilities, net sales, costs and expenses and related disclosures.

We believe that the following accounting policies are critical to an understanding of our consolidated financial statements as they require the application of the most difficult, subjective and complex judgments and, therefore, could have the greatest impact on our financial statements.

***Revenue Recognition***

We recognize revenue from product sales when control of the products has transferred to the customer, typically when title and risk of loss transfer to the customer. Certain of our businesses have terms where control of the underlying products transfers to the customer on shipment, while others have terms where control transfers to the customer on delivery.

Revenue reflects the total consideration to which we expect to be entitled, in exchange for delivery of products or services, net of variable consideration. Variable consideration includes customer programs and incentive offerings, including pricing arrangements, rebates and other volume-based incentives. We record reductions to revenue for estimated variable consideration at the time we record the sale. Our estimates for variable consideration primarily use the most-likely amount method. Such estimates are generally based on contractual terms and historical experience, and are adjusted to reflect future expectations as new information becomes available. Historically, we have not had significant adjustments to our estimates of customer incentives. Sales returns and product recalls have been insignificant and infrequent due to the nature of the products we sell.

Net sales include shipping and handling fees billed to customers. The associated costs are considered fulfillment activities, not additional promised services to the customer, and are included in costs of goods sold in the consolidated statements of operations when the related revenue is recognized. Net sales exclude value-added and other taxes based on sales.

***Acquisitions, Intangible Assets and Goodwill***

Our consolidated financial statements reflect the operations of an acquired business beginning as of the date of acquisition. Assets acquired and liabilities assumed are recorded at their fair values at the date of acquisition; goodwill is recorded for any excess of the purchase price over the fair values of the net assets acquired. Significant judgment is required to determine contingent consideration on acquisition, if any, and the fair value of certain tangible and intangible assets and in assigning their respective useful lives. Accordingly, we typically obtain the assistance of third-party valuation specialists for significant tangible and intangible assets. The fair values are based on available historical information and on future expectations and assumptions deemed reasonable by management, but are inherently uncertain. We typically use an income method to measure the fair value of intangible assets, which is based on forecasts of the expected future cash flows attributable to the respective assets. Significant estimates and assumptions inherent in the valuations reflect a consideration of other marketplace participants, and include the amount and timing of future cash flows (including expected growth rates and profitability), the underlying product or technology life cycles, economic barriers to entry and the discount rate applied to the cash flows. Unanticipated market or macroeconomic events and circumstances could affect the accuracy or validity of the estimates and assumptions. Determining the useful life of an intangible asset also requires judgment. Our estimates of the useful lives of intangible assets are primarily based on a number of factors including competitive environment, underlying product life cycles, operating plans and the macroeconomic environment of the countries in which the products are sold. Intangible assets are amortized over their estimated lives. Intangible assets associated with acquired in-process research and development activities ("IPR&D") are not amortized until a product is available for sale and regulatory approval is obtained.

***Long-Lived Assets and Goodwill***

We periodically review our long-lived and amortizable intangible assets for impairment and assess whether significant events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. Such circumstances may include a significant decrease in the market price of an asset, a significant adverse change in the manner in which the asset is being used or in its physical condition or a history of operating or cash flow losses associated with the use of an asset. We recognize an impairment loss is recognized when the carrying amount of an asset exceeds the anticipated future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss is the excess of the asset's carrying value over its fair value. In addition, we periodically reassess the estimated remaining useful lives of our long-lived and amortizable intangible assets. Changes to estimated useful lives would affect the amount of depreciation and amortization recorded in the consolidated statements of operations. During the three months ended June 30, 2017, we determined that certain intangible assets related to technology within the Animal Health segment were impaired, based on changes to future product sales assumptions, and recorded an impairment charge of approximately $0.7 million as a component of selling, general and administrative expenses in our consolidated statements of operations. There were no significant asset impairments or changes in estimated remaining useful lives of our long-lived or amortizable intangible assets in fiscal years 2019 or 2018.

We periodically review our indefinite life intangible assets associated with acquired IPR&D for impairment and assess whether significant events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. We recognize an impairment loss when the carrying amount of an asset exceeds the anticipated future discounted cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss is the excess of the asset's carrying value over its fair value. During the fourth quarter of each year, or more frequently if impairment indicators exist, we perform an annual impairment assessment. During the three months ended June 30, 2017, we determined that certain IPR&D within the Animal Health segment was impaired, based on changes to future product sales assumptions, and recorded an impairment charge of approximately $1.6 million as a component of selling, general and administrative expenses in our consolidated statements of operations. We did not record any impairment charges related to indefinite-lived intangible assets in fiscal years 2019 or 2018.

Goodwill represents the excess of the purchase price over the fair value of the identifiable net assets acquired in a business combination. We assess goodwill for impairment annually during the fourth quarter, or more frequently if impairment indicators exist. Impairment exists when the carrying amount of goodwill exceeds its implied fair value. We may elect to assess our goodwill for impairment using a qualitative or a quantitative approach, to determine whether it is more likely than not that the fair value of goodwill is greater than its carrying value. During the three months ended June 30, 2019, we tested goodwill using a quantitative approach, which involved estimating fair values of reporting units using the discounted cash flow method. We determined goodwill was not impaired. We have not recorded any goodwill impairment charges in the periods included in the consolidated financial statements.

We evaluate our investments in equity method investees for impairment if circumstances indicate that the fair value of the investment may be impaired. The assets underlying a $3.3 million equity investment are currently idled; we have concluded the investment is not currently impaired, based on expected future operating cash flows and/or disposal value.

***Environmental Liabilities***

Our operations and properties are subject to extensive federal, state, local and foreign environmental, health and safety laws and regulations, including those governing pollution; protection of the environment; the use, management and release of hazardous materials, substances and wastes; air emissions; greenhouse gas emissions; water use, supply and discharge; the investigation and remediation of contamination; the manufacture, distribution, and sale of regulated materials, including pesticides; the importing, exporting and transportation of products; and the health and safety of our employees and the public. As such, the nature of our current and former operations and those of our subsidiaries expose us and our subsidiaries to the risk of claims with respect to such matters, including fines, penalties and

remediation obligations that may be imposed by regulatory authorities. We record accruals for contingencies when it is probable that a liability has been incurred and the amount can be reasonably estimated. These accruals are adjusted periodically as assessments change or additional information becomes available.

***Pension Liabilities***

The measurement of our pension and postretirement benefit obligations are dependent on a variety of assumptions determined by management and used by our actuaries. These assumptions affect the amount and timing of future contributions and expenses. The Company reassesses its benefit plan assumptions on a regular basis. The discount rate is evaluated on measurement dates and modified to reflect the prevailing market rate of a portfolio of high-quality fixed-income debt instruments that would provide the future cash flows needed to pay the benefits included in the benefit obligation as they come due. At June 30, 2019, the discount rate for the Company's U.S. pension plan benefit obligations was 3.6% compared to 4.2% at June 30, 2018. The expected rate of return on plan assets of 4.9% represents the average rate of return expected to be earned on plan assets over the period the benefit obligations are expected to be paid. In developing the expected rate of return, the Company considers long-term compound annualized returns of historical market data as well as actual returns on the Company's plan assets.

***Income Taxes***

The provision for income taxes includes U.S. federal, state, and foreign income taxes and foreign withholding taxes. Our annual effective income tax rate is determined based on our income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which we operate and the tax impacts of items treated differently for tax purposes than for financial reporting purposes. Tax law requires certain items be included in the tax return at different times than the items are reflected in the financial statements. Some of these differences are permanent, such as expenses that are not deductible in our tax return, and some differences are temporary, reversing over time, such as depreciation expense. These temporary differences give rise to deferred tax assets and liabilities. Deferred tax assets generally represent the tax effect of items that can be used as a tax deduction or credit in future years for which we have already recorded the tax benefit in our income statement. Deferred tax liabilities generally represent the tax effect of items recorded as tax expense in our income statement for which payment has been deferred, the tax effect of expenditures for which a deduction has already been taken in our tax return but has not yet been recognized in our income statement or the tax effect of assets recorded at fair value in business combinations for which there was no corresponding tax basis adjustment.

Significant judgment is required in determining our income tax provision and in evaluating our tax positions. The recognition and measurement of a tax position is based on management's best judgment given the facts, circumstances and information available at the reporting date. Inherent in determining our annual effective income tax rate are judgments regarding business plans, planning opportunities and expectations about future outcomes. Realization of certain deferred tax assets, primarily net operating loss carryforwards, is dependent upon generating sufficient future taxable income in the appropriate jurisdiction prior to the expiration of the carryforward periods. We establish valuation allowances for deferred tax assets when the amount of expected future taxable income is not likely to support the use of the deduction or credit.

We operate in multiple jurisdictions with complex tax policy and regulatory environments. In certain of these jurisdictions, we may take tax positions that management believes are supportable, but are potentially subject to successful challenge by the applicable taxing authority. We evaluate our tax positions and establish liabilities in accordance with the applicable accounting guidance on uncertainty in income taxes. We review these tax uncertainties in light of changing facts and circumstances, such as the progress of tax audits, and adjust them accordingly.

We account for income tax contingencies using a benefit recognition model. If our initial assessment does not result in the recognition of a tax benefit, we regularly monitor our position and subsequently recognize the tax benefit if: (i) there are changes in tax law or there is new information that sufficiently raise the likelihood of prevailing on the technical merits of the position to "more likely than

not;" (ii) the statute of limitations expires; or (iii) there is a completion of an audit resulting in a favorable settlement of that tax year with the appropriate agency. We regularly re-evaluate our tax positions based on the results of audits of federal, state and foreign income tax filings, statute of limitations expirations, and changes in tax law or receipt of new information that would either increase or decrease the technical merits of a position relative to the "more-likely-than-not" standard.

Our assessments concerning uncertain tax positions are based on estimates and assumptions that have been deemed reasonable by management, but our estimates of unrecognized tax benefits and potential tax benefits may not be representative of actual outcomes, and variation from such estimates could materially affect our financial statements in the period of settlement or when the statutes of limitations expire, as we treat these events as discrete items in the period of resolution. Finalizing audits with the relevant taxing authorities can include formal administrative and legal proceedings, and, as a result, it is difficult to estimate the timing and range of possible changes related to our uncertain tax positions, and such changes could be significant.

Because there are a number of estimates and assumptions inherent in calculating the various components of our income tax provision, certain future events such as changes in tax legislation, geographic mix of earnings, completion of tax audits or earnings repatriation plans could have an impact on those estimates and our effective income tax rate.

We consider undistributed earnings of foreign subsidiaries to be indefinitely reinvested in our international operations. The undistributed earnings of foreign subsidiaries were subject to the U.S. one-time mandatory toll charge and are eligible to be repatriated to the U.S. without additional U.S. tax under the Tax Act. Should our plans change and we decide to repatriate some or all of the remaining cash held by our international subsidiaries, the amounts repatriated could be subject to applicable non-U.S. income and withholding taxes in international jurisdictions.

For more information regarding our significant accounting policies, estimates and assumptions, see "Notes to Consolidated Financial Statements—Summary of Significant Accounting Policies and New Accounting Standards."

**Contingencies**

***Legal matters***

We are subject to numerous contingencies arising in the ordinary course of business, such as product liability and other product-related litigation, commercial litigation, environmental claims and proceedings and government investigations. Certain of these contingencies could result in losses, including damages, fines and/or civil penalties, and/or criminal charges, which could be substantial. We believe that we have strong defenses in these types of matters, but litigation is inherently unpredictable and excessive verdicts do occur. We do not believe that any of these matters will have a material adverse effect on our financial position. However, we could incur judgments, enter into settlements or revise our expectations regarding the outcome of certain matters, and such developments could have a material adverse effect on our results of operations or cash flows in the period in which the amounts are paid and/or accrued.

We have accrued for losses that are both probable and reasonably estimable. Substantially all of these contingencies are subject to significant uncertainties and, therefore, determining the likelihood of a loss and/or the measurement of any loss can be complex. Consequently, we are unable to estimate the range of reasonably possible loss in excess of amounts accrued. Our assessments are based on estimates and assumptions that have been deemed reasonable by management, but the assessment process relies heavily on estimates and assumptions that may prove to be incomplete or inaccurate, and unanticipated events and circumstances may occur that might cause us to change those estimates and assumptions.

***Environmental***

Our operations and properties are subject to Environmental Laws and regulations. As such, the nature of our current and former operations exposes us to the risk of claims with respect to such matters, including fines, penalties, and remediation obligations that may be imposed by regulatory authorities. Under certain circumstances, we might be required to curtail operations until a particular problem is

remedied. Known costs and expenses under Environmental Laws incidental to ongoing operations, including the cost of litigation proceedings relating to environmental matters, are generally included within operating results. Potential costs and expenses may also be incurred in connection with the repair or upgrade of facilities to meet existing or new requirements under Environmental Laws or to investigate or remediate potential or actual contamination and from time to time we establish reserves for such contemplated investigation and remediation costs. In many instances, the ultimate costs under Environmental Laws and the time period during which such costs are likely to be incurred are difficult to predict.

While we believe that our operations are currently in material compliance with Environmental Laws, we have, from time to time, received notices of violation from governmental authorities, and have been involved in civil or criminal action for such violations. Additionally, at various sites, our subsidiaries are engaged in continuing investigation, remediation and/or monitoring efforts to address contamination associated with historic operations of the sites. We devote considerable resources to complying with Environmental Laws and managing environmental liabilities. We have developed programs to identify requirements under, and maintain compliance with Environmental Laws; however, we cannot predict with certainty the impact of increased and more stringent regulation on our operations, future capital expenditure requirements, or the cost of compliance.

The nature of our current and former operations exposes us to the risk of claims with respect to environmental matters and we cannot assure we will not incur material costs and liabilities in connection with such claims. Based upon our experience to date, we believe that the future cost of compliance with existing Environmental Laws, and liabilities for known environmental claims pursuant to such Environmental Laws, will not have a material adverse effect on our financial position, results of operations, cash flows or liquidity.

For additional details, see “Notes to Consolidated Financial Statements—Commitments and Contingencies.”

For additional details, see “Business—Environmental, Health and Safety.”

**Item 7A. Quantitative and Qualitative Disclosures about Market Risk**

***Foreign exchange risk***

Portions of our net sales and costs are exposed to changes in foreign exchange rates. Our products are sold in more than 75 countries and, as a result, our revenues are influenced by changes in foreign exchange rates. Because we operate in multiple foreign currencies, changes in those currencies relative to the U.S. dollar could affect our revenue and expenses, and consequently, net income. Exchange rate fluctuations may also have an effect beyond our reported financial results and directly affect operations. These fluctuations may affect the ability to buy and sell our goods and services in markets affected by significant exchange rate variances.

Our primary foreign currency exposures are to the Brazilian and Israeli currencies. From time to time, we manage foreign exchange risk through the use of foreign currency derivative contracts. We use these contracts to mitigate the potential earnings effects from exposure to foreign currencies.

We analyzed our foreign currency derivative contracts at June 30, 2019 to determine their sensitivity to exchange rate changes. The analysis indicates that if the U.S. dollar were to appreciate or depreciate by 10%, the fair value of these contracts would decrease by $0.4 million or increase by $0.9 million. For additional details, see “Notes to Consolidated Financial Statements—Derivatives.”

***Interest rate risk***

Substantially all of our outstanding debt is floating rate debt. Our Credit Facilities carry floating interest rates based on LIBOR and the Prime Rate; therefore, our profitability and cash flows are exposed to interest rate fluctuations. In July 2017, we entered into an interest rate swap agreement on $150 million of

notional principal that effectively converts the floating LIBOR portion of our interest obligation on that amount of debt, to a fixed interest rate of 1.8325% plus the applicable rate. The agreement matures concurrent with the Credit Agreement. The interest rate swap agreement has been designated as a highly effective cash flow hedge.

Based on our outstanding debt balances as of June 30, 2019, and considering the interest rate swap agreement, a 100 basis point increase in LIBOR would increase annual interest expense and decrease cash flows by $1.8 million. For additional details, see “Notes to the Consolidated Financial Statements—Debt” and “Notes to the Consolidated Financial Statements—Derivatives”.

**Item 8. Financial Statements and Supplementary Data**

**PHIBRO ANIMAL HEALTH CORPORATION**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Phibro Animal Health Corporation

***Opinions on the Financial Statements and Internal Control over Financial Reporting***

We have audited the accompanying consolidated balance sheets of Phibro Animal Health Corporation and its subsidiaries (the "Company") as of June 30, 2019 and 2018, and the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended June 30, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended June 30, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company did not maintain, in all material respects, effective internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the COSO because material weaknesses in internal control over financial reporting existed as of that date related to: (i) the Company not maintaining an effective control environment due to a lack of sufficient resources with an appropriate level of accounting knowledge, experience and training commensurate with its financial reporting requirements, which contributed to material weaknesses related to: (ii) the Company not designing and maintaining effective internal controls to ensure processing and reporting of valid transactions is complete, accurate, and timely and (iii) the Company not maintaining effective internal control that restricts access to key financial systems and records to appropriate users and ensures that appropriate segregation of duties is maintained.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses referred to above are described in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. We considered these material weaknesses in determining the nature, timing, and extent of audit tests applied in our audit of the June 30, 2019 consolidated financial statements, and our opinion regarding the effectiveness of the Company's internal control over financial reporting does not affect our opinion on those consolidated financial statements.

***Basis for Opinions***

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in management's report referred to above. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also

included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

***Definition and Limitations of Internal Control over Financial Reporting***

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Florham Park, New Jersey
August 27, 2019

We have served as the Company's auditor since 1998.

**PHIBRO ANIMAL HEALTH CORPORATION AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF OPERATIONS**

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| | (in thousands, except per share amounts) | | |
| Net sales | $827,995 | $819,982 | $764,281 |
| Cost of goods sold | 563,371 | 553,103 | 516,038 |
| Gross profit | 264,624 | 266,879 | 248,243 |
| Selling, general and administrative expenses | 181,398 | 167,953 | 150,309 |
| Operating income | 83,226 | 98,926 | 97,934 |
| Interest expense, net | 11,776 | 11,910 | 14,906 |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) |
| Loss on extinguishment of debt | — | — | 2,598 |
| Income before income taxes | 71,505 | 88,070 | 80,543 |
| Provision for income taxes | 16,792 | 23,187 | 15,928 |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 |
| Net income per share | | | |
| basic | $ 1.35 | $ 1.61 | $ 1.63 |
| diluted | $ 1.35 | $ 1.61 | $ 1.61 |
| Weighted average common shares outstanding | | | |
| basic | 40,412 | 40,181 | 39,524 |
| diluted | 40,523 | 40,385 | 40,042 |

The accompanying notes are an integral part of these consolidated financial statements

**PHIBRO ANIMAL HEALTH CORPORATION AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| | | (in thousands) | |
| Net income | $54,713 | $ 64,883 | $64,615 |
| Change in fair value of derivative instruments | (5,580) | 2,300 | 31 |
| Foreign currency translation adjustment | (4,127) | (23,542) | (1,652) |
| Unrecognized net pension gains (losses) | (1,837) | (154) | 12,918 |
| (Provision) benefit for income taxes | 1,846 | 350 | (4,949) |
| Other comprehensive income (loss) | (9,698) | (21,046) | 6,348 |
| Comprehensive income | $45,015 | $ 43,837 | $70,963 |

The accompanying notes are an integral part of these consolidated financial statements

**PHIBRO ANIMAL HEALTH CORPORATION AND SUBSIDIARIES**

**CONSOLIDATED BALANCE SHEETS**

| As of June 30 | 2019 | 2018 |
|---|---|---|
| | (in thousands, except share and per share amounts) | |
| **ASSETS** | | |
| Cash and cash equivalents | $ 57,573 | $ 29,168 |
| Short-term investments | 24,000 | 50,000 |
| Accounts receivable, net | 159,022 | 135,742 |
| Inventories, net | 198,322 | 178,170 |
| Other current assets | 27,245 | 22,381 |
| Total current assets | 466,162 | 415,461 |
| Property, plant and equipment, net | 140,235 | 130,108 |
| Intangibles, net | 47,478 | 51,978 |
| Goodwill | 27,348 | 27,348 |
| Other assets | 45,448 | 46,784 |
| Total assets | $ 726,671 | $ 671,679 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current portion of long-term debt | $ 12,540 | $ 12,579 |
| Accounts payable | 73,189 | 59,498 |
| Accrued expenses and other current liabilities | 68,498 | 71,144 |
| Total current liabilities | 154,227 | 143,221 |
| Revolving credit facility | 96,000 | 70,000 |
| Long-term debt | 217,635 | 229,802 |
| Other liabilities | 42,794 | 43,702 |
| Total liabilities | 510,656 | 486,725 |
| Commitments and contingencies (Note 8) | | |
| Common stock, par value $0.0001 per share; 300,000,000 Class A shares authorized, 20,287,574 and 19,992,204 shares issued and outstanding at June 30, 2019 and 2018, respectively; 30,000,000 Class B shares authorized, 20,166,034 and 20,365,504 shares issued and outstanding at June 30, 2019 and 2018, respectively | 4 | 4 |
| Preferred stock, par value $0.0001 per share; 16,000,000 shares authorized, no shares issued and outstanding | — | — |
| Paid-in capital | 133,266 | 129,873 |
| Retained earnings | 168,926 | 131,560 |
| Accumulated other comprehensive income (loss) | (86,181) | (76,483) |
| Total stockholders' equity | 216,015 | 184,954 |
| Total liabilities and stockholders' equity | $ 726,671 | $ 671,679 |

The accompanying notes are an integral part of these consolidated financial statements

**PHIBRO ANIMAL HEALTH CORPORATION AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| | | (in thousands) | |
| **OPERATING ACTIVITIES** | | | |
| Net income | $ 54,713 | $ 64,883 | $ 64,615 |
| Adjustments to reconcile net income to net cash provided (used) by operating activities: | | | |
| Depreciation and amortization | 27,564 | 26,943 | 26,001 |
| Amortization of debt issuance costs and debt discount | 882 | 883 | 1,015 |
| Stock-based compensation | 2,259 | 334 | — |
| Acquisition-related items | — | 3,908 | 2,081 |
| Pension settlement cost | — | — | 1,702 |
| Deferred income taxes | (105) | 6,389 | (28) |
| Foreign currency (gains) losses, net | (1,899) | (635) | (867) |
| Other | (302) | 1,181 | 765 |
| Loss on extinguishment of debt | — | — | 2,598 |
| Changes in operating assets and liabilities, net of business acquisitions: | | | |
| Accounts receivable, net | (23,679) | (11,900) | (2,765) |
| Inventories, net | (20,982) | (24,292) | 5,432 |
| Other current assets | (7,173) | 134 | (3,012) |
| Other assets | (299) | (152) | (1,504) |
| Accounts payable | 12,092 | 2,446 | (3,119) |
| Accrued expenses and other liabilities | 4,098 | (114) | 5,471 |
| Net cash provided by operating activities | 47,169 | 70,008 | 98,385 |
| **INVESTING ACTIVITIES** | | | |
| Purchases of short-term investments | (34,000) | (82,000) | — |
| Maturities of short-term investments | 60,000 | 32,000 | — |
| Capital expenditures | (29,891) | (18,548) | (20,880) |
| Business acquisitions | (9,838) | (15,000) | — |
| Other, net | (404) | (1,064) | (1,062) |
| Net cash used by investing activities | (14,133) | (84,612) | (21,942) |
| **FINANCING ACTIVITIES** | | | |
| Revolving credit facility borrowings | 213,000 | 225,000 | 230,500 |
| Revolving credit facility repayments | (187,000) | (220,000) | (234,500) |
| Proceeds from long-term debt | — | — | 250,000 |
| Payments of long-term debt, capital leases and other | (12,649) | (6,401) | (285,527) |
| Issuance of acquisition note payable | 3,775 | — | — |
| Payment of acquisition note payable | (3,775) | — | — |
| Debt issuance costs | — | — | (3,925) |
| Proceeds from common shares issued | 1,134 | 5,699 | 5,541 |
| Dividends paid | (18,592) | (16,073) | (15,827) |
| Net cash used by financing activities | (4,107) | (11,775) | (53,738) |
| Effect of exchange rate changes on cash | (524) | (536) | (227) |
| Net increase (decrease) in cash and cash equivalents | 28,405 | (26,915) | 22,478 |
| Cash and cash equivalents at beginning of period | 29,168 | 56,083 | 33,605 |
| Cash and cash equivalents at end of period | $ 57,573 | $ 29,168 | $ 56,083 |
| | | | |
| Supplemental cash flow information | | | |
| Interest paid | $ 12,250 | $ 11,208 | $ 14,600 |
| Income taxes paid, net | 16,215 | 15,191 | 14,762 |
| Non-cash investing and financing activities | | | |
| Property, plant and equipment and capital lease additions | 2,890 | 8,449 | 1,550 |

The accompanying notes are an integral part of these consolidated financial statements

**PHIBRO ANIMAL HEALTH CORPORATION AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY**

| | Shares of Common Stock | Common Stock | Preferred Stock | Paid-in Capital | Retained Earnings | Accumulated Other Comprehensive Income (Loss) | Total |
|---|---|---|---|---|---|---|---|
| **As of June 30, 2016** | 39,407,568 | $ 4 | $— | $118,299 | $ 33,962 | $ (61,785) | $ 90,480 |
| Comprehensive income (loss) | — | — | — | — | 64,615 | 6,348 | 70,963 |
| Exercise of stock options | 468,400 | — | — | 5,541 | — | — | 5,541 |
| Dividends declared ($0.40 per share) | — | — | — | — | (15,827) | — | (15,827) |
| **As of June 30, 2017** | 39,875,968 | $ 4 | $— | $123,840 | $ 82,750 | $ (55,437) | $151,157 |
| Comprehensive income (loss) | — | — | — | — | 64,883 | (21,046) | 43,837 |
| Exercise of stock options | 481,740 | — | — | 5,699 | — | — | 5,699 |
| Dividends declared ($0.40 per share) | — | — | — | — | (16,073) | — | (16,073) |
| Stock-based compensation expense | — | — | — | 334 | — | — | 334 |
| **As of June 30, 2018** | 40,357,708 | $ 4 | $— | $129,873 | $131,560 | $ (76,483) | $184,954 |
| Adoption of new revenue standard | — | — | — | — | 1,245 | — | 1,245 |
| Comprehensive income (loss) | — | — | — | — | 54,713 | (9,698) | 45,015 |
| Exercise of stock options | 95,900 | — | — | 1,134 | — | — | 1,134 |
| Dividends declared ($0.46 per share) | — | — | — | — | (18,592) | — | (18,592) |
| Stock-based compensation expense | — | — | — | 2,259 | — | — | 2,259 |
| **As of June 30, 2019** | 40,453,608 | $ 4 | $— | $133,266 | $168,926 | $ (86,181) | $216,015 |

The accompanying notes are an integral part of these consolidated financial statements

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**
**(IN THOUSANDS, EXCEPT SHARE AND PER SHARE AMOUNTS)**

## 1. Description of Business

Phibro Animal Health Corporation ("Phibro" or "PAHC") and its subsidiaries (together, the "Company") is a diversified global developer, manufacturer and marketer of a broad range of animal health and mineral nutrition products for food animals including poultry, swine, cattle, dairy and aquaculture. The Company is also a manufacturer and marketer of performance products for use in the personal care, industrial chemical and chemical catalyst industries. Unless otherwise indicated or the context requires otherwise, references in this report to "we," "our," "us," and similar expressions refer to Phibro and its subsidiaries.

## 2. Summary of Significant Accounting Policies and New Accounting Standards

*Principles of Consolidation and Basis of Presentation*

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") and include the accounts of Phibro and its consolidated subsidiaries. Intercompany balances and transactions have been eliminated from the consolidated financial statements. The decision whether or not to consolidate an entity requires consideration of majority voting interests, as well as effective control over the entity.

We present our financial statements on the basis of our fiscal year ending June 30. All references to years in these consolidated financial statements refer to the fiscal year ending or ended on June 30 of that year.

*Risks and Uncertainties*

The issue of the potential for increased bacterial resistance to certain antibiotics used in certain food-producing animals is the subject of discussions on a worldwide basis and, in certain instances, has led to government restrictions on or banning of the use of antibiotics in food-producing animals. The sale of antibiotics and antibacterials is a material portion of our business. Should product bans or restrictions, public perception, competition or other developments result in restrictions on the sale of such products, it could have a material adverse effect on our financial position, results of operations and cash flows.

An outbreak of disease carried by food animals, which could lead to the widespread death or precautionary destruction of food animals as well as reduced consumption and demand for animal protein, could adversely affect demand for our products. Such occurrences could have a material adverse effect on our financial condition, results of operations and cash flows.

The testing, manufacturing, and marketing of certain of our products are subject to extensive regulation by numerous government authorities in the United States and other countries.

We have significant assets in Israel, Brazil and other locations outside of the United States and a significant portion of our sales and earnings are attributable to operations conducted abroad. Our assets, results of operations and future prospects are subject to currency exchange fluctuations and restrictions, energy shortages, other economic developments, political or social instability in some countries, and uncertainty of, and governmental control over, commercial rights, which could result in a material adverse effect on our financial position, results of operations and cash flows.

We are subject to environmental laws and regulations governing the use, storage, handling, generation, treatment, emission, release, discharge and disposal of certain materials and wastes, the remediation of contaminated soil and groundwater, the manufacture, sale and use of regulated materials, including pesticides, and the health and safety of employees. As such, the nature of our current and former operations and those of our subsidiaries expose Phibro and our subsidiaries to the risk of claims with respect to such matters.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

*Use of Estimates*

Preparation of the consolidated financial statements requires management to make certain estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures. Actual results could differ from these estimates. Significant estimates include valuation of intangible assets, depreciation and amortization periods of long-lived and intangible assets, recoverability of long-lived and intangible assets and goodwill, realizability of deferred income tax and value-added tax assets, legal and environmental matters and actuarial assumptions related to our pension plans. We regularly evaluate our estimates and assumptions using historical experience and other factors. Our estimates are based on complex judgments, probabilities and assumptions that we believe to be reasonable.

*Revenue Recognition*

We recognize revenue from product sales when control of the product has transferred to the customer, typically when title and risk of loss transfer to the customer. Certain of our businesses have terms where control of the underlying product transfers to the customer on shipment, while others have terms where control transfers to the customer on delivery.

Revenue reflects the total consideration to which we expect to be entitled in exchange for delivery of products or services, net of variable consideration. Variable consideration includes customer programs and incentive offerings, including pricing arrangements, rebates and other volume-based incentives. We record reductions to revenue for estimated variable consideration at the time we record the sale. Our estimates for variable consideration primarily use the most-likely amount method. Such estimates are generally based on contractual terms and historical experience, and are adjusted to reflect future expectations as new information becomes available. Historically, we have not had significant adjustments to our estimates of variable compensation. Sales returns and product recalls have been insignificant and infrequent due to the nature of the products we sell.

Net sales include shipping and handling fees billed to customers. The associated costs are considered fulfillment activities and are included in costs of goods sold in the consolidated statements of operations when the related revenue is recognized. Net sales exclude value-added and other taxes based on sales.

*Cash and Cash Equivalents*

Cash equivalents include highly liquid investments with maturities of three months or less when purchased. Cash and cash equivalents held at financial institutions may at times exceed insured amounts. We believe we mitigate such risk by investing in or through major financial institutions.

*Short-term Investments*

Short-term investments include highly liquid investments with maturities greater than three months and less than one year at the time of purchase. We classify these investments as held to maturity and we record the related interest income as earned. We determine the appropriate balance sheet classification at the time of purchase and at each balance sheet date. Investments held at financial institutions may at times exceed insured amounts. We believe we mitigate such risk by investing in or through major financial institutions.

*Accounts Receivable and Allowance for Doubtful Accounts*

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. We grant credit terms in the normal course of business and generally do not require collateral or other security to support credit sales. Our ten largest customers represented, in aggregate, approximately 31% and 24% of accounts receivable at June 30, 2019 and 2018, respectively.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The allowance for doubtful accounts is our best estimate of the probable credit losses in existing accounts receivable. We monitor the financial performance and creditworthiness of our customers so that we can properly assess and respond to changes in their credit profile. We also monitor domestic and international economic conditions for the potential effect on our customers. Past due balances are reviewed individually for collectability. Account balances are charged against the allowance when we determine it is probable the receivable will not be recovered.

*Inventories*

Inventories are valued at the lower of cost or net realizable value. Cost is determined principally under weighted average and standard cost methods, which approximate first-in, first-out (FIFO) cost. Obsolete and unsalable inventories, if any, are reflected at estimated net realizable value. Inventory costs include materials, direct labor and manufacturing overhead.

*Property, Plant and Equipment*

Property, plant and equipment are stated at cost.

Depreciation is charged to results of operations using the straight-line method based upon the assets' estimated useful lives, ranging from two to thirty years for buildings and improvements, and one to ten years for machinery and equipment. We capitalize costs that extend the useful life or productive capacity of an asset. Repair and maintenance costs are expensed as incurred. In the case of disposals, the assets and related accumulated depreciation are removed from the accounts, and the net amounts, less proceeds from disposal, are included in the consolidated statements of operations.

*Capitalized Software Costs*

We capitalize costs to obtain, develop and implement software for internal use. Amounts paid to third parties and costs of internal employees who are directly associated with the software project are also capitalized, depending on the stage of development.

We expense software costs that do not meet the capitalization criteria. Capitalized software costs are included in property, plant and equipment on the consolidated balance sheets and are amortized on a straight-line basis over three to seven years.

*Deferred Financing Costs*

Costs and original issue discounts or premiums related to issuance or modification of our debt are deferred on the consolidated balance sheet and amortized over the lives of the respective debt instruments. Amortization of deferred financing costs is included in interest expense in the consolidated statements of operations.

*Acquisitions, Intangible Assets and Goodwill*

Our consolidated financial statements reflect the operations of an acquired business beginning as of the date of acquisition. Assets acquired and liabilities assumed are recorded at their fair values at the date of acquisition; goodwill is recorded for any excess of the purchase price over the fair values of the net assets acquired.

Significant judgment is required to determine the fair value of certain tangible and intangible assets and in assigning their respective useful lives. Accordingly, we typically obtain the assistance of third-party valuation specialists for significant tangible and intangible assets. The fair values are based on available historical information and on future expectations and assumptions deemed reasonable by management, but are inherently uncertain. We typically use an income method to measure the fair value of intangible assets, which is based on forecasts of the expected future cash flows attributable to the respective assets. Significant estimates and assumptions inherent in the valuations reflect a consideration of other marketplace participants, and include the amount and timing of future cash flows (including expected growth rates and profitability), the underlying product or technology life cycles, economic barriers to entry

and the discount rate applied to the cash flows. Unanticipated market or macroeconomic events and circumstances could affect the accuracy or validity of the estimates and assumptions. Determining the useful life of an intangible asset also requires judgment. Our estimates of the useful lives of intangible assets are based on factors including competitive environment, underlying product life cycles, operating plans and the macroeconomic environment of the countries in which the products are sold. Intangible assets are amortized over their estimated lives. Intangible assets associated with acquired in-process research and development activities ("IPR&D") are not amortized until a product is available for sale.

*Long-Lived Assets and Goodwill*

We periodically review our long-lived and amortizable intangible assets for impairment and assess whether significant events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. Such circumstances may include a significant decrease in the market price of an asset, a significant adverse change in the manner in which the asset is being used or in its physical condition or a history of operating or cash flow losses associated with the use of an asset. We recognize an impairment loss when the carrying amount of an asset exceeds the anticipated future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss is the excess of the asset's carrying value over its fair value. In addition, we periodically reassess the estimated remaining useful lives of our long-lived and amortizable intangible assets. Changes to estimated useful lives would affect the amount of depreciation and amortization recorded in the consolidated statements of operations. During 2017, we determined that certain intangible assets related to technology within the Animal Health segment were impaired, based on changes to future product sales assumptions, and recorded an impairment charge of $713 as a component of selling, general and administrative expenses in our consolidated statements of operations. There were no significant asset impairments and no changes in estimated remaining useful lives of our long-lived or amortizable intangible assets in 2019 or 2018.

We periodically review our indefinite-lived intangible assets associated with acquired IPR&D for impairment and assess whether significant events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. We recognize an impairment loss when the carrying amount of an asset exceeds the anticipated future discounted cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss is the excess of the asset's carrying value over its fair value. We assess IPR&D for impairment annually during our fourth quarter, or more frequently if impairment indicators exist. During 2017, we determined that certain IPR&D within the Animal Health segment was impaired, based on changes to future product sales assumptions, and recorded an impairment charge of $1,579 as a component of selling, general and administrative expenses in our consolidated statements of operations. There were no impairment charges related to indefinite-lived intangible assets in 2019 or 2018.

Goodwill represents the excess of the purchase price over the fair value of the identifiable net assets acquired in a business combination. We assess goodwill for impairment annually during our fourth quarter, or more frequently if impairment indicators exist. Impairment exists when the carrying amount of goodwill exceeds its implied fair value. We may elect to assess our goodwill for impairment using a qualitative or a quantitative approach, to determine whether it is more likely than not that the fair value of goodwill is greater than its carrying value. During the three months ended June 30, 2019, we tested goodwill using a quantitative approach, which involved estimating fair values of reporting units using the discounted cash flow method. We determined goodwill was not impaired. We have not recorded any goodwill impairment charges in the periods included in the consolidated financial statements.

*Foreign Currency Translation*

We generally use local currency as the functional currency to measure the financial position and results of operations of each of our international subsidiaries. We translate assets and liabilities of these operations at the exchange rates in effect at the balance sheet date. We translate income statement accounts at the average rates of exchange prevailing during the period. Translation adjustments that arise from the use of differing exchange rates from period to period are included as a component of accumulated other comprehensive income (loss) in stockholders' equity.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Certain of our Israeli operations have designated the U.S. dollar as their functional currency. Gains and losses arising from remeasurement of local currency accounts into U.S. dollars are included in determining net income.

*Comprehensive Income*

Comprehensive income consists of net income and the changes in: (i) the fair value of derivative instruments that qualify for hedge accounting; (ii) foreign currency translation adjustments; (iii) unrecognized net pension gains (losses); and (iv) the related (provision) benefit for income taxes.

*Derivative Financial Instruments*

We record all derivative financial instruments on the consolidated balance sheets at fair value. Changes in the fair value of derivatives are recorded in results of operations or other comprehensive income (loss), depending on whether a derivative is designated and effective as part of a hedge transaction and, if so, the type of hedge transaction. Gains and losses on derivative instruments designated and effective as part of a hedge transaction are included in the results of operations in the periods in which operations are affected by the underlying hedged item.

From time to time, we use certain derivative instruments to mitigate the risk associated with certain economic factors, such as exchange rates and interest rates, which may potentially affect our future cash flows. As of June 30, 2019, we used (i) foreign currency option contracts to mitigate certain exposures related to changes in foreign currency exchange rates on forecasted inventory purchases, and (ii) an interest rate swap on $150 million of notional principal to manage future cash flow exposure resulting from variable interest rates on that amount of debt. To qualify a derivative as a hedge, we document the nature and relationships between hedging instruments and hedged items, the prospective effectiveness of the hedging instrument as well as the ultimate effectiveness, the risk-management objectives, the strategies for undertaking the various hedge transactions and the methods of assessing hedge effectiveness. We do not engage in trading or other speculative uses of financial instruments.

*Environmental Liabilities*

Expenditures for ongoing compliance with environmental regulations are expensed or capitalized as appropriate. We capitalize expenditures made to extend the useful life or productive capacity of an asset, including expenditures that prevent future environmental contamination. Other expenditures are expensed as incurred and are recorded in selling, general and administrative expenses in the consolidated statements of operations. We record the expense and related liability in the period an environmental assessment indicates remedial efforts are probable and the costs can be reasonably estimated. Estimates of the liability are based upon currently available facts, existing technology and presently enacted laws and regulations taking into consideration the likely effects of inflation and other societal and economic factors. All available evidence is considered, including prior experience in remediation of contaminated sites, other companies' experiences and data released by the U.S. Environmental Protection Agency and other organizations. The estimated liabilities are not discounted. We record anticipated recoveries under existing insurance contracts if probable.

*Income Taxes*

The provision for income taxes includes U.S. federal, state, and foreign income taxes and foreign withholding taxes. Our annual effective income tax rate is determined based on our income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which we operate and the tax effects of items treated differently for tax purposes than for financial reporting purposes. Tax law requires certain items be included in the tax return at different times than the items are reflected in the financial statements. Some of these differences are permanent, such as expenses that are not deductible in our tax return, and some differences are temporary, reversing over time, such as depreciation expense. These temporary differences give rise to deferred tax assets and liabilities. Deferred tax assets generally represent the tax effect of items that can be used as a tax deduction or credit in future years for which we have already

recorded the tax benefit in our income statement. Deferred tax liabilities generally represent the tax effect of items recorded as tax expense in our income statement for which payment has been deferred, the tax effect of expenditures for which a deduction has already been taken in our tax return but has not yet been recognized in our income statement, and the tax effect of assets recorded at fair value in business combinations for which there was no corresponding tax basis adjustment.

Significant judgment is required in determining our income tax provision and in evaluating our tax positions. The recognition and measurement of a tax position is based on management's best judgment given the facts, circumstances and information available at the reporting date. Inherent in determining our annual effective income tax rate are judgments regarding business plans, planning opportunities and expectations about future outcomes. Realization of certain deferred tax assets, primarily net operating loss carryforwards, is dependent upon generating sufficient future taxable income in the appropriate jurisdiction prior to the expiration of the carryforward periods. We establish valuation allowances for deferred tax assets when the amount of expected future taxable income is not likely to support the use of the deduction or credit, and release these allowances when it is more likely than not that these deductions or credits will be used.

We operate in multiple jurisdictions with complex tax policy and regulatory environments. In certain of these jurisdictions, we may take tax positions that management believes are supportable, but are potentially subject to successful challenge by the applicable taxing authority. We evaluate our tax positions and establish liabilities in accordance with the applicable accounting guidance on uncertainty in income taxes. We review these tax uncertainties in light of changing facts and circumstances, such as the progress of tax audits, and adjust them accordingly.

Because there are a number of estimates and assumptions inherent in calculating the various components of our income tax provision, future events such as changes in tax legislation, the geographic mix of earnings, completion of tax audits or earnings repatriation plans could have an effect on those estimates and our effective income tax rate.

*Advertising*

Advertising and marketing costs are expensed as incurred and are reflected in selling, general and administrative expenses.

*Research and Development Expenditures*

Research and development expenditures are expensed as incurred and are recorded in selling, general and administrative expenses in the consolidated statements of operations. Most of our manufacturing facilities have chemists and technicians on staff involved in product development, quality assurance, quality control and providing technical services to customers. Research, development and technical service efforts are conducted at various facilities. Our animal health research and development activities relate to: fermentation development and microbiological strain improvement; vaccine development; chemical synthesis and formulation development; nutritional specialties development; and ethanol-related products.

*Stock-Based Compensation*

We recognize expense for stock-based compensation to employees, including grants of stock options and restricted stock units, over the requisite service period based on the grant date fair value of the awards. We determine the fair value of stock options and restricted stock units using the Black-Scholes option-pricing model and the Monte Carlo simulation model, respectively. Each model uses historical and current market data to estimate the fair value. The models incorporate various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield and expected life of the awards.

*Net Income per Share and Weighted Average Shares*

Basic net income per share is calculated by dividing net income by the weighted average number of common shares outstanding during the reporting period.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Diluted net income per share is calculated by dividing net income by the weighted average number of common shares outstanding during the reporting period after giving effect to potential dilutive common shares resulting from the assumed exercise of stock options and vesting of restricted stock units. All common share equivalents were included in the calculation of diluted net income per share in the periods included in the consolidated financial statements.

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Net income | $54,713 | $64,883 | $ 64,615 |
| Weighted average number of shares–basic | 40,412 | 40,181 | 39,524 |
| Dilutive effect of stock options and restricted stock units | 111 | 204 | 518 |
| Weighted average number of shares–diluted | 40,523 | 40,385 | 40,042 |
| Net income per share | | | |
| basic | $ 1.35 | $ 1.61 | $ 1.63 |
| diluted | $ 1.35 | $ 1.61 | $ 1.61 |

*New Accounting Standards*

Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Topic 715-20): Disclosure Framework —Changes to the Disclosure Requirements for Defined Benefit Plans*, modifies existing disclosure requirements for defined benefit pension and other postretirement plans. This ASU is effective for fiscal years ending after December 15, 2020 and must be applied on a retrospective basis. We continue to evaluate the effect of adoption of this guidance on our consolidated financial statements.

ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, modifies existing disclosure requirements for fair value measurement. This ASU is effective for fiscal years beginning after December 15, 2019. We continue to evaluate the effect of adoption of this guidance on our consolidated financial statements.

ASU 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* allows reclassification from accumulated other comprehensive income to retained earnings of stranded tax effects related to adjustments resulting from the United States Tax Cuts and Jobs Act. This ASU is effective for our consolidated financial statements beginning July 1, 2019. We do not expect adoption of this guidance to have a material effect on our consolidated financial statements.

ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, provides specific guidance for the classification of certain transactions within the statement of cash flows. We adopted this guidance during the three months ended September 30, 2018, and it did not have a material effect on our consolidated financial statements.

ASU 2016-02, *Leases (Topic 842)*, supersedes the current lease accounting guidance, requires an entity to recognize assets and liabilities on the balance sheet for both financing and operating leases and requires additional qualitative and quantitative disclosures regarding leasing arrangements. This ASU and its amendments are effective for our consolidated financial statements beginning July 1, 2019. The new standard requires a modified retrospective method. We have substantially completed the evaluation of our lease contracts, accounting policy elections and the impact of adoption on our consolidated financial statements. Adoption of the new standard will increase the assets and liabilities reported on our consolidated balance sheet. Adoption of the new standard will not materially affect the amount of lease expense recognized in the consolidated statements of operations.

ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*, establishes principles for the recognition of revenue from contracts with customers. The underlying principle is to identify the performance obligations of a contract, allocate the revenue to each performance obligation and then to

recognize revenue when the company satisfies a specific performance obligation of the contract. We adopted ASU 2014-09 and its amendments effective July 1, 2018, using the modified retrospective method. Comparative prior period amounts were not restated and continue to be reported under the accounting standards in effect for those periods. The adoption of the new revenue standard did not have a material effect on reported net sales or retained earnings.

The effect of initial adoption of the new standard resulted in the following changes to our consolidated balance sheet:

| As of July 1, 2018 | Effect of Adoption | Post-adoption |
|---|---|---|
| Other current assets | $ 2,100 | $ 24,481 |
| Other assets | 2,325 | 49,109 |
| Accrued expenses and other current liabilities | 343 | 71,487 |
| Other liabilities | 2,837 | 46,539 |
| Retained earnings | $ 1,245 | $ 132,805 |

The current year effect of the adoption of the new standard resulted in the following changes to our consolidated balance sheet and consolidated statement of operations:

| As of June 30, 2019 | Effect of adoption | As reported |
|---|---|---|
| Other current assets | $ 225 | $ 27,245 |
| Other assets | 225 | 45,448 |
| Other liabilities | (216) | 42,794 |
| Retained earnings | $ 666 | $ 168,926 |

| For the Year Ended June 30, 2019 | Effect of adoption | As reported |
|---|---|---|
| Net sales | $793 | $ 827,995 |
| Provision for income taxes | 127 | 16,792 |
| Net income | $666 | $ 54,713 |

For changes to our policy resulting from the adoption of ASU 2014-09, see "—Summary of Significant Accounting Policies and New Accounting Standards—Revenue Recognition." See "Statements of Operations—Additional Information" for our disclosures regarding disaggregated revenue, deferred revenue and customer payment terms.

### 3. Statements of Operations—Additional Information

*Disaggregated revenue, deferred revenue and customer payment terms*

We develop, manufacture and market a broad range of products for food animals including poultry, swine, beef and dairy cattle and aquaculture. The products help prevent, control and treat diseases, enhance nutrition to help improve health and contribute to balanced mineral nutrition. The animal health and mineral nutrition products are sold directly to integrated poultry, swine and cattle integrators and through commercial animal feed manufacturers, wholesalers and distributors. The animal health industry and demand for many of the animal health products in a particular region are affected by changing disease pressures and by weather conditions, as product usage follows varying weather patterns and seasons. Our operations are primarily focused in regions where the majority of livestock production is consolidated in large commercial farms.

We have a diversified portfolio of products that are classified within our three business segments—Animal Health, Mineral Nutrition and Performance Products. Each segment has its own dedicated management and sales team.

**Animal Health**

The Animal Health business develops, manufactures and markets products in three main categories:

- MFAs and Other: MFAs and other products primarily consist of concentrated medicated products that are administered through animal feeds, commonly referred to as Medicated Feed Additives ("MFAs"). Specific product classifications include antibacterials, which inhibit the growth of pathogenic bacteria that cause bacterial infections in animals; anticoccidials, which inhibit the growth of coccidia (parasites) that damage the intestinal tract of animals; and other related products.

- Nutritional Specialties: Nutritional specialty products enhance nutrition to help improve health and performance in areas such as immune system function and digestive health.

- Vaccines: Our vaccines are primarily focused on preventing diseases in poultry and swine. They protect animals from either viral or bacterial disease challenges. We also manufacture and distribute autogenous vaccine products and market adjuvants to vaccine manufacturers. We have developed an innovative and proprietary delivery platform for vaccines.

**Mineral Nutrition**

The Mineral Nutrition business is comprised of formulations and concentrations of trace minerals such as zinc, manganese, copper, iron and other compounds, with a focus on customers in North America. The customers use these products to fortify the daily feed requirements of their livestock's diets and maintain an optimal balance of trace elements in each animal. We manufacture and market a broad range of mineral nutrition products for food animals including poultry, swine and beef and dairy cattle.

**Performance Products**

The Performance Products business manufactures and markets a number of specialty ingredients for use in the personal care, industrial chemical and chemical catalyst industries, predominantly in the United States.

The following tables present our revenues disaggregated by major product category and geographic region:

**Net Sales by Product Type**

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Animal Health | | | |
| MFAs and other | $350,468 | $336,666 | $321,430 |
| Nutritional specialties | 113,215 | 122,978 | 111,282 |
| Vaccines | 68,291 | 72,083 | 65,033 |
| Total Animal Health | $531,974 | $531,727 | $497,745 |
| Mineral Nutrition | 233,782 | 234,922 | 218,298 |
| Performance Products | 62,239 | 53,333 | 48,238 |
| Total | $827,995 | $819,982 | $764,281 |

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

**Net Sales by Region**

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| United States | $480,101 | $490,880 | $483,794 |
| Latin America and Canada | 152,380 | 143,231 | 113,187 |
| Europe, Middle East and Africa | 105,365 | 110,377 | 95,838 |
| Asia Pacific | 90,149 | 75,494 | 71,462 |
| Total | $827,995 | $819,982 | $764,281 |

Net sales by region are based on country of destination.

Deferred revenue was $5,464 and $4,530 as of June 30, 2019 and June 30, 2018, respectively. Accrued expenses and other current liabilities included $965 and $508 of the total deferred revenue as of June 30, 2019 and June 30, 2018, respectively. The deferred revenue resulted primarily from certain customer arrangements, including technology licensing fees and discounts on future product sales. The transaction price associated with our deferred revenue arrangements is generally based on the stand alone sales prices of the individual products or services.

Our customer payment terms generally range from 30 to 120 days globally and do not include any significant financing components. Payment terms vary based on industry and business practices within the regions in which we operate. Our average worldwide collection period for accounts receivable is approximately 60 to 70 days after the revenue is recognized.

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| **Interest expense, net** | | | |
| Term loan | $ 8,553 | $ 8,321 | $ 11,482 |
| Revolving credit facility | 3,748 | 2,777 | 2,897 |
| Amortization of debt issuance costs and debt discount | 882 | 883 | 1,015 |
| Acquisition-related accrued interest | — | 1,085 | 1,373 |
| Other | 494 | 537 | 105 |
| Interest expense | 13,677 | 13,603 | 16,872 |
| Interest (income) | (1,901) | (1,693) | (1,966) |
| | $11,776 | $11,910 | $ 14,906 |

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| **Depreciation and amortization** | | | |
| Depreciation of property, plant and equipment | $21,423 | $21,044 | $ 19,916 |
| Amortization of intangible assets | 6,092 | 5,851 | 5,950 |
| Amortization of other assets | 49 | 48 | 135 |
| | $27,564 | $26,943 | $ 26,001 |

Depreciation of property, plant and equipment includes amortization of capitalized software costs of $1,217, $1,519 and $2,199 during 2019, 2018 and 2017, respectively.

Amortization of intangible assets as of June 30, 2019, is expected to be $6,033, $5,487, $5,381, $5,380, $5,161 and $18,236 for 2020, 2021, 2022, 2024, 2025 and thereafter, respectively.

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Research and development expenditures | $ 12,083 | $ 9,998 | $ 9,442 |

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

**4. Balance Sheets—Additional Information**

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Accounts receivable, net** | | |
| Trade accounts receivable | $163,464 | $141,999 |
| Allowance for doubtful accounts | (4,442) | (6,257) |
| | $159,022 | $135,742 |

| As of June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| **Allowance for doubtful accounts** | | | |
| Balance at beginning of period | $ 6,257 | $6,428 | $4,953 |
| Provision for bad debts | (201) | 166 | 1,412 |
| Effect of changes in exchange rates | 38 | (215) | 159 |
| Bad debt write-offs | (1,500) | — | — |
| Bad debt recovery | (152) | (122) | (96) |
| Balance at end of period | $ 4,442 | $6,257 | $6,428 |

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Inventories** | | |
| Raw materials | $ 64,441 | $ 62,373 |
| Work-in-process | 10,699 | 14,731 |
| Finished goods | 123,182 | 101,066 |
| | $198,322 | $178,170 |

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Property, plant and equipment, net** | | |
| Land | $ 10,152 | $ 10,140 |
| Buildings and improvements | 71,036 | 68,769 |
| Machinery and equipment | 252,097 | 227,092 |
| | 333,285 | 306,001 |
| Accumulated depreciation | (193,050) | (175,893) |
| | $ 140,235 | $ 130,108 |

Certain facilities in Israel are on leased land. The leases expire in 2023, 2035 and 2062.

Property, plant and equipment, net includes internal-use software costs, net of accumulated depreciation, of $3,475 and $2,700 at June 30, 2019 and 2018, respectively.

Machinery and equipment includes construction-in-progress of $15,630 and $7,783 at June 30, 2019 and 2018, respectively.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

| As of June 30 | Weighted-Average Useful Life (Years) | 2019 | 2018 |
|---|---|---|---|
| **Intangibles, net** | | | |
| **Cost** | | | |
| Technology | 13 | $ 71,016 | $ 69,475 |
| Product registrations, marketing and distribution rights | 9 | 17,858 | 17,902 |
| Customer relationships | 13 | 12,194 | 12,211 |
| Trade names, trademarks and other | 5 | 2,740 | 2,740 |
| In-process research and development | | 1,800 | 1,800 |
| | | 105,608 | 104,128 |
| **Accumulated amortization** | | | |
| Technology | | (29,333) | (23,937) |
| Product registrations, marketing and distribution rights | | (17,811) | (17,902) |
| Customer relationships | | (8,282) | (7,614) |
| Trade names, trademarks and other | | (2,704) | (2,697) |
| | | (58,130) | (52,150) |
| | | $ 47,478 | $ 51,978 |

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Goodwill roll-forward** | | |
| Balance at beginning of period | $27,348 | $ 23,982 |
| Acquisition | — | 5,642 |
| Translation | — | (2,276) |
| Balance at end of period | $27,348 | $ 27,348 |

In August 2019, we acquired the business and assets of Osprey Biotechnics, Inc. ("Osprey"). Osprey is a developer, manufacturer and marketer of microbial products and bioproducts for a variety of applications serving animal health and nutrition, environmental, industrial and agricultural customers. Osprey also produces key components of our recently launched *Provia Prime*$^{TM}$ direct fed microbial product for poultry. We acquired all assets used in Osprey's business, including intellectual property, working capital and property, plant and equipment, for an aggregate cash payment at closing of $55,000, subject to certain customary adjustments. The agreement also includes a future additional payment to be determined based on Osprey's EBITDA for the year ending June 30, 2021. The additional payment will be no less than $4,840. We funded the acquisition through the Revolver.

We will account for the acquisition as a business combination in accordance with ASC No. 805, *"Business Combinations,"* and will include the business in the Animal Health segment. We are evaluating the allocation of the purchase price to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date.

In September 2017, we acquired a business for $15,000. The business develops, manufactures and markets animal health products. We accounted for the acquisition as a business combination in accordance with ASC 805, "*Business Combinations*." Net assets acquired included working capital, property, plant and equipment, intangible assets and goodwill. Goodwill is not deductible for income tax purposes. The business is included in the Animal Health segment.

We have not provided pro forma information giving effect to the acquisitions because the results of each transaction are not material to the consolidated financial statements.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Other assets** | | |
| Equity method investments | $ 4,196 | $ 3,944 |
| Insurance investments | 5,431 | 5,235 |
| Deferred financing fees | 1,531 | 2,042 |
| Deferred income taxes | 16,770 | 15,424 |
| Deposits | 7,024 | 6,692 |
| Indemnification asset | 3,000 | 3,000 |
| Fair value of derivative | — | 5,078 |
| Other | 7,496 | 5,369 |
| | $45,448 | $ 46,784 |

We evaluate our investments in equity method investees for impairment if circumstances indicate that the fair value of the investment may be impaired. The assets underlying a $3,287 equity investment are currently idled; we have concluded the investment is not currently impaired, based on expected future operating cash flows and/or disposal value.

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Accrued expenses and other current liabilities** | | |
| Employee related | $28,298 | $ 27,333 |
| Commissions and rebates | 8,397 | 7,341 |
| Insurance-related | 1,279 | 1,168 |
| Professional fees | 5,212 | 4,350 |
| Income and other taxes | 6,067 | 3,610 |
| Acquisition-related consideration | — | 12,845 |
| Restructuring costs | 3,590 | — |
| Other | 15,655 | 14,497 |
| | $68,498 | $ 71,144 |

During the three months ended June 30, 2019, we recorded pre-tax charges of $6,281 for business restructuring activities related to productivity and cost saving initiatives in the Animal Health segment. The charges included $3,500 related to termination of a contract manufacturing agreement and $2,781 for employee separation costs. The charges are included in selling, general and administrative expenses in our consolidated statements of operations. As of June 30, 2019, $691 had been paid, $3,590 was included in accrued expenses and other current liabilities and $2,000 was included in other liabilities. We expect to record an additional charge for employee separation costs of an estimated $1,000 and complete the additional separation actions by December 31, 2019.

In July 2018, we accelerated the closing date and completed the purchase of intellectual property and certain other assets comprising the MJ Biologics, Inc. (“MJB”) business relating to animal vaccines. The Company and MJB had originally agreed to the purchase business combination in January 2015, with a contemplated closing date in January 2021. The final amount due, net of previously paid amounts, was $12,775, including $9,000 paid in July 2018 and $3,775 paid in January 2019.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Other liabilities** | | |
| U.S. pension plan | $ 3,934 | $ 2,910 |
| International retirement plans | 5,133 | 4,644 |
| Supplemental retirement benefits, deferred compensation and other | 7,605 | 10,792 |
| Long term and deferred income taxes | 8,978 | 9,729 |
| Restructuring costs | 2,000 | — |
| Other long term liabilities | 15,144 | 15,627 |
| | $42,794 | $ 43,702 |

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Accumulated other comprehensive income (loss)** | | |
| Derivative instruments | $ (594) | $ 4,986 |
| Foreign currency translation adjustment | (71,225) | (67,098) |
| Unrecognized net pension gains (losses) | (20,050) | (18,213) |
| (Provision) benefit for income taxes on derivative instruments | 148 | (1,241) |
| (Provision) benefit for incomes taxes on long-term intercompany investments | 8,166 | 8,166 |
| (Provision) benefit for income taxes on pension gains (losses) | (2,626) | (3,083) |
| | $(86,181) | $ (76,483) |

## 5. Debt

*Term Loans and Revolving Credit Facilities*

In June 2017, we entered into a new credit agreement (the "Credit Agreement"). Under the Credit Agreement, lenders extended credit to us in the form of a Term A loan, with an aggregate principal amount of $250,000 (the "Term A Loan") and a revolving credit facility, with an aggregate principal amount of $250,000 (the "Revolver," and together with the Term A Loan, the "Credit Facilities"). We used the proceeds from the Credit Facilities to repay all debt outstanding under the previous credit facilities as of the closing date and to pay fees and expenses of the transaction. We recorded a $2,598 loss on extinguishment of debt for certain unamortized debt issuance costs and debt discount related to the retired debt.

Borrowings under the Credit Facilities bear interest at rates based on the ratio of the Company and its subsidiaries' net consolidated first lien indebtedness to the Company and its subsidiaries' consolidated EBITDA (the "First Lien Net Leverage Ratio"). The interest rate per annum applicable to the loans under the Credit Facilities is based on a fluctuating rate of interest equal to the sum of an applicable rate and, at the Company's election from time to time, either (1) a Eurodollar rate determined by reference to LIBOR with a term as selected by the Company, or (2) a base rate determined by reference to the highest of (a) the rate as publicly announced from time to time by Bank of America as its "prime rate," (b) the federal funds effective rate plus 0.50% and (c) the LIBOR daily floating rate plus 1.00%.

In the case of LIBOR and Eurodollar rate loans, if the First Lien Net Leverage Ratio is (i) equal to or greater than 3.00:1.00; (ii) less than 3.00:1.00 but greater than or equal to 2.25:1.00; or, (iii) less than 2.25:1.00, the Credit Facilities have applicable rates equal to 2.00%; 1.75%; and, 1.50%, respectively. In the case of base rate loans, if the First Lien Net Leverage Ratio is (i) equal to or greater than 3.00:1.00; (ii) less than 3.00:1.00 but greater than or equal to 2.25:1.00; or, (iii) less than 2.25:1.00, the Credit Facilities have applicable rates equal to 1.00%; 0.75%; and, 0.50%, respectively.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Pursuant to the terms of the Credit Agreement, the Credit Facilities are subject to various covenants that, among other things and subject to the permitted exceptions described therein, restrict us and our subsidiaries with respect to: (i) incurring additional debt; (ii) making certain restricted payments or making optional redemptions of other indebtedness; (iii) making investments or acquiring assets; (iv) disposing of assets (other than in the ordinary course of business); (v) creating any liens on our assets; (vi) entering into transactions with affiliates; (vii) entering into merger or consolidation transactions; and (viii) creating guarantee obligations; provided, however, that we are permitted to pay distributions to stockholders out of available cash subject to certain annual limitations and so long as no default or event of default under the Credit Facilities shall have occurred and be continuing at the time such distribution is declared. Indebtedness under the Credit Facilities is collateralized by a first priority lien on substantially all assets of Phibro and certain of our domestic subsidiaries. The Credit Agreement contains an acceleration clause should an event of default (as defined in the agreement) occur. The Credit Facilities mature on June 29, 2022.

The Credit Agreement requires, among other things, compliance with financial covenants that permit: (i) a maximum First Lien Net Leverage Ratio of 4.00:1.00 and, (ii) a minimum interest coverage ratio of 3.00:1.00, each calculated on a trailing four-quarter basis. As of June 30, 2019, we were in compliance with the financial covenants.

As of June 30, 2019, we had $96,000 in borrowings under the Revolver and had outstanding letters of credit of $3,009, leaving $150,991 available for borrowings and letters of credit under the Revolver. We obtain letters of credit in connection with certain regulatory and insurance obligations, inventory purchases and other contractual obligations. The terms of these letters of credit are all less than one year.

In July 2017, we entered into an interest rate swap agreement on $150,000 of notional principal that effectively converts the floating LIBOR portion of our interest obligation on that amount of debt, to a fixed interest rate of 1.8325% plus the applicable rate. The agreement matures concurrent with the Credit Agreement. We designated the interest rate swap as a highly effective cash flow hedge. For additional details, see "—Derivatives."

As of June 30, 2019, the interest rates for the Revolver and the Term A Loan were 3.90% and 3.50%, respectively. The weighted-average interest rates for the Revolver were 3.86% and 3.20% for the years ended June 30, 2019 and 2018, respectively. The weighted-average interest rates for the Term A Loan were 3.52% and 3.33% for the years ended June 30, 2019 and 2018, respectively.

*Foreign Credit Facilities*

Our Israel subsidiaries have aggregate credit facilities available of approximately $14,000 (the "Israel Credit Facilities"). As of June 30, 2019, we had no outstanding borrowings or other commitments outstanding under the Israel Credit Facilities. Interest rate elections under the Israel Credit Facilities are LIBOR plus 2.25% or Prime Rate plus 0.50%. The Israel Credit Facilities mature in October 2019 and March 2020.

*Long-Term Debt*

| As of June 30 | 2019 | 2018 |
|---|---|---|
| Term A Loan due June 2022 | $231,250 | $243,750 |
| Capitalized lease obligations | 40 | 118 |
| | 231,290 | 243,868 |
| Unamortized debt issuance costs and debt discount | (1,115) | (1,487) |
| | 230,175 | 242,381 |
| Less: current maturities | (12,540) | (12,579) |
| | $217,635 | $229,802 |

*Aggregate Maturities of Long-Term Debt*

| For the Year Ended June 30 | |
|---|---|
| 2020 | $ 12,540 |
| 2021 | 18,750 |
| 2022 | 200,000 |
| Total | $231,290 |

## 6. Common Stock, Preferred Stock and Dividends

Preferred stock and common stock at June 30, 2019 and 2018 were:

| | 2019 | 2018 | | 2019 | 2018 |
|---|---|---|---|---|---|
| As of June 30 | Authorized Shares | | Par value | Issued and outstanding shares | |
| Preferred stock | 16,000,000 | 16,000,000 | $0.0001 | — | — |
| Common stock–Class A | 300,000,000 | 300,000,000 | $0.0001 | 20,287,574 | 19,992,204 |
| Common stock–Class B | 30,000,000 | 30,000,000 | $0.0001 | 20,166,034 | 20,365,504 |

Holders of our Class B common stock converted 199,470 and 261,332 Class B common shares to Class A common shares in 2019 and 2018, respectively.

***Common Stock***

*General*

Except as otherwise provided by our amended and restated certificate of incorporation or applicable law, the holders of our Class A common stock and Class B common stock shall vote together as a single class. There are no cumulative voting rights.

Holders of our Class A common stock and Class B common stock are entitled to receive dividends when and if declared by our Board of Directors out of funds legally available therefor, subject to any statutory or contractual restrictions on the payment of dividends and to any restrictions on the payment of dividends imposed by the terms of any outstanding preferred stock.

Upon our dissolution or liquidation or the sale of all or substantially all of our assets, after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having liquidation preferences, if any, the holders of our Class A common stock and Class B common stock will be entitled to receive our remaining assets available for distribution.

*Class A Common Stock*

Holders of our Class A common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders.

Holders of our Class A common stock do not have preemptive, subscription or conversion rights. Our Class A common stock is not convertible and there are no redemption or sinking fund provisions applicable to our Class A common stock. Unless our Board of Directors determines otherwise, we will issue all of our capital stock in uncertificated form.

*Class B Common Stock*

Holders of our Class B common stock are entitled to 10 votes for each share held of record on all matters submitted to a vote of stockholders. BFI holds all of our outstanding Class B common stock.

Holders of our Class B common stock do not have preemptive or subscription rights. There are no redemption or sinking fund provisions applicable to our Class B common stock.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Each share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. In addition, each share of Class B common stock will convert automatically into one share of Class A common stock upon any transfer, whether or not for value, except for certain transfers by and among BFI, its affiliates and certain Bendheim family members, as described in the amended and restated certificate of incorporation. Once transferred and converted into Class A common stock, the Class B common stock will not be reissued. In addition, all shares of Class B common stock will automatically convert to shares of Class A common stock when the outstanding shares of Class B common stock and Class A common stock held by BFI, its affiliates and certain Bendheim family members, together, is less than 15% of the total outstanding shares of Class A common stock and Class B common stock, taken as a single class.

Holders of our Class B common stock have the right to require us to register the sales of their shares under the Securities Act, under the terms of an agreement between us and the holders.

***Preferred Stock***

We do not have any preferred stock outstanding. Our Board of Directors has the authority to issue shares of preferred stock from time to time on terms it may determine, to divide shares of preferred stock into one or more series and to fix the designations, preferences, privileges, and restrictions of preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preference, sinking fund terms, and the number of shares constituting any series or the designation of any series to the fullest extent permitted by the General Corporation Law of the State of Delaware.

***Dividends***

We declared and paid quarterly cash dividends totaling $18,592 for the year ended June 30, 2019, to holders of our Class A common stock and Class B common stock.

**7. Stock Incentive Plan**

In March 2008, our Board of Directors and stockholders adopted the 2008 Incentive Plan (the "Incentive Plan"). The Incentive Plan provides directors, officers, employees and consultants to the Company with opportunities to purchase common stock pursuant to options that may be granted, and receive grants of restricted stock and other stock-based awards granted, from time to time by the Board of Directors or a committee approved by the Board. The Incentive Plan provides for grants of stock options, stock awards and other incentives for up to 6,630,000 shares. There were 4,881,620 Class A shares available for grant pursuant to the Incentive Plan as of June 30, 2019.

***Restricted Stock Units***

In May 2018, PAHC's Compensation Committee approved the grant of 250,000 restricted stock units ("RSUs") to an officer of the Company, pursuant to the Incentive Plan. Each RSU represents the right to receive a share of our common stock upon vesting. A portion of the RSUs are subject to performance-based vesting (the "Performance-Based RSUs"). The Performance-Based RSUs will vest in increments from 15% to 100% based on the 90-day average of the Company's common stock price from $30 to $80 ending on December 31, 2020. A portion of the RSUs are subject to time-based vesting (the "Time-Based RSUs"). The Time-Based RSUs will vest on December 31, 2020, provided the individual remains employed with the Company or is terminated under a qualifying termination.

We used a Monte Carlo simulation model to determine the grant date fair value of the Performance-Based RSUs. Assumptions used by the model were based on information as of the grant date and included: risk-free rate of return of 2.59%; expected volatility of 31.94%; and, an expected dividend yield of 0.95%. The risk-free rate of return is based on U.S. treasury yields for bonds with similar maturities. Expected volatility is based on the historical volatility of the Company's common stock. The expected dividend yield considers estimated annual dividends and the closing share price of the underlying common stock.

The fair value of the Time-Based RSUs is equal to the closing market price of the underlying common stock on the grant date, less the present value of expected dividends over the vesting period.

The following table summarizes the activity related to RSUs:

| | RSUs | Grant Date Fair Value per RSU Share | Grant Date Fair Value |
|---|---|---|---|
| Performance-Based RSUs Granted May 2018 | 200,000 | $ 19.63 | $ 3,926 |
| Time-Based RSUs Granted May 2018 | 50,000 | $ 41.10 | $ 2,055 |
| Outstanding June 30, 2019 and 2018 | 250,000 | $ 23.92 | $ 5,981 |

We will recognize the total grant date fair value of the RSUs as stock-based compensation expense on a straight-line basis over the vesting period. Stock-based compensation expense related to RSUs was $2,259 and $334 for the years ended June 30, 2019 and 2018, respectively. We expect stock-based compensation expense related to RSUs will be $$2,259 and $1,129 in 2020 and 2021, respectively.

***Stock Options***

There was no stock-based compensation expense related to employee stock options in the periods included in the consolidated financial statements. The following table details stock option activity.

| | Option Shares | Weighted-Average Exercise Price Per Share |
|---|---|---|
| Outstanding, June 30, 2018 | 95,900 | $ 11.83 |
| Exercised | (95,900) | $ 11.83 |
| Outstanding, June 30, 2019 | — | $ — |

## 8. Related Party Transactions

Certain relatives of Jack C. Bendheim, our Chairman, President and Chief Executive Officer, provided services to us as employees or consultants and received aggregate compensation and benefits of approximately $1,969, $1,857 and $1,735 during 2019, 2018 and 2017, respectively. Mr. Bendheim has sole authority to vote shares of our stock owned by BFI Co., LLC, an investment vehicle of the Bendheim family.

## 9. Employee Benefit Plans

***Domestic Pension Plan***

We maintain a noncontributory defined benefit pension plan for all domestic nonunion employees employed on or prior to December 31, 2013, who meet certain requirements of age, length of service and hours worked per year. Plan benefits are based upon years of service and average compensation, as defined. The measurement dates for the plan were as of June 30, 2019, 2018 and 2017.

We amended the plan to eliminate credit for future service and compensation increases, effective September 2016. The amendment resulted in a pension curtailment gain of $6,822 recorded in other comprehensive income. Separately, we completed a partial settlement of the plan in November 2016 and recognized $1,702 of expense in the consolidated statements of operations.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Changes in the projected benefit obligation, plan assets and funded status of the plan were:

| For the Year Ended June 30 | 2019 | 2018 |
|---|---|---|
| **Change in projected benefit obligation** | | |
| Projected benefit obligation at beginning of year | $61,557 | $ 63,260 |
| Interest cost | 2,407 | 2,157 |
| Benefits paid | (1,758) | (2,196) |
| Actuarial (gain) loss | 6,321 | (1,664) |
| Projected benefit obligation at end of year | $68,527 | $ 61,557 |

| For the Year Ended June 30 | 2019 | 2018 |
|---|---|---|
| **Change in plan assets** | | |
| Fair value of plan assets at beginning of year | $58,648 | $ 57,110 |
| Actual return on plan assets | 6,860 | 965 |
| Employer contributions | 842 | 2,768 |
| Benefits paid | (1,757) | (2,195) |
| Fair value of plan assets at end of year | $64,593 | $ 58,648 |
| Funded status at end of year | $ (3,934) | $ (2,909) |

The funded status is included in other liabilities in the consolidated balance sheets.

The Company expects to contribute approximately $670 to the plan during 2020. We seek to maintain an asset balance that meets the long-term funding requirements identified by actuarial projections while also satisfying ERISA fiduciary responsibilities.

Accumulated other comprehensive income (loss) related to the plan was:

| For the Year Ended June 30 | 2019 | 2018 |
|---|---|---|
| **Accumulated Other Comprehensive Income (Loss) Related to Pension Plan** | | |
| Balance at beginning of period | $(18,213) | $ (18,059) |
| Amortization of net actuarial loss | 465 | 453 |
| Current period net actuarial (loss) gain | (2,302) | (607) |
| Net change | (1,837) | (154) |
| Balance at end of period | $(20,050) | $ (18,213) |

Amortization of unrecognized net actuarial loss will be approximately $485 during 2020.

Net periodic pension expense was:

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Service cost–benefits earned during the year | $ — | $ — | $ 845 |
| Interest cost on benefit obligation | 2,407 | 2,157 | 2,045 |
| Expected return on plan assets | (2,842) | (3,236) | (3,389) |
| Amortization of net actuarial loss | 465 | 453 | 672 |
| Curtailment expense | — | — | 16 |
| Settlement expense | — | — | 1,702 |
| Net periodic pension expense | $ 30 | $ (626) | $ 1,891 |

Significant actuarial assumptions for the plan were:

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Discount rate for service cost | N/A | N/A | 4.0% |
| Discount rate for interest cost | 3.1% | 3.9% | 3.2% |
| Expected rate of return on plan assets | 4.9% | 5.6% | 6.1% |
| Discount rate for year-end benefit obligation | 3.6% | 4.2% | 3.9% |

The plan used the Aon Hewitt AA Bond Universe as a benchmark for its discount rate as of June 30, 2019, 2018 and 2017. The discount rate is determined by matching the plan's timing and amount of expected cash outflows to a bond yield curve constructed from a population of AA-rated corporate bond issues that are generally non-callable and have at least $250 million par value outstanding. From this, the discount rate that results in the same present value is calculated.

Estimated future benefit payments are:

| For the Year Ended June 30 | |
|---|---|
| 2020 | $ 2,599 |
| 2021 | 2,878 |
| 2022 | 3,113 |
| 2023 | 3,318 |
| 2024 | 3,474 |
| 2025–2029 | 18,828 |

The plan's target asset allocations for 2020 and the weighted-average asset allocation of plan assets as of June 30, 2019 and 2018 are:

| | Target Allocation | Percentage of Plan Assets | |
|---|---|---|---|
| For the Year Ended June 30 | 2020 | 2019 | 2018 |
| Debt securities | 57%–77% | 67% | 63% |
| Equity securities | 18%–38% | 28% | 26% |
| Global asset allocation/risk parity[(1)] | 0%–15% | 4% | 10% |
| Other | 0%–10% | 1% | 1% |

(1) The global asset allocation/risk parity category consists of a variety of asset classes including, but not limited to, global bonds, global equities, real estate and commodities.

The expected long-term rate of return for the plan's total assets is generally based on the plan's asset mix. In determining the rate to use, we consider the expected long-term real returns on asset categories, expectations for inflation, estimates of the effect of active management and actual historical returns.

The investment policy and strategy is to earn a long-term investment return sufficient to meet the obligations of the plan, while assuming a moderate amount of risk in order to maximize investment return. In order to achieve this goal, assets are invested in a diversified portfolio consisting of equity securities, debt securities, and other investments in a manner consistent with ERISA's fiduciary requirements.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The fair values of the plan assets by asset category were:

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| **As of June 30, 2019** | **Level 1** | **Level 2** | **Level 3** | **Total** |
| Cash and cash equivalents | $215 | $ — | $ — | $ 215 |
| Common-collective funds | | | | |
| Global large cap equities | — | 13,995 | 4,016 | 18,011 |
| Fixed income securities | — | 43,288 | — | 43,288 |
| Global asset allocations/risk parity | — | 1,446 | — | 1,446 |
| Other | | | | |
| Global asset allocations/risk parity | — | — | 1,447 | 1,447 |
| Other | — | — | 186 | 186 |
| | $215 | $ 58,729 | $ 5,649 | $ 64,593 |

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| **As of June 30, 2018** | **Level 1** | **Level 2** | **Level 3** | **Total** |
| Cash and cash equivalents | $428 | $ — | $ — | $ 428 |
| Common-collective funds | | | | |
| Global large cap equities | — | 11,632 | 3,811 | 15,443 |
| Fixed income securities | — | 36,671 | — | 36,671 |
| Global asset allocations/risk parity | — | 2,957 | — | 2,957 |
| Other | | | | |
| Global asset allocations/risk parity | — | — | 2,881 | 2,881 |
| Other | — | — | 268 | 268 |
| | $428 | $ 51,260 | $ 6,960 | $ 58,648 |

The table below provides a summary of the changes in the fair value of Level 3 assets:

| **Change in Fair Value of Level 3 assets** | **2019** | **2018** |
|---|---|---|
| Balance at beginning of period | $ 6,960 | $ 15,959 |
| Redemptions | (4,336) | (9,901) |
| Purchases | 2,800 | — |
| Change in fair value | 225 | 902 |
| Balance at end of period | $ 5,649 | $ 6,960 |

The following outlines the valuation methodologies used to estimate the fair value of plan assets:

- Cash and cash equivalents are valued at $1 per unit;
- Common-collective funds are determined based on current market values of the underlying assets of the fund;
- Mutual funds and foreign currency deposits are valued using quoted market prices in active markets; and
- For Level 3 managed assets, business appraisers use a combination of valuations and appraisal methodologies, as well as a number of assumptions to create a price that brokers evaluate. For Level 3 non-managed assets, pricing is provided by various sources, such as issuer or investment manager.

***Other employee benefit plans***

We provide a 401(k) retirement savings plan, under which United States employees may make pre-tax and post-tax contributions. The Company contributes: (i) a matching contribution equal to 100% of

the first 6% of an employee's contribution; and, (ii) an additional discretionary contribution of up to 4.5% of compensation, depending on the employee's age and years of service, provided that such contributions comply with ERISA non-discrimination requirements. Employee and Company contributions are subject to certain ERISA limitations. Employees are immediately vested in Company contributions. Our contribution expense was $5,201, $4,937, and $4,154, in 2019, 2018 and 2017, respectively.

Our consolidated balance sheets include other employee-related liabilities of $17,391 and $15,536 as of June 30, 2019 and 2018, respectively, including international retirement plans, supplemental retirement benefits and long-term incentive arrangements. Expense under these plans was $5,685, $4,009, and $4,304 in 2019, 2018 and 2017, respectively.

## 10. Income Taxes

In December 2017, the United States government enacted comprehensive income tax legislation (the "Tax Act"). The Tax Act makes broad and complex changes to United States income tax law and includes numerous elements that affect the Company, including a reduced federal corporate income tax rate from 35% to 21%, creating a territorial tax system that includes a one-time mandatory transition tax on previously deferred foreign earnings and changes to business-related exclusions, deductions and credits. Our provision for income taxes reflects a statutory 21.0% and 28.1% weighted-average federal income tax rate for our fiscal years ending June 30, 2019 and 2018, respectively. The Tax Act also has consequences related to our international operations.

We have elected to record Global Intangible Low-Taxed Income (GILTI) aspects of comprehensive U.S. income tax legislation as a period expense. The provision for income taxes for the year ended June 30, 2019, included $537 of federal tax expense from the effects of GILTI.

During the year ended June 30, 2019, we completed our accounting for the Tax Act and recorded a benefit in the provision for income taxes of $360 related to the previously recorded one-time mandatory toll charge on deemed repatriation of undistributed earnings of foreign subsidiaries. We also recorded a benefit in the provision of income taxes of $1,032 as a result of retroactive elections made on certain of our foreign tax credits.

Our consolidated financial statements as of June 30, 2018, reflected the provisional effects of the Tax Act, including:

- a $2,289 provision for income taxes and reduction in deferred tax assets for the remeasurement of deferred tax assets and liabilities to reflect the reduced income tax rate
- $403 provision for income taxes and increase in current liabilities to reflect the one-time mandatory toll charge on the deemed repatriation of undistributed earnings of foreign subsidiaries.

Income before income taxes was:

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Domestic | $ 2,331 | $19,819 | $ 18,015 |
| Foreign | 69,174 | 68,251 | 62,528 |
| Income before income taxes | $71,505 | $88,070 | $ 80,543 |

Components of the provision for income taxes were:

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Current provision (benefit): | | | |
| Federal | $ (459) | $ 81 | $ 383 |
| State and local | 102 | 1,744 | 724 |
| Foreign | 16,603 | 15,268 | 14,839 |
| Total current provision | 16,246 | 17,093 | 15,946 |
| Deferred provision (benefit): | | | |
| Federal | 858 | 2,746 | 4,675 |
| State and local | 432 | 2,156 | 251 |
| Foreign | (691) | 769 | (833) |
| Change in valuation allowance–foreign | (53) | 423 | (4,111) |
| Total deferred provision (benefit) | 546 | 6,094 | (18) |
| Provision for income taxes | $16,792 | $23,187 | $ 15,928 |

During 2017, based on continued profitability, we concluded that it was more likely than not that the value of certain foreign deferred tax assets would be realized, and it was no longer necessary to maintain a related valuation allowance. Accordingly, we released the valuation allowance related to these foreign deferred tax assets. We review the realizability of our deferred tax assets when circumstances so indicate.

Reconciliation of the federal statutory rate to the Company's effective tax rate were:

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Federal income tax rate | 21.0% | 28.1% | 35.0% |
| State and local taxes, net of federal benefit | 0.6 | 1.5 | 0.9 |
| Foreign income tax rates | 6.9 | (1.5) | (6.8) |
| Foreign incentive tax rates | (2.8) | (3.3) | (3.1) |
| Domestic tax on foreign income | — | — | 2.7 |
| Changes in uncertain tax positions | (1.0) | 1.1 | 1.6 |
| Permanent items | 0.6 | 0.5 | (0.9) |
| Exercise of employee stock options | (0.4) | (4.3) | (3.8) |
| Global Intangible Low-Taxed Income | 0.8 | — | — |
| Mandatory toll charge from Tax Act | (0.5) | 0.5 | — |
| Reduction of domestic deferred tax assets | — | 2.6 | — |
| Reduction of foreign deferred tax assets | — | 1.3 | — |
| Recognition of federal tax credits | (1.1) | — | — |
| Recognition of foreign tax credits | (1.4) | (0.7) | — |
| Reclassification from accumulated other comprehensive income | — | 0.6 | — |
| Release of foreign valuation allowance | — | — | (5.1) |
| Other | (0.8) | (0.1) | (0.7) |
| Effective tax rate | 23.5% | 26.3% | 19.8% |

The undistributed earnings of foreign subsidiaries were subject to the U.S. one-time mandatory toll charge and are eligible to be repatriated to the U.S. without additional U.S. tax under the Tax Act. If amounts are repatriated from certain of our foreign subsidiaries, we could be subject to additional non-U.S. income and withholding taxes. We consider undistributed earnings of such foreign subsidiaries to be indefinitely reinvested. We do not provide income taxes for foreign currency translation adjustments relating to investments in international subsidiaries that will be held indefinitely.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The tax effects of significant temporary differences that comprise deferred tax assets and liabilities were:

| As of June 30 | 2019 | 2018 |
|---|---|---|
| Deferred tax assets: | | |
| Employee related accruals | $ 5,735 | $ 4,952 |
| Inventory | 4,766 | 3,953 |
| Environmental remediation | 1,128 | 1,341 |
| Net operating loss carry forwards–domestic | 902 | 1,577 |
| Net operating loss carry forwards–foreign | 3,703 | 3,243 |
| Other | 6,302 | 9,986 |
| | 22,536 | 25,052 |
| Valuation allowance | (808) | (861) |
| | 21,728 | 24,191 |
| Deferred tax liabilities: | | |
| Property, plant and equipment and intangible assets | (6,071) | (8,957) |
| Other | (772) | (1,906) |
| | (6,843) | (10,863) |
| Net deferred tax asset | $14,885 | $ 13,328 |

Deferred taxes are included in the consolidated balance sheets as follows:

| As of June 30 | 2019 | 2018 |
|---|---|---|
| Other assets | $16,770 | $ 15,424 |
| Other liabilities | (1,885) | (2,096) |
| | $14,885 | $ 13,328 |

The valuation allowance for deferred tax assets were:

| As of June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Balance at beginning of period | $861 | $438 | $ 4,614 |
| Provision for income taxes | (53) | 423 | (4,111) |
| Net operating loss utilization | — | — | (65) |
| Balance at end of period | $808 | $861 | $ 438 |

The valuation allowances for deferred tax assets as of June 30, 2019, 2018 and 2017 were solely related to foreign jurisdictions.

We have $15,067 of state net operating loss carry forwards that will expire in 2018 through 2037. In addition, we have $13,754 of foreign net operating loss carry forwards, most of which are in jurisdictions that have no expiration.

As tax law is complex and often subject to varied interpretations, it is uncertain whether some of our tax positions will be sustained upon examination. Tax liabilities associated with uncertain tax positions represent unrecognized tax benefits, which arise when the estimated benefit recorded in our financial statements differs from the amounts taken or expected to be taken in a tax return because of the uncertainties described above. Substantially all of these unrecognized tax benefits, if recognized, would benefit our effective income tax rate.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The reconciliation of the beginning and ending amounts of gross unrecognized tax benefits follows:

| As of June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| Unrecognized tax benefits–beginning of period | $ 7,000 | $6,553 | $4,946 |
| Tax position changes–current period | 528 | 1,749 | 1,490 |
| Tax position changes–prior periods, net of settlements with tax authorities | (317) | (994) | — |
| Lapse of statute of limitations | (1,053) | — | (391) |
| Translation | 185 | (308) | 508 |
| Unrecognized tax benefits–end of period | 6,343 | 7,000 | 6,553 |
| Interest and penalties–end of period | 750 | 633 | 449 |
| Total liabilities related to uncertain tax positions | $ 7,093 | $7,633 | $7,002 |

We recognize interest and penalties associated with uncertain tax positions as a component of the provision for income taxes. We recognized interest and penalties expense of $94, $203 and $116 for 2019, 2018 and 2017, respectively.

During 2020, we potentially will reverse $1,868 of uncertain tax positions as a result of the lapse of the statute of limitations, with a corresponding benefit to the provision for income taxes.

Income tax returns for the following periods are no longer subject to examination by the relevant tax authorities:

- U.S. federal and significant states, through June 30, 2007;
- Brazil, through December 31, 2013;
- Israel, through June 30, 2014 for certain subsidiaries and through June 30, 2015 for certain subsidiaries.

## 11. Commitments and Contingencies

*Leases*

We lease land and office, warehouse and manufacturing equipment and facilities for minimum annual rentals, plus certain cost escalations. We record rent expense on a straight-line basis over the term of the lease.

At June 30, 2019, we had the following future minimum lease commitments:

| For the Year Ended June 30 | Capital leases | Non-cancellable operating leases |
|---|---|---|
| 2020 | $40 | $ 5,815 |
| 2021 | — | 4,160 |
| 2022 | — | 3,191 |
| 2023 | — | 1,445 |
| 2024 | | 865 |
| Thereafter | — | 765 |
| Total minimum lease payments | $40 | $ 16,241 |

Rent expense under operating leases was $9,103, $8,453, and $7,715 for 2019, 2018 and 2017, respectively.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

*Environmental*

Our operations and properties are subject to extensive federal, state, local and foreign laws and regulations, including those governing pollution; protection of the environment; the use, management, and release of hazardous materials, substances and wastes; air emissions; greenhouse gas emissions; water use, supply and discharges; the investigation and remediation of contamination; the manufacture, distribution, and sale of regulated materials, including pesticides; the importing, exporting and transportation of products; and the health and safety of our employees (collectively, "Environmental Laws"). As such, the nature of our current and former operations exposes us to the risk of claims with respect to such matters, including fines, penalties, and remediation obligations that may be imposed by regulatory authorities. Under certain circumstances, we might be required to curtail operations until a particular problem is remedied. Known costs and expenses under Environmental Laws incidental to ongoing operations, including the cost of litigation proceedings relating to environmental matters, are included within operating results. Potential costs and expenses may also be incurred in connection with the repair or upgrade of facilities to meet existing or new requirements under Environmental Laws or to investigate or remediate potential or actual contamination and from time to time we establish reserves for such contemplated investigation and remediation costs. In many instances, the ultimate costs under Environmental Laws and the time period during which such costs are likely to be incurred are difficult to predict.

While we believe that our operations are currently in material compliance with Environmental Laws, we have, from time to time, received notices of violation from governmental authorities, and have been involved in civil or criminal action for such violations. Additionally, at various sites, our subsidiaries are engaged in continuing investigation, remediation and/or monitoring efforts to address contamination associated with historic operations of the sites. We devote considerable resources to complying with Environmental Laws and managing environmental liabilities. We have developed programs to identify requirements under, and maintain compliance with Environmental Laws; however, we cannot predict with certainty the effect of increased and more stringent regulation on our operations, future capital expenditure requirements, or the cost of compliance.

The nature of our current and former operations exposes us to the risk of claims with respect to environmental matters and we cannot assure we will not incur material costs and liabilities in connection with such claims. Based upon our experience to date, we believe that the future cost of compliance with existing Environmental Laws, and liabilities for known environmental claims pursuant to such Environmental Laws, will not have a material adverse effect on our financial position, results of operations, cash flows or liquidity.

The United States Environmental Protection Agency (the "EPA") is investigating and planning for the remediation of offsite contaminated groundwater that has migrated from the Omega Chemical Corporation Superfund Site ("Omega Chemical Site"), which is upgradient of Phibro-Tech's Santa Fe Springs, California facility. The EPA has named Phibro-Tech and certain other subsidiaries of PAHC as potentially responsible parties ("PRPs") due to groundwater contamination from Phibro-Tech's Santa Fe Springs facility that has allegedly commingled with contaminated groundwater from the Omega Chemical Site. In September 2012, the EPA notified approximately 140 PRPs, including Phibro-Tech and the other subsidiaries, that they have been identified as potentially responsible for remedial action for the groundwater plume affected by the Omega Chemical Site and for EPA oversight and response costs. Phibro-Tech contends that any groundwater contamination at its site is localized and due to historical operations that pre-date Phibro-Tech and/or contaminated groundwater that has migrated from upgradient properties. In addition, a successor to a prior owner of the Phibro-Tech site has asserted that PAHC and Phibro-Tech are obligated to provide indemnification for its potential liability and defense costs relating to the groundwater plume affected by the Omega Chemical Site. Phibro-Tech has vigorously contested this position and has asserted that the successor to the prior owner is required to indemnify Phibro-Tech for its potential liability and defense costs. Furthermore, a group of companies that sent chemicals to the Omega Chemical Site for processing and recycling has filed a complaint under CERCLA and RCRA in the United States District Court for the Central District of California against many of the PRPs allegedly associated with the groundwater plume affected by the Omega Chemical Site (including Phibro-Tech) for contribution

toward past and future costs associated with the investigation and remediation of the groundwater plume affected by the Omega Chemical Site. Due to the ongoing nature of the EPA's investigation, the preliminary stage of the ongoing litigation and Phibro-Tech's dispute with the prior owner's successor, at this time we cannot predict with any degree of certainty what, if any, liability Phibro-Tech or the other subsidiaries may ultimately have for investigation, remediation and the EPA oversight and response costs associated with the affected groundwater plume.

Based upon information available, to the extent such costs can be estimated with reasonable certainty, we estimated the cost for further investigation and remediation of identified soil and groundwater problems at operating sites, closed sites and third-party sites, and closure costs for closed sites, to be approximately $5,890 and $6,833 at June 30, 2019 and 2018, respectively, which is included in current and long-term liabilities on the consolidated balance sheets. However, future events, such as new information, changes in existing Environmental Laws or their interpretation, and more vigorous enforcement policies of regulatory agencies, may give rise to additional expenditures or liabilities that could be material. For all purposes of the discussion under this caption and elsewhere in this report, it should be noted that we take and have taken the position that neither PAHC nor any of our subsidiaries is liable for environmental or other claims made against one or more of our other subsidiaries or for which any of such other subsidiaries may ultimately be responsible.

*Claims and Litigation*

PAHC and its subsidiaries are party to a number of claims and lawsuits arising out of the normal course of business including product liabilities, payment disputes and governmental regulation. Certain of these actions seek damages in various amounts. In many cases, such claims are covered by insurance. We believe that none of the claims or pending lawsuits, either individually or in the aggregate, will have a material adverse effect on our financial position, results of operations, cash flows or liquidity.

*Employment and Severance Agreements*

We have entered into employment agreements with certain executive management and other employees that specify severance benefits of up to 15 months of the employee's compensation.

**12. Derivatives**

We monitor our exposure to foreign currency exchange rates and interest rates and from time-to-time use derivatives to manage certain of these risks. We designate derivatives as a hedge of a forecasted transaction or of the variability of the cash flows to be received or paid in the future related to a recognized asset or liability (cash flow hedge). All changes in the fair value of a highly effective cash flow hedge are recorded in accumulated other comprehensive income (loss).

We routinely assess whether the derivatives used to hedge transactions are effective. If we determine a derivative ceases to be an effective hedge, we discontinue hedge accounting in the period of the assessment for that derivative, and immediately recognize any unrealized gains or losses related to the fair value of that derivative in the consolidated statements of operations.

We record derivatives at fair value in the consolidated balance sheets. For additional details regarding fair value, see "—Fair Value Measurements."

We entered into an interest rate swap agreement on $150,000 of notional principal that effectively converts the floating LIBOR portion of our interest obligation on that amount of debt, to a fixed interest rate of 1.8325% plus the applicable rate. The agreement matures concurrent with the Credit Agreement. The forecasted transactions are probable of occurring, and the interest rate swap has been designated as a highly effective cash flow hedge.

We entered into foreign currency option contracts to hedge cash flows related to monthly inventory purchases. The individual option contracts mature monthly through June 2020. The forecasted inventory purchases are probable of occurring and the individual option contracts were designated as highly effective cash flow hedges.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The following table details the Company's outstanding derivatives that are designated and effective as cash flow hedges as of June 30, 2019:

| Instrument | Hedge | Notional Amount at June 30, 2019 | Consolidated Balance Sheet | Asset (Liability) fair value as of June 30, 2019 | Asset (Liability) fair value as of June 30, 2018 |
|---|---|---|---|---|---|
| Options | Brazilian Real calls | R$ 43,000 | (1) | $ 413 | $ 71 |
| Options | Brazilian Real puts | R$ 43,000 | (1) | $ (30) | $ — |
| Swap | Interest rate swap | $150,000 | Other assets (Other liabilities) | $ (977) | $ 5,078 |

(1) We record the net fair values of our outstanding foreign currency option contracts within the respective balance sheet line item based on the net financial position and maturity date of the individual contracts as of the balance sheet date. Other current assets as of June 30, 2019 and June 30, 2018, included net fair values of $383 and $71, respectively.

The following tables show the effects of derivatives on the consolidated statements of operations and other comprehensive income for the years ended June 30, 2019 and 2018.

| For the Year Ended June 30 | | Gain (Loss) recorded in OCI | | Gain (Loss) recognized in consolidated statements of operations | | | Consolidated Statement of Operations Line Item Total | |
|---|---|---|---|---|---|---|---|---|
| Instrument | Hedge | 2019 | 2018 | Consolidated Statement of Operations | 2019 | 2018 | 2019 | 2018 |
| Options | Brazilian Real calls | $ 475 | $ (2,778) | Cost of goods sold | $1,069 | $3,136 | $ 563,371 | $ 553,103 |
| Swap | Interest rate swap | $ (6,055) | $ 5,078 | Interest expense, net | $ — | $ — | $ 11,776 | $ 11,910 |

We recognize gains (losses) related to these foreign currency derivatives as a component of cost of goods sold at the time the hedged item is sold.

### 13. Fair Value Measurements

Fair value is defined as the exit price that would be received to sell an asset or paid to transfer a liability. Fair value is a market-based measurement that should be determined using assumptions that market participants would use in pricing an asset or liability. Financial assets and liabilities are measured at fair value using the three-level valuation hierarchy for disclosure of fair value measurements. The determination of the applicable level within the hierarchy of a particular asset or liability depends on the inputs used in the valuation as of the measurement date, notably the extent to which the inputs are market-based (observable) or internally derived (unobservable). Observable inputs are inputs that market participants would use in pricing the asset or liability developed based on market data obtained from independent sources. Unobservable inputs are inputs based on a company's own assumptions about market participant assumptions developed based on the best information available in the circumstances.

The hierarchy is broken down into three levels based on the reliability of inputs as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Significant observable inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly through corroboration with observable market data.

Level 3—Unobservable inputs for which there is little or no market data available, and that are significant to the overall fair value measurement, are employed that require the reporting entity to develop its own assumptions.

In assessing the fair value of financial instruments at June 30, 2019 and 2018, we used a variety of methods and assumptions that were based on estimates of market conditions and risks existing at the time.

*Short-term investments*

As of June 30, 2019, our short-term investments consist of cash deposits held at financial institutions. We consider the carrying amounts of these short-term investments to be representative of their fair value.

*Current Assets and Liabilities*

We consider the carrying amounts of current assets and current liabilities to be representative of their fair value because of the current nature of these items.

*Letters of Credit*

We obtain letters of credit in connection with certain regulatory and insurance obligations, inventory purchases and other contractual obligations. The carrying values of these letters of credit are considered to be representative of their fair values because of the nature of the instruments.

*Debt*

We record debt, including term loans and revolver balances, at book value in our consolidated financial statements. We believe the carrying value of the debt is approximately equal to its fair value, due to the variable nature of the instruments.

*Derivatives*

We determine the fair value of derivative instruments based upon pricing models using observable market inputs for these types of financial instruments, such as spot and forward currency translation rates.

*Fair Value of Assets (Liabilities)*

| As of June 30 | 2019 | | 2018 | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 1 | Level 2 |
| Short-term investments | $24,000 | $ — | $50,000 | $ — |
| Derivatives asset (liability) | $ — | $ 383 | $ — | $ 71 |
| Interest rate swap (liability) | $ — | $(977) | $ — | $5,078 |

There were no Level 3 fair value measurements as of the periods presented.

For a detailed discussion on the fair value of our pension plan assets, see "—Employee Benefit Plans."

**14. Business Segments**

We evaluate performance and allocate resources based on the Animal Health, Mineral Nutrition and Performance Products segments. Certain of our costs and assets are not directly attributable to these segments and we refer to these items as Corporate. We do not allocate Corporate costs or assets to the segments because they are not used to evaluate the segments' operating results or financial position. Corporate costs include certain costs related to executive management, business technology, legal, finance, human resources and business development.

We evaluate performance of our segments based on Adjusted EBITDA. We define Adjusted EBITDA as income before income taxes plus (a) interest expense, net, (b) depreciation and amortization, (c) (income) loss from, and disposal of, discontinued operations, (d) other expense or less other income, as separately reported on our consolidated statements of operations, including foreign currency gains and losses and loss on extinguishment of debt, and (e) certain items that we consider to be unusual, non-operational or non-recurring.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The accounting policies of our segments are the same as those described in the summary of significant accounting policies included herein.

| For the Year Ended June 30 | 2019 | 2018 | 2017 |
|---|---|---|---|
| **Net sales** | | | |
| Animal Health | $531,974 | $531,727 | $497,745 |
| Mineral Nutrition | 233,782 | 234,922 | 218,298 |
| Performance Products | 62,239 | 53,333 | 48,238 |
| Total segments | $827,995 | $819,982 | $764,281 |
| **Depreciation and amortization** | | | |
| Animal Health | $ 22,312 | $ 21,447 | $ 20,132 |
| Mineral Nutrition | 2,319 | 2,371 | 2,332 |
| Performance Products | 1,127 | 1,029 | 939 |
| Total segments | $ 25,758 | $ 24,847 | $ 23,403 |
| **Adjusted EBITDA** | | | |
| Animal Health | $136,049 | $141,914 | $130,261 |
| Mineral Nutrition | 15,712 | 18,583 | 17,426 |
| Performance Products | 4,728 | 1,881 | 2,057 |
| Total segments | $156,489 | $162,378 | $149,744 |
| **Reconciliation of income before income taxes to Adjusted EBITDA** | | | |
| Income before income taxes | $ 71,505 | $ 88,070 | $ 80,543 |
| Interest expense, net | 11,776 | 11,910 | 14,906 |
| Depreciation and amortization–Total segments | 25,758 | 24,847 | 23,403 |
| Depreciation and amortization–Corporate | 1,806 | 2,096 | 2,598 |
| Corporate costs | 38,452 | 33,420 | 29,625 |
| Restructuring costs | 6,281 | — | — |
| Stock-based compensation | 2,259 | 334 | — |
| Acquisition-related cost of goods sold | — | 1,671 | — |
| Acquisition-related accrued compensation | — | 1,152 | 1,680 |
| Acquisition-related transaction costs | 213 | 400 | 1,274 |
| Acquisition-related other, net | — | (468) | (972) |
| Other | (1,506) | — | — |
| Pension settlement cost | — | — | 1,702 |
| Gain on insurance settlement | — | — | (7,500) |
| Foreign currency (gains) losses, net | (55) | (1,054) | (113) |
| Loss on extinguishment of debt | — | — | 2,598 |
| Adjusted EBITDA–Total segments | $156,489 | $162,378 | $149,744 |

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Acquisition-related other, net includes adjustments to contingent consideration on acquisitions and impairments of intangible assets.

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Identifiable assets** | | |
| Animal Health | $508,864 | $455,704 |
| Mineral Nutrition | 67,662 | 69,779 |
| Performance Products | 32,886 | 24,040 |
| Total segments | 609,412 | 549,523 |
| Corporate | 117,259 | 122,156 |
| Total | $726,671 | $671,679 |

The Animal Health segment includes all goodwill of the Company. The Animal Health segment includes advances to and investment in an equity method investee of $3,287 and $3,432 as of June 30, 2019 and 2018, respectively. The Performance Products segment includes an investment in an equity method investee of $759 and $437 as of June 30, 2019 and 2018, respectively. Corporate assets include cash and cash equivalents, short-term investments, debt issuance costs, income tax related assets and certain other assets.

The geographic location of property, plant and equipment, net was:

| As of June 30 | 2019 | 2018 |
|---|---|---|
| **Property, plant and equipment, net** | | |
| United States | $ 54,999 | $ 55,268 |
| Israel | 52,434 | 45,055 |
| Brazil | 19,647 | 19,653 |
| Other | 13,155 | 10,132 |
| | $140,235 | $130,108 |

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None.

**Item 9A. Controls and Procedures**

**Evaluation of Disclosure Controls and Procedures**

Management of the Company, with the participation of its Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the Company's disclosure controls and procedures as of June 30, 2019.

The Company's disclosure controls and procedures are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act of 1934, as amended, is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms, and that such information is accumulated and communicated to management of the Company, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Based on their evaluation, as of the end of the period covered by this Annual Report on Form10-K, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were not effective because of the material weaknesses in our internal control over financial reporting described below.

**Management's Report on Internal Control over Financial Reporting**

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in the Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer and effected by our Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has assessed the effectiveness of our internal control over financial reporting as of June 30, 2019. In making its assessment of internal control over financial reporting, we used the criteria described in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected on a timely basis.

Based on this assessment, management has concluded that we did not maintain effective internal control over financial reporting as of June 30, 2019, due to a lack of sufficient resources with an appropriate level of knowledge, experience and training commensurate with our financial reporting requirements. This control deficiency contributed to the following additional control deficiencies:

- We did not design and maintain effective internal controls to ensure processing and reporting of valid transactions is complete, accurate, and timely. Specifically, we have not designed and implemented a sufficient level of formal accounting policies and procedures that define how transactions across the business cycles are initiated, recorded, processed, reported, appropriately authorized and approved.
- We did not maintain effective internal control that restricts access to key financial systems and records to appropriate users and ensures that appropriate segregation of duties is maintained. Certain personnel had access to financial application, programs and data beyond that needed

to perform their individual job responsibilities and without independent monitoring. In addition, certain financial personnel had incompatible duties that allowed for the creation, review and processing of certain financial data without independent review and authorization. This material weakness affects substantially all financial statement accounts.

Each of these control deficiencies did not result in material misstatements of the consolidated financial statements; however, each of the control deficiencies described above could result in a misstatement that would result in a material misstatement of the annual or interim consolidated financial statements that would not be prevented or detected. Accordingly, our management has determined that these control deficiencies constitute material weaknesses.

The effectiveness of our internal control over financial reporting as of June 30, 2019, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report in Item 8.

**Material Weakness Remediation Efforts**

We continue to make further progress in implementing a broad range of changes to our internal control over financial reporting to remediate the material weaknesses described in this item. Our actions to address the material weaknesses have included the design and implementation of additional formal accounting policies and procedures to ensure transactions are properly initiated, recorded, processed, reported, appropriately authorized and approved. Also, our efforts to ensure maintenance of the appropriate level of segregation of duties includes restricting access to key financial systems and records to appropriate users. We continue to make improvements by reducing the number of segregation of duties conflicts and continue to evaluate the extent it is necessary to limit access and modify responsibilities of certain personnel, as well as designing and implementing additional user access controls and compensating controls. We have completed a gap analysis of our key controls. In completing this analysis, we identified areas where new controls were needed and enhancements to existing controls, policies and procedures need to be made. Through this analysis, we have developed a workplan for remediation of our material weaknesses. The remediation plan includes enhancing and supplementing the finance team by increasing the number of roles, reassigning responsibilities, and adding additional resources with an appropriate level of knowledge and experience in internal control over financial reporting commensurate with our financial reporting requirements. We will continue to build on the progress we have made in our remediation plan. We cannot determine when our remediation plan will be fully completed, and we cannot provide any assurance that these remediation efforts will be successful or that our internal control over financial reporting will be effective as a result of these efforts.

**Changes in Internal Control over Financial Reporting**

There have been no changes in internal control over financial reporting during the three months ended June 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information**

None.

## PART III

### Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference to our 2019 Proxy Statement to be filed with the SEC within 120 days of the year ended June 30, 2019.

Our Board of Directors has adopted a Code of Business Conduct and Ethics applicable to all officers, directors and employees, which is available on our website (investors.pahc.com) under "Corporate Governance."

### Item 11. Executive Compensation

The information required by this item is incorporated by reference to our 2019 Proxy Statement to be filed with the SEC within 120 days of the year ended June 30, 2019.

### Item 12. Security Ownership of Certain Beneficial Owners and Management Related Stockholder Matters

The information required by this item is incorporated by reference to our 2019 Proxy Statement to be filed with the SEC within 120 days of the year ended June 30, 2019.

### Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference to our 2019 Proxy Statement to be filed with the SEC within 120 days of the year ended June 30, 2019.

### Item 14. Principal Accounting Fees and Services

The information required by this item is incorporated by reference to our 2019 Proxy Statement to be filed with the SEC within 120 days of the year ended June 30, 2019.

## PART IV

### Item 15. Exhibits, Financial Statement Schedules

We have filed the following documents as part of this Form 10-K:

(1) Consolidated Financial Statements:

Report of Independent Registered Public Accounting Firm

Consolidated Statements of Operations for the fiscal years ended June 30, 2019, 2018 and 2017

Consolidated Statements of Comprehensive Income for the fiscal years ended June 30, 2019, 2018 and 2017

Consolidated Balance Sheets at June 30, 2019 and 2018

Consolidated Statements of Cash Flows for the fiscal years ended June 30, 2019, 2018 and 2017

Consolidated Statements of Changes in Stockholders' Equity for the fiscal years ended June 30, 2019, 2018 and 2017

Notes to Consolidated Financial Statements

(2) Schedules: None

(3) The exhibits filed are listed in the Index to Exhibits immediately following the signature page of this Annual Report on Form 10-K.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned thereunto duly authorized.

**Phibro Animal Health Corporation**

August 27, 2019 By: /s/ Jack C. Bendheim
Jack C. Bendheim
Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

**Phibro Animal Health Corporation**

August 27, 2019 By: /s/ Jack C. Bendheim
Jack C. Bendheim
Chairman, President and Chief Executive Officer

August 27, 2019 By: /s/ Richard G. Johnson
Richard G. Johnson
Chief Financial Officer

August 27, 2019 By: /s/ Daniel M. Bendheim
Daniel M. Bendheim
Director and Executive Vice President,
Corporate Strategy

August 27, 2019 By: /s/ Jonathan Bendheim
Jonathan Bendheim
Director and President, MACIE Region and General Manager of Israel Operations

August 27, 2019 By: /s/ Gerald K. Carlson
Gerald K. Carlson
Director

August 27, 2019 By: /s/ E. Thomas Corcoran
E. Thomas Corcoran
Director

August 27, 2019 By: /s/ Sam Gejdenson
Sam Gejdenson
Director

August 27, 2019 By: /s/ George Gunn
George Gunn
Director

August 27, 2019 By: /s/ Mary Lou Malanoski
Mary Lou Malanoski
Director

August 27, 2019 By: /s/ Carol A. Wrenn
Carol A. Wrenn
Director

**EXHIBIT INDEX**

| | |
|---|---|
| Exhibit 2.1* | Asset Purchase Agreement dated January 12, 2016 by and among MVP Laboratories, Inc., Mary Lou Chapek, AVP, LLC and Phibro Animal Health Corporation (incorporated by reference to Exhibit 2.1 to Phibro Animal Health Corporation's Quarterly Report on Form 10-Q filed on May 9, 2016 (File No. 001-36410)). |
| Exhibit 3.1 | Amended and Restated Certificate of Incorporation of Phibro Animal Health Corporation (incorporated by reference to Exhibit 3.1 to Phibro Animal Health Corporation's Quarterly Report on Form 10-Q filed on May 13, 2014 (File No. 001-36410)). |
| Exhibit 3.2 | Amended and Restated Bylaws of Phibro Animal Health Corporation (incorporated by reference to Exhibit 3.2 of Phibro Animal Health Corporation's Quarterly Report on Form 10-Q filed on May 13, 2014 (File No. 001-36410)). |
| Exhibit 4.1 | Registration Rights Agreement between Phibro Animal Health Corporation and BFI Co., LLC, dated as of April 16, 2014 (incorporated by reference to Exhibit 4.9 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on March 31, 2014 (File No. 333-194467)). |
| Exhibit 4.2 | Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934. |
| Exhibit 10.1 | Credit Agreement dated June 29, 2017, among Phibro Animal Health Corporation, Bank of America, N.A., and each lender from time to time party thereto (incorporated by reference to Exhibit 10.1 to Phibro Animal Health Corporation's Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 29, 2017 (File No. 001-36410)). |
| Exhibit 10.2 | Unprotected Lease Agreement, dated January 26, 2011, by and between Samaria Carpets Ltd. and ABIC Biological Laboratories Ltd. (translated from Hebrew) (incorporated by reference to Exhibit 10.17 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.3 | Employment Agreement, dated March 27, 2014, by and between Jack C. Bendheim and Phibro Animal Health Corporation (incorporated by reference to Exhibit 10.18 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on March 31, 2014 (File No. 333-194467)). |
| Exhibit 10.4 | Employment Offer Letter, dated May 2, 2008, by and between Larry L. Miller and Phibro Animal Health Corporation, including confidentiality and nondisclosure, employee invention, and noncompetition and nonsolicitation agreements dated as of May 2, 2008 (incorporated by reference to Exhibit 10.20 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.5 | Clarifying Amendment to Employment Offer Letter, dated December 21, 2009, by and between Larry L. Miller and Phibro Animal Health Corporation (incorporated by reference to Exhibit 10.21 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.6 | Amendment to Employment Offer Letter, dated December 15, 2011, by and between Larry L. Miller and Phibro Animal Health Corporation (incorporated by reference to Exhibit 10.22 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |

| | |
|---|---|
| Exhibit 10.7 | Phibro Animal Health Corporation 2008 Incentive Plan (incorporated by reference to Exhibit 10.23 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.8 | Phibro Animal Health Corporation Management Incentive Plan (incorporated by reference to Exhibit 10.24 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on March 31, 2014 (File No. 333-194467)). |
| Exhibit 10.9 | Phibro Animal Health Corporation Retirement Income and Deferred Compensation Plan, as amended and restated as of April 15, 2009 (incorporated by reference to Exhibit 10.25 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.10 | Phibro Animal Health Corporation Executive Income Deferred Compensation Agreement, dated as of March 1, 1990 (incorporated by reference to Exhibit 10.26 of Phibro Animal Health Corporation's registration statement on Form S-1 filed on March 10, 2014 (File No. 333-194467)). |
| Exhibit 10.11 | Form of 2009 Stock Option Grant Agreement (incorporated by reference to Exhibit 10.28 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on March 31, 2014 (File No. 333-194467)). |
| Exhibit 10.12 | Form of 2013 Stock Option Grant Agreement (incorporated by reference to Exhibit 10.29 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on March 31, 2014 (File No. 333-194467)). |
| Exhibit 10.13 | Form of Indemnification Agreement (incorporated by reference to Exhibit 10.32 of Phibro Animal Health Corporation's registration statement on Form S-1/A filed on April 4, 2014 (File No. 333-194467)). |
| Exhibit 10.14* | Intellectual Property Purchase Agreement dated January 20, 2015 by and between MJ Biologics, Inc. and Phibro Animal Health Corporation (incorporated by reference to Exhibit 10.33 to Phibro Animal Health Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 11, 2015) |
| Exhibit 10.15* | First Amendment, dated July 31, 2018 to the Intellectual Property Purchase Agreement, drafted as of January 20, 2015, by and among MJ Biologics, Inc. and Phibro Animal Health Corporation (incorporated by reference to Exhibit 10.18 to Phibro Animal Health Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 6, 2018 (File No. 001-36410)). |
| Exhibit 10.16 | Promotion Letter Agreement, dated June 16, 2016, between Phibro Animal Health Corporation and Dean J. Warras (incorporated by reference to Exhibit 10.38 to Phibro Animal Health Corporation's 2017 Annual Report on Form 10-K, filed with the Securities and Exchange Commission on August 30, 2017 (File No. 001-36410)). |
| Exhibit 10.17 | Retention Letter Agreement, dated August 1, 2016, between Phibro Animal Health Corporation and Dean J. Warras (incorporated by reference to Exhibit 10.39 to Phibro Animal Health Corporation's 2017 Annual Report on Form 10-K, filed with the Securities and Exchange Commission on August 30, 2017 (File No. 001-36410)). |

| | |
|---|---|
| Exhibit 10.18 | Form of Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.2 to Phibro Animal Health Corporation's Current Report on Form 8-K, filed with the Securities and Exchange Commission on May 7, 2018 (File No. 13-1840497)). |
| Exhibit 10.19 | Executive Long-Term Incentive Agreement dated May 11, 2015, by and between Phibro Animal Health Corporation and Richard G. Johnson Retention Letter Agreement, dated August 1, 2016, between Phibro Animal Health Corporation and Dean J. Warras (incorporated by reference to Exhibit 10.34 to Phibro Animal Health Corporation's 2015 Annual Report on Form 10-K, filed with the Securities and Exchange Commission on September 10, 2015 (File No. 001-36410)) |
| Exhibit 10.20 | Employment Agreement, dated November 3, 2006, by and between Thomas G. Dagger and Phibro Animal Health Corporation. |
| Exhibit 10.21 | Amendment to Employment Agreement, dated November 16, 2009, by and between Thomas G. Dagger and Phibro Animal Health Corporation. |
| Exhibit 10.22 | Amendment to Employment Agreement, dated December 16, 2011, by and between Thomas G. Dagger and Phibro Animal Health Corporation. |
| Exhibit 21.1 | List of Subsidiaries of Phibro Animal Health Corporation. |
| Exhibit 23 | Consent of Independent Registered Public Accounting Firm |
| Exhibit 31.1 | Chief Executive Officer-Certification pursuant to Sarbanes-Oxley Act of 2002 Section 302 |
| Exhibit 31.2 | Chief Financial Officer-Certification pursuant to Sarbanes-Oxley Act of 2002 Section 302 |
| Exhibit 32.1** | Chief Executive Officer-Certification pursuant to Sarbanes-Oxley Act of 2002 Section 906 |
| Exhibit 32.2** | Chief Financial Officer-Certification pursuant to Sarbanes-Oxley Act of 2002 Section 906 |
| Exhibit 101.INS*** | XBRL Instance Document |
| Exhibit 101.SCH*** | XBRL Taxonomy Extension Schema Document |
| Exhibit 101.CAL*** | XBRL Taxonomy Extension Calculation Linkbase Document |
| Exhibit 101.DEF*** | XBRL Taxonomy Extension Definition Linkbase Document |
| Exhibit 101.LAB*** | XBRL Taxonomy Extension Label Linkbase Document |
| Exhibit 101.PRE*** | XBRL Taxonomy Extension Presentation Linkbase Document |

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* Confidential treatment of certain provisions of this exhibit has been requested with the Securities and Exchange Commission. Omitted material for which confidential treatment has been requested has been filed separately with the Securities and Exchange Commission.

** This certification is deemed not filed for purposes of section 18 of the Exchange Act, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act.

*** Furnished with this Annual Report on Form 10-K. Pursuant to Rule 406T of Regulation S-T, these interactive data files are deemed not filed for purposes of sections 11 or 12 of the Securities Act of 1933 and are deemed not filed for purposes of section 18 of the Securities and Exchange Act of 1934.

**EXHIBIT 4.2**

**DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

**Description of Class A common stock**

The following summary of Phibro Animal Health Corporation's Class A common stock does not purport to be complete and is subject to our amended and restated certificate of incorporation, our amended and restated bylaws and the provisions of applicable law. Copies of our amended and restated certificate of incorporation and amended and restated bylaws are filed as exhibits to the Annual Report on Form 10-K, of which this Exhibit 4.2 is a part.

**Authorized Capitalization**

***General***

Our authorized capital stock consists of 300,000,000 shares of Class A common stock, par value $0.0001 per share, 30,000,000 shares of Class B common stock, par value $0.0001 per share, and 16,000,000 shares of undesignated preferred stock.

***Common Stock***

*Class A Common Stock*

Holders of shares of our Class A common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders. Except as otherwise provided by our amended and restated certificate of incorporation or applicable law, the holders of our Class A common stock and Class B common stock shall vote together as a single class. Our amended and restated bylaws provide that the presence, in person or by proxy, of holders of shares representing a majority of the outstanding shares of common stock entitled to vote at a stockholders' meeting shall constitute a quorum. When a quorum is present, the affirmative vote of a majority in voting power of the shares of common stock present in person or represented by proxy at the meeting and entitled to vote on the subject matter is required to take action, unless otherwise specified by law or our certificate of incorporation, and except for the election of directors, which is determined by a plurality vote. There are no cumulative voting rights.

Holders of shares of our Class A common stock are entitled to receive dividends when and if declared by our board of directors ("Board") out of funds legally available therefor and pro rata with holders of shares of our Class B common stock, subject to any statutory or contractual restrictions on the payment of dividends and to any restrictions on the payment of dividends imposed by the terms of any outstanding preferred stock.

Upon our dissolution or liquidation or the sale of all or substantially all of our assets, after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having liquidation preferences, if any, the holders of shares of our Class A common stock will be entitled to receive pro rata with holders of shares of our Class B common stock our remaining assets available for distribution.

Holders of shares of our Class A common stock do not have preemptive, subscription or conversion rights. Our Class A common stock is not convertible and there are no redemption or sinking fund provisions applicable to our Class A common stock. Unless our Board determines otherwise, we will issue all of our capital stock in uncertificated form.

*Class B Common Stock*

Holders of shares of Class B common stock are entitled to 10 votes for each share of record on all matters submitted to a vote of stockholders. Each share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. In addition, each share of Class B common stock will convert automatically into one share of Class A common stock upon any transfer, whether or not for value, except for certain transfers by and among BFI Co., LLC, a Delaware limited liability company ("BFI"), its affiliates and certain Bendheim family members, as described in the amended and restated certificate of incorporation. Once transferred and converted into Class A common stock, the Class B common stock will not be reissued. In addition, all shares of Class B common stock will automatically convert to shares of Class A common stock when the outstanding shares of Class B common stock and Class A common stock held by BFI, its affiliates and certain Bendheim family members, together, is less than 15% of the total outstanding shares of Class A common stock and Class B common stock, taken as a single class.

***Dividend Rights***

Each holder of shares of our capital stock is entitled to receive such dividends and other distributions in cash, stock or property as may be declared by our Board from time to time out of our assets or funds legally available for dividends or other distributions. These rights are subject to the preferential rights of any other class or series of our preferred stock.

***Other Rights***

Each holder of common stock is subject to, and may be adversely affected by, the rights of the holders of any series of preferred stock that we may designate and issue in the future.

***Liquidation Rights***

If our company is involved in a consolidation, merger, recapitalization, reorganization, or similar event, each holder of common stock will participate pro rata in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding.

**Anti-takeover Effects of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws**

**Action by Written Consent, Special Meeting of Stockholders and Advance Notice Requirements for Stockholder Proposals**

Our amended and restated certificate of incorporation provides that stockholder action can be taken only at an annual or special meeting of stockholders and cannot be taken by written consent in lieu of a meeting once BFI and its affiliates cease to beneficially own more than 50% of the voting power of our outstanding shares of common stock. Our amended and restated certificate of incorporation and bylaws will also provide that, except as otherwise required by law, special meetings of the stockholders can be called only pursuant to a resolution adopted by a majority of the total number of directors that we would have if there were no vacancies or, until the date that BFI and its affiliates ceases to beneficially own more than 50% of the voting power of our outstanding shares of common stock, at the request of holders of 50% or more of the voting power of our outstanding shares. Except as described above, stockholders will not be permitted to call a special meeting or to require the Board to call a special meeting.

In addition, our amended and restated bylaws require advance notice procedures for stockholder proposals to be brought before an annual meeting of the stockholders, including the nomination of directors. Stockholders at an annual meeting may only consider the proposals specified in the notice of meeting or brought before the meeting by or at the direction of the Board, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered a timely written notice in proper form to our secretary, of the stockholder's intention to bring such business before the meeting.

**Classified Board**

Our amended and restated certificate of incorporation provides that our Board will be divided into three classes of directors, with the classes as nearly equal in number as possible. As a result, approximately one-third of our Board is elected each year.

**Dual Class Stock**

Our amended and restated certificate of incorporation provides for a dual class common stock structure, which provides BFI and its affiliates with the ability to control the outcome of matters requiring stockholder approval, even if BFI and its affiliates own significantly less than a majority of the shares of our Class A common stock and Class B common stock voting together on a combined basis, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets.

**Amendment to Certificate of Incorporation and Bylaws**

The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the outstanding stock entitled to vote on amendments to a corporation's certificate of incorporation or bylaws is required to approve such amendment, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our amended and restated bylaws may be amended, altered, changed or repealed by a majority vote of our Board, provided that, in addition to any other vote otherwise required by law, after the date on which BFI and its affiliates cease to beneficially own more than 50% of the voting power of our outstanding shares, the affirmative vote of at least 75% of the voting power of our outstanding shares of common stock will be required to amend, alter, change or repeal our amended and restated bylaws. Additionally, after the date on which BFI and its affiliates cease to beneficially own more than 50% of the voting power of our outstanding shares, the affirmative vote of at least 75% of the voting power of the outstanding shares of common stock entitled to vote on the adoption, alteration, amendment or repeal of our amended and restated certificate of incorporation, voting as a single class, will be required to amend or repeal or to adopt any provision inconsistent with specified provisions of our amended and restated certificate of incorporation.

**Transfer Agent and Registrar**

The transfer agent and registrar for our Class A common stock is American Stock Transfer & Trust Company, LLC. Its address is 6201 15$^{th}$ Avenue, Brooklyn, New York 11219.

**Listing**

Our Class A common stock is listed on The Nasdaq Stock Market under the trading symbol "PAHC."

**Exhibit 10.20**

Phibro
ANIMAL HEALTH
CORPORATION

November 3, 2006

[redacted]

Dear Thomas:

On behalf of Gerald K. Carlson, Chief Executive Officer, I am pleased to present an offer of employment to you with Phibro Animal Health Corporation as Senior Vice President, General Counsel and Corporate Secretary reporting to Mr. Carlson.

The offer to you is as follows:

Start Date

November 15, 2006

Base Salary and Compensation

You will be paid an annual base salary of $245,000 less applicable deductions as required by law, payable on the 15th and last business day of each month. Your base salary is subject to periodic review as per Company policy.

You are eligible to participate in the Phibro Animal Health Corporate Incentive Plan. Your target bonus will be 30% of your base salary. For the current fiscal year ending June 30, 2007, you are guaranteed to receive an award that shall be no less than target. The award will be pro-rated based on your start date and payable on or about September 30, 2007 and is conditional upon your continuing employment through that date. In addition, you will be paid a sign-on bonus of $20,000, payable on January 2, 2007.

You will be provided with a vehicle for your business and personal use paid for by Phibro Animal Health pursuant to the Company Fleet Policy. Alternatively, you may opt to receive a car allowance of $750 per month.

The Company will pay, or reimburse you for, professional fees and expenses incurred in connection with the performance of your duties, including licensing fees for New York and New Jersey, memberships in professional associations, legal reference materials and publications, continuing legal education courses, and attendance at legal/professional conferences.

Benefit Plans

You will be eligible to participate in the Company's Benefit Plans, which include Health, Dental, Life and Disability Insurance after a 30 day waiting period. You will be eligible to participate in the Company 401(k) Savings and Retirement Plan after six months of employment and will receive Company matches and profit sharing contributions after one year of employment. You are also eligible to participate in the Company's defined benefit pension plan and any other plans, programs, perks or benefits that the Company maintains for, or offers to, its executive employees. Participation in these plans is subject to the terms and conditions of the plans and they are subject to change at any time at the sole discretion of the Company.

Vacation

You will be entitled to four weeks of vacation per calendar year.

Severance

If your employment by the Company (or its successor(s) is (i) involuntarily terminated without cause, or (ii) terminated by you for Good Reason (as defined below), within one year after a Change in Control (as defined below), then the Company shall pay to you, within ten (10) days following the effective date of your termination or on the actual date of the Change in Control whichever comes later, as a payment for services previously rendered, one hundred percent (100%) of your annual base salary in effect immediately prior to the date of termination. If a Change in Control occurs after your first year of employment, the Company shall pay you seventy five percent (75%) of such annual base salary. "Change in Control" will have the meaning set forth in the Appendix A. The term "Good Reason" shall mean a breach of this offer letter by the Company, a change in your title or reporting relationships, diminution of your responsibilities or authority, reduction in your compensation or other benefits, or required relocation that is further in commuting time from your current home than your initial work location in Ridgefield Park, New Jersey.

You will be entitled to receive the higher of (i) any severance pay payable during a Change in Control pursuant to any Company severance policy then in effect and (ii) the amounts set forth above.

Payment of any severance is contingent upon your execution of an Agreement and General Release.

Background Check and Substance Abuse Screen

This employment offer is contingent upon a clearance of criminal, credit and motor vehicle background checks as well as a substance abuse screen under the Company's Drug and Alcohol Testing Policy. Accompanying this offer are a list of substance abuse laboratory sites and the appropriate paperwork for your test. Please make arrangements immediately to complete this mandatory testing. Upon clearance, I will contact you to finalize your start date.

Employment-At-Will

Your employment with the Company will be for a minimum term of one year. Notwithstanding anything herein to the contrary, after such one-year period:(i) your employment status with the Company will be that of an at-will employee, (ii) nothing in this offer of employment at-will shall be deemed to create a contract of employment, and (iii) this offer of employment is not for a fixed duration and may be terminated at any time by either you or the Company with or without cause.

Thomas, on behalf of the entire Phibro Animal Health Corporation's management team I would like to welcome you to the Company. We are confident that you will be a valuable member of our team and look forward to your contributions.

Please return a signed copy of this letter. Please feel free to call me at (201) 329-7324 if you have any questions regarding your employment with Phibro Animal Health Corporation.

Sincerely,

Daniel A. Welch

Daniel A. Welch
Senior Vice President, Human Resources

Offer Accepted:

Thomas G. Dagger

11/3/2006
Date

cc: Gerald K. Carlson

APPENDIX A

The term "Change in Control" shall mean:

The sale, lease, conveyance, liquidation or other disposition of all or substantially all of the Company' s assets as an entirety or substantially as an entirety to any person, entity or group of persons acting in concert; or

Any transaction or series of related transactions (as a result of a tender offer, merger, consolidation or otherwise) that results in any Person (as defined in Section 13(8)(E) under the Securities Exchange Act of 1934) becoming the beneficial owner (as defined in Rule 13d-3 under the Securities Exchange Act of 1934), directly or indirectly, of more than 50% of the aggregate voting power of all classes of common equity securities of the Company, except if such Person is (A) a subsidiary of the Company, (B) an employee stock ownership plan for employees of the Company, or (C) a company formed to hold the Company's common equity securities and whose shareholders constituted, at the time such company became such holding company, substantially all the equity owners or shareholders of the Company.

Phibro
ANIMAL HEALTH

November 16, 2009

[redacted]

Dear Tom:

This letter amends your employment agreement as set forth in your signed offer letter dated November 1, 2006 (and signed by you on November 3, 2008) ("Offer Letter Agreement"). Except as stated below, the terms of the Offer Letter Agreement shall remain in effect.

Base Salary and Compensation

The "Base Salary and Compensation" provision of the Offer Letter Agreement shall be amended to add:

> Effective fiscal year 2010 (i.e., July 1, 2009 – June 30, 2010) your target bonus will be increased from 30 % to 35% of your base salary.

Severance

The "Severance" provision of the Offer Letter Agreement shall be replaced to state as follows:

> In the event of your (1) involuntary termination of employment by the Company for reasons other than Cause (as defined below) or (2) resignation of employment by you, upon 90 days written notice and a 30 day opportunity for the Company to cure, for Good Reason (as defined below), and contingent upon your executing and not revoking a Separation and General Release of Claims Agreement ("Release Agreement"), you shall be entitled to the following severance benefits:
>
> 1. Lump sum severance payment of fifteen (15) months of your then current base salary,
>
> 2. Lump sum payment of your earned and yet unpaid bonus for any previously completed fiscal year, and a bonus for the current fiscal year as of your date of termination pro-rated by month beginning July 1 through the month of your termination, e.g., if you are terminated on November 15, you shall receive 5/12 of your earned bonus,
>
> 3. Lump sum payment equal to twelve (12) months' car allowance,


65 Challenger Road, Third Floor, Ridgefield Park, NJ 07660 • 201-329-7300 • Fax: 201-329-7399

4. Retention of your laptop computer and Blackberry (or equivalent device), contingent upon the Company's inspection of the devices and its removal of any Company intellectual property or proprietary information, and

5. Contingent upon your eligibility, timely election of COBRA coverage and completion of necessary paperwork and in addition to any rights you may have under COBRA, payment of the premium for the COBRA coverage you elected for you and your eligible dependents for fifteen (15) months; thereafter you will be responsible for payment of your COBRA premiums, should you elect to continue coverage.

All payments and benefits shall be made in accordance with applicable federal, state and local law and with the applications of appropriate deductions and withholding amounts. Payment of your severance, earned yet unpaid bonus for the previous fiscal year, pro-rated target bonus for the current fiscal year and car allowance shall be made within ten (10) days of the expiration of the waiver period following your execution of the Release Agreement.

The term "Good Reason" shall mean (i) a material reduction in your compensation or other benefits, (ii) a material diminution in your authority, duties, or responsibilities, (iii) a material diminution in the authority, duties, or responsibilities of the person or persons to whom you report, including a requirement that you report to a corporate officer or employee instead of reporting directly to the board of directors of the Company, (iv) a material diminution in the budget over which you retain authority, (v) a change in the geographic location of your required work location greater than 35 miles from the current location, or (vi) any other action or inaction that constitutes a material breach by the Company of your employment agreement.

Termination for Cause

The Offer Letter Agreement shall be amended to add the following "Termination for Cause" provision:

> The Company may, at its option, terminate your employment for Cause and the Company shall thereafter have no further obligations under your Employment Agreement, including, without limitation, any obligation to pay salary, provide benefits or provide severance to you. Cause shall be defined as (i) your continued and willful failure to perform or to provide appropriate attention to your duties and responsibilities, after notice and opportunity to cure, (ii) engaging in willful misconduct including, but not limited to dishonesty, fraud, or misrepresentation, (iii) conviction of a crime (other than traffic violation), habitual drunkenness or drug abuse, or (iv) excessive absenteeism other than for reasons of illness or approved leaves of absence.

Section 409A of the Internal Revenue Code

It is the Company's intention that all payments or benefits provided under this Agreement comply with Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), including without limitation the six month delay for payments of deferred compensation to "key employees" upon separation from service pursuant to Section 409A(a)(2)(B)(i) of the Code (if applicable), and this Agreement shall be interpreted, administered and operated accordingly. If under this Agreement an amount is to be paid in installments, each installment shall be treated as a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2)(ii). Notwithstanding anything to the contrary herein, the Company does not guarantee the tax treatment of any payments or benefits under this Agreement, including without limitation under the Code, federal, state, local or foreign tax laws and regulations.

If you agree with the above terms, please sign and date where indicated below and return the signed letter to me. Please let me know should you have any questions.

Sincerely,

Daniel A. Welch
Senior Vice President, Human Resources

Agreed:

Thomas G. Dagger
November 16, 2009

December 16, 2011

[redacted]

Dear Tom:

This letter amends your employment agreement as set forth in your offer letter dated November 1, 2006, as amended by the letter agreement dated November 16, 2009 ("Offer Letter Agreement"). Except as stated below, the terms of the Offer Letter Agreement shall remain in effective.

The following is added as the last sentence to the section titled "Section 409A of the Internal Revenue Code":

Notwithstanding anything herein to the contrary, payment of your severance, earned yet unpaid bonus for the previous fiscal year, prorated target bonus for the current fiscal year, and car allowance shall be made within 60 days after your termination of employment provided that you have executed a Release Agreement and it has become irrevocable by the date payment is to be made. To the extent required to comply with Section 409A of the Code, if the period during which you have discretion to execute or revoke a Release Agreement straddles two calendar years, then the Company will make the foregoing severance payments in the second year, regardless of which year you actually deliver the executed Release Agreement to the Company.

If you agree with the above revision to the Offer Letter Agreement, please sign and date where indicated below and return the signed letter to me. Please let me know should you have any questions.

Sincerely,

Agreed:

Thomas G. Datter
December 16, 2011

**EXHIBIT 21.1**

**PHIBRO ANIMAL HEALTH CORPORATION LIST OF SUBSIDIARIES**

| SUBSIDIARY | JURISDICTION |
|---|---|
| Prince Agri Products, Inc. | Delaware |
| OmniGen Research, LLC | Oregon |
| Phibro Animal Health Holdings, Inc. | Delaware |
| Phibro Animal Health de Argentina SRL | Argentina |
| Biotay S.A. | Argentina |
| Phibro Animal PTY Limited | Australia |
| Phibro Animal Health (Belgium) S.A. | Belgium |
| Phibro Saude Animal Internacional Ltda. | Brazil |
| Phibro Animal Health Ltd. | Canada |
| Phibro Animal Health Holdings, Inc. Chile Limitada | Chile |
| Phibro Animal Health Colombia S.A.S. | Colombia |
| Phibro Animal Health de Republica Dominicana, SRL | Dominican Republic |
| Phibro Animal Health Limited | Ireland |
| Phibro Corporation Limited | Hong Kong |
| Phibro Corporation (M) Sdn. Bhd. | Malaysia |
| PB Animal Health de Mexico S. de R.L. de C.V. | Mexico |
| PBAH Peruana S.A.C. | Peru |
| Phibro Animal Health (Proprietary) Limited | South Africa |
| Phibro Animal Health (Thailand) Limited | Thailand |
| Phibro Hayvan Sagligi Urunleri Sanayi ve Ticaret A.S. | Turkey |
| Phibro Animal Health de Venezuela, C.A. | Venezuela |
| Phibro Animal Health Ltd.(1) | Israel |
| Phibro Animal Nutrition Ltd.(2) | Israel |
| Kofimex Ltd. | Israel |
| Abic Biological Laboratories Ltd. | Israel |
| Abic Veterinary Products Ltd. | Israel |
| Phibro Saude e Nutricao Animal Ltda.(3) | Brazil |
| C P Chemicals, Inc. | New Jersey |
| Phibro-Tech, Inc. | Delaware |
| California Water Technologies LLC(4) | Michigan |
| North Field Extension, LLC(4) | New Jersey |
| Western Magnesium Corp. | California |
| First Dice Road Company, a California Ltd. Partnership | California |
| Ferro Metal and Chemical Corporation Ltd. | United Kingdom |
| Marion Bio-Tech, LLC(4) | Delaware |
| Hannibal Bio-Tech, LLC(4) | Delaware |

(1) Formerly known as Koffolk (1949) Ltd.

(2) Formerly known as Agrozan Ltd.

(3) Formerly known as Planalquimica Industrial Ltda.

(4) We directly or indirectly own 50% of the entity.

**EXHIBIT 23**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-198809) of Phibro Animal Health Corporation of our report dated August 27, 2019 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Florham Park, New Jersey
August 27, 2019

**EXHIBIT 31.1**

**CERTIFICATIONS**

I, Jack C. Bendheim, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended June 30, 2019, of Phibro Animal Health Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 27, 2019

/s/ Jack C. Bendheim

Jack C. Bendheim
Chairman, President and Chief Executive Officer

**EXHIBIT 31.2**

**CERTIFICATIONS**

I, Richard G. Johnson, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended June 30, 2019, of Phibro Animal Health Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 27, 2019

/s/ Richard G. Johnson

Richard G. Johnson
Chief Financial Officer

**EXHIBIT 32.1**

**CERTIFICATION UNDER SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned certifies that this periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this periodic report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

Dated: August 27, 2019

/s/ Jack C. Bendheim

Jack C. Bendheim
Chairman, President and Chief Executive Officer

**EXHIBIT 32.2**

**CERTIFICATION UNDER SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned certifies that this periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this periodic report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

Dated: August 27, 2019

/s/ Richard G. Johnson

Richard G. Johnson
Chief Financial Officer