

Equity Research

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## Phibro Animal Health Corporation (PAHC-\$17.96)

**Rating: BUY**

**Target Price: \$26.00**

### Crowing About Phibro: Initiating Coverage With a BUY Rating and \$26 PT

<u>REV</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
2013A	162.1	164.2	163.4	163.4
2014E	162.2	172.7	169.7	172.1
2015E	—	—	—	—
<u>EPS</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
2013A	0.01	0.15	0.05	0.05
2014E	0.12	0.07	0.32	0.27
2015E	—	—	—	—
<u>FY</u>	<u>2013A</u>	<u>2014E</u>	<u>2015E</u>	
REV	653.2	676.7	721.6	
EPS	0.26	0.63	1.39	
P/E	69.1x	28.5x	12.9x	

- **We initiate coverage of Phibro Animal Health with a BUY rating and \$26 PT:** Phibro is an established international animal health company focused on the growing livestock segment. We believe that the company may benefit from macroeconomic trends in emerging markets as local protein demands grow and meat producers become increasingly industrialized. While Phibro has lower operating margins and growth rates than a traditional pharmaceutical company, we think the business could be an attractive eventual addition to a mid-size specialty pharmaceutical business due to its small size, stable mid-single digit growth trends, and risk-diversification from clinical, reimbursement, and generic pressures. We derive our Phibro valuation using DCF analysis.
- **Why we are putting our eggs into Phibro's basket in 2014:** We like Phibro's focus in swine and poultry since these species have shorter life cycles, which allows them to rapidly recover from droughts and animal epidemics. For this reason we think that Phibro's business differs from competitor Zoetis, which announced weaker-than-expected 2014 guidance. Furthermore, we think the company can benefit from near-term economic trends such as lower feed prices in the U.S. and a weak Brazilian Real, which could lower its manufacturing expense. Finally, we believe Phibro has some interesting products, such as Omnigen and its TABic vaccine delivery technology, which could drive further international expansion and sales volumes.
- **We expect catalysts from multiple sources:** In addition to earnings calls, updates from competitors and meat producer customers are expected to provide read-through opportunities to Phibro's business. Significant news on commodities, currencies, and import/export trends could add additional color over time. Companies such as Valeant have openly discussed their interest in M&A opportunities within animal health, so deal flow in the sector could drive additional interest in Phibro, in our view. Recent deals such as Novartis Animal Health have been done at 5x sales. Phibro plans to engage in small acquisitions to bolster its business, as well.
- **Valuation and Risks:** We value Phibro via DCF analysis. We use a 9% WACC (similar to Zoetis) and a 3% growth rate to derive our \$26 PT. Zoetis currently trades at an 11x multiple of its 2014E EBITDA, and if we value Phibro with a slight discount (applying a 10x multiple to its FY2015 EBITDA of \$101M), we also arrive at a \$26 PT. Risks to the company include potential exit of insider shareholders, animal epidemics, and macroeconomic events leading to lower protein demands or import/export disruptions. The voting structure of the stock may also obstruct potential takeovers.

#### Current Statistics

Market Cap (\$Mil)	\$696.7	Float Shares (Mil):	17.400
Avg. Daily Trading Volume (3 mo.):	NA		
Shares Out (Mil):	38.800		

The Disclosure Section may be found on pages 31 - 33.

*We initiate coverage of Phibro Animal Health Corporation with a BUY rating and \$26 price target.*

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## Summary

- **We initiate coverage of Phibro Animal Health with a BUY rating and \$26 price target (PT):** Phibro is an established international animal health company focused on the growing livestock segment. We believe that the company may benefit from macroeconomic trends in emerging markets as local protein demands grow and meat producers become increasingly industrialized. While Phibro has lower operating margins and growth rates than a traditional pharmaceutical company (low double-digit operating margins), we think the business could be an attractive eventual addition to a mid-size specialty pharmaceutical business due to its small size, stable mid-single digit growth trends, and risk diversification from clinical, reimbursement, and generic pressures. We also think that the company's majority shareholders, the Bendheim family, could represent motivated sellers as the business valuation grows more attractive over time. We derive our Phibro valuation using DCF analysis.
- **Why we are putting our eggs into Phibro's basket in 2014:** We like Phibro's focus in swine and poultry since these species have shorter life cycles, which allows them to rapidly recover from droughts and animal epidemics. For this reason, we think that Phibro's business differs from competitor Zoetis, which announced weaker-than-expected 2014 guidance due to its higher exposure to beef cattle and U.S. drought. Furthermore, we think the company can benefit from near-term economic trends such as lower feed prices in the U.S. and a weak Brazilian Real, which could lower its manufacturing expense (since Phibro has an important manufacturing facility in Brazil). Finally, we believe Phibro has some interesting and innovative products, such as Omnigen (dairy cow immune enhancer) and its TABic vaccine delivery technology (which allows for vaccines to be administered via effervescent tablets rather than in breakable glass vials), which could drive further international expansion and sales volumes.
- **We expect catalysts from multiple sources:** In addition to earnings calls, updates from animal health competitors and meat producer customers are expected to provide read-through opportunities to Phibro's business. Significant news on commodities, currencies, and import/export livestock trends could add additional color over time. Companies such as Valeant have openly discussed their interest in M&A opportunities within animal health, whereas other animal health players engage in M&A on an ongoing basis (as seen by the recent Eli Lilly announcement to acquire Novartis Animal Health for \$5.4 billion (~5x sales) and Vetoquinol's acquisition of the Bioniche animal health business for 61 million CAD), so deal flow in the sector could drive additional interest in Phibro, in our view. Phibro has indicated that it plans to engage in small acquisitions to bolster its business, as well.
- **Valuation and Risks:** We value Phibro via discounted cash flow analysis. We utilize a 9% WACC (similar to Zoetis) and a 3% growth rate to derive our \$26 price target. Zoetis currently trades at an 11x multiple of its 2014E EBITDA, and if we value Phibro with a slight discount (applying a 10x multiple to its FY2015 EBITDA of \$101M), we also arrive at a \$26 price target. If we utilize comparable transactions like the recent Lilly acquisition of the Novartis Animal Health Business for 5x sales, and think about a far smaller 2x sales multiple applied to FY2015 Phibro sales (given Phibro's lower margins and livestock focus), we arrive at a hypothetical value of \$37 per share, which supports our BUY thesis. Risks to the company include potential exit of insider shareholders (3i), animal epidemics, and macroeconomic events leading to lower protein demands or import/export disruptions. The voting structure of the stock may also obstruct potential takeovers.

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## Company History

Phibro Animal Health is a family-owned business focused primarily on animal health products for the livestock industry. Phibro Animal Health Corporation was originally launched in 1946 as a spin off from its parent company, Philipp Brothers Chemicals, as Philipp Brothers Incorporated. In 2003, it changed its name to Phibro Animal Health.

As of December 31, 2013, the controlling stockholders in Phibro Animal Health were BFI Co and Mayflower Limited Partnership, which is managed and advised by 3i Corporation, which owned 70.1% and 29.1% of the company, respectively. 3i is a private equity company. BFI Co is a limited partnership that serves as the Bendheim family investment vehicle, and Jack Bendheim has sole authority to vote the common stock owned by BFI. The Bendheim family will remain the controlling shareholders post-IPO (with 53% of post-IPO shares, and 92.4% of voting power), and a secondary offering will permit the exit of 3i upon the expiration of the lock-up period, which we estimate in mid-October 2014. Management indicated that 3i is holding approximately 7% of its 38.791 million post-IPO shares (~2.72 million shares with 2.1% of voting power).

Phibro Animal Health priced its initial public offering on April 11, 2014 (12,745,392 shares priced at \$15/share), and its shares began trading on the NASDAQ. The company received net proceeds from the IPO of approximately \$114 million after deducting IPO-related fees and expenses. Phibro may utilize a \$100 million revolving credit facility that it did not access, and the company entered into a \$290 million senior secured seven-year term loan facility (with approximately 4% interest expense) in conjunction with its IPO. The company anticipates using this new debt as well as its IPO proceeds to pay down its current debt. Additionally, \$66 million, or 35% of the IPO, was in the form of a secondary offering that is intended to provide an exit opportunity for the company's private equity holders, 3i. We summarize Phibro's financing history in Exhibit 1.

**Exhibit 1: Phibro Animal Health Financing History**

Date	Event	Funds Raised	Maturity	Financing Type	Interest Rate
Jul-10	Senior Notes	\$300M	Jul-18	Debt	9.25%
Feb-09	Term Loan	\$24M	Dec-16	Debt	11%
Jan-09	Term Loan	\$10M	Aug-14	Debt	12%
Apr-14	IPO	\$220M	N/A	Equity	N/A
2Q:14	Term Loan	\$290M	2021	Debt	LIBOR +300 bps
2Q:14	Revolver	\$100M	2019	Debt	LIBOR +275 bps

Source: Cantor Fitzgerald Research, Company Reports

Throughout its history, Phibro Animal Health made selective acquisitions to expand its livestock-focused business, which are summarized in Exhibit 2. For example, the company's innovative TABic vaccine delivery technology was developed by the Abic team, which was merged into Phibro in 2009. In addition to these acquisitions, Phibro has entered into several licensing agreements, including a long-term agreement for its proprietary vaccine delivery technology in 2012 and an agreement with EpiTopix in 2013 to allow exclusive distribution of its autologous vaccines for chickens.

**Exhibit 2: Phibro Animal Health Acquisition History**

Year	Acquisition
1974	Israeli vitamin mixer
1980	Prince Agri Products
2000	Pfizer's medicated feed additive business
2009	Abic vaccines and pharma business
2009	Baltzell mineral nutrition business
2011	Rights to Animate nutritional specialty product
2012	U.S. ANADA applications/registrations for lincomycin, sulfadimethoxine, tiamulin and amprolium water soluble powders
2012	OGR including OmniGen patents, related intellectual property, R&D facilities and organization
2014	AquaVet, an aquaculture veterinary consulting and contract research firm based in Israel

Source: Cantor Fitzgerald Research, Company Reports

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## Industry Overview

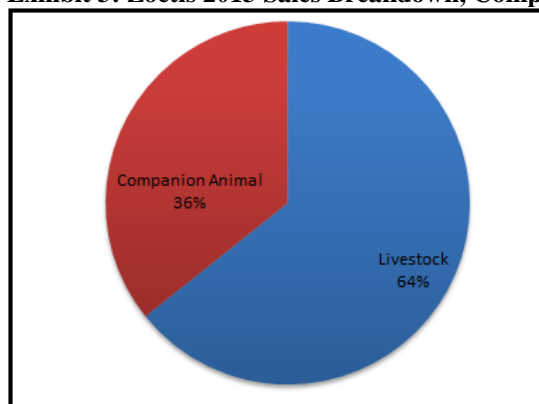
In this analysis, we looked across growth trends for publicly traded companies that are associated with animal health and meat production. In virtually every sector, we confirmed healthy mid-single digit growth rates throughout the industry (which fluctuate slightly during droughts and animal epidemics), which gives us more confidence in the macro trends that should continue to support a similar long-term growth trajectory at Phibro.

There are only a few public companies dedicated solely to animal health, and many are focused on companion animal or pet health rather than livestock health like Phibro, making it difficult to determine ideal comparables. A large number of the animal health products on the market are produced by animal health divisions held within major global pharmaceutical companies. The largest player in the space is Pfizer's recent spinout, Zoetis.

**Zoetis, the dominant player in the animal health space, represents the closest comparable to Phibro but contains a significant companion animal division, which drives higher profitability.**

Zoetis was spun off from Pfizer and completed an IPO in February 2013. Zoetis develops, markets and manufactures an array of products for both companion animal and livestock health and represents the dominant player in the animal health space, with \$4.5 billion in sales in 2013. We summarize Zoetis' distribution of sales in livestock versus companion animals.

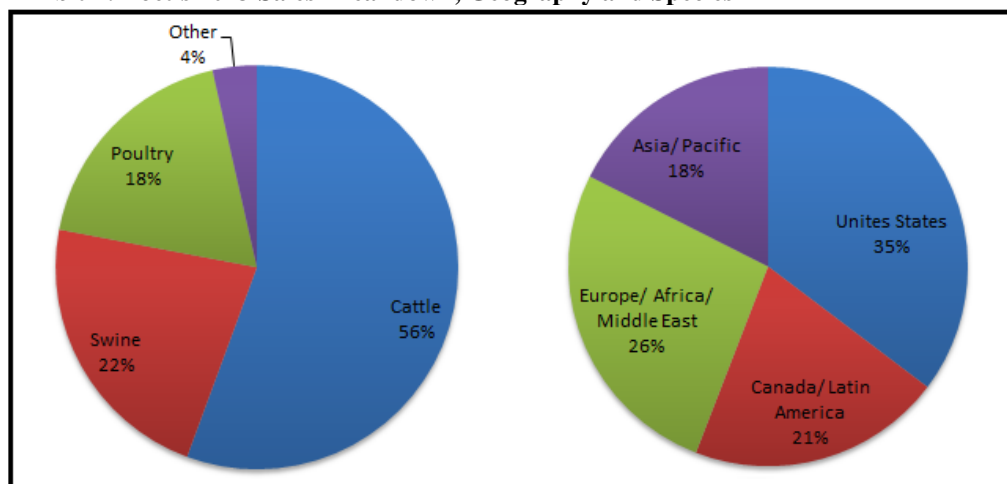
### Exhibit 3: Zoetis 2013 Sales Breakdown, Companion Animals versus Livestock



Source: Cantor Fitzgerald research, Company reports

Within the Zoetis livestock division, its sales are largely concentrated in cattle, with 56% of sales in that category as compared to Phibro, which has the largest proportion of its sales in poultry. Zoetis' geographic territories overlap with those of Phibro. We summarize Zoetis' 2013 livestock sales by species and geography in Exhibit 4.

We note that Zoetis issued lower-than-expected 2014 guidance, which led to some weakness in the stock. Phibro management indicated that its business is less tied to the U.S. beef cattle segment, which has been adversely impacted by a recent drought, so direct comparisons between the businesses may not be relevant.

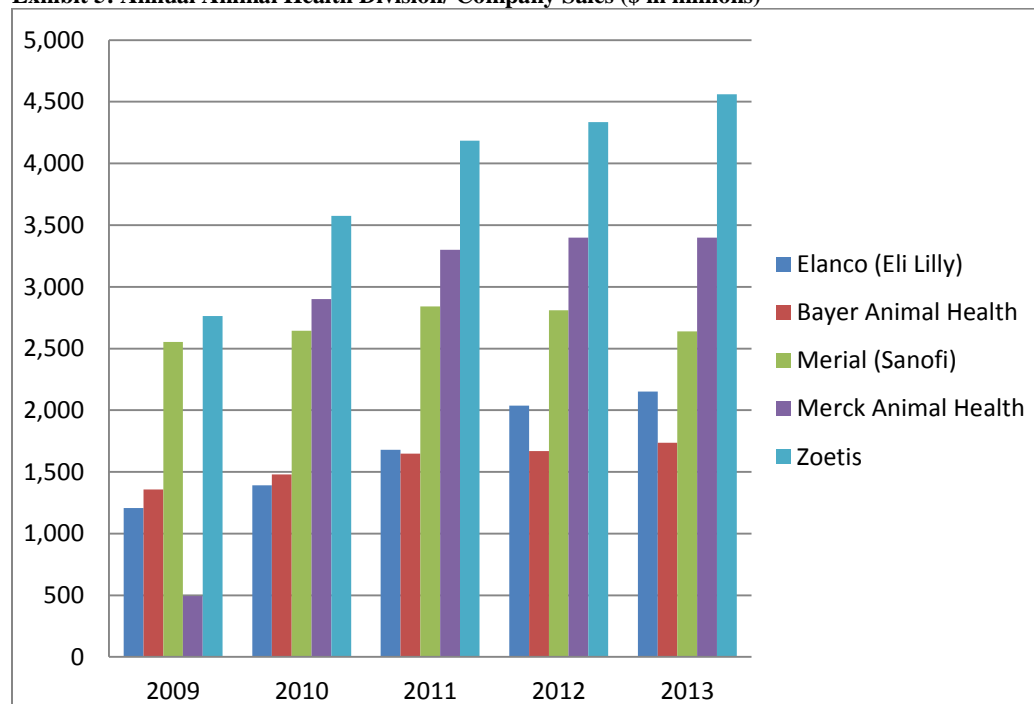
**Exhibit 4: Zoetis 2013 Sales Breakdown, Geography and Species**

Source: Cantor Fitzgerald research, Company reports

**After Zoetis, the main players in the animal health space producing both livestock and companion animal products are divisions of major global pharmaceutical companies, and these divisions generate steady, significant sales.**

Merck, Sanofi, Eli Lilly, Bayer, Boehringer Ingelheim, and Novartis all have animal health divisions, representing the largest players in the animal health space after Zoetis. Merck's animal health division is the largest after Zoetis in terms of sales, with global sales of \$3.4 billion in 2013, but Eli Lilly recently announced an agreement to acquire Novartis Animal Health for \$5.4 billion (or ~5x sales, expected to close in the first half of 2015) which makes it a contender for the #2 spot as well. Novartis Animal Health had 2013 revenues of approximately \$1.1 billion, approximately half of which came from companion animals<sup>1</sup>, while Lilly's animal health division, Elanco, reported 2013 sales of about \$2.2 billion. Phibro management indicated that Lilly's Elanco is the other large livestock player in the space that it competes with directly. We summarize annual sales for the animal divisions including both companion animal and livestock product sales of several publicly traded pharmaceutical companies and Zoetis over the past five years in Exhibit 5.

<sup>1</sup> [http://files.shareholder.com/downloads/LLY/2971159017x0x745818/c7903186-0130-4dbf-9753-9e5197b7d1a4/NovartisAH\\_Acquisition\\_Slides.pdf](http://files.shareholder.com/downloads/LLY/2971159017x0x745818/c7903186-0130-4dbf-9753-9e5197b7d1a4/NovartisAH_Acquisition_Slides.pdf)

**Exhibit 5: Annual Animal Health Division/ Company Sales (\$ in millions)**

Source: Cantor Fitzgerald research, Company reports

We summarize the CAGRs for the animal health divisions and Zoetis in Exhibit 6. Merck's animal health segment had a CAGR of +5.4% on sales from 2010 to 2013; it bought Schering-Plough in 2009, which caused its sales in animal health to jump substantially after the addition of Schering-Plough's Intervet division. Similarly, we believe that Lilly and Pfizer were able to grow their respective animal health divisions via a series of acquisitions.

**Exhibit 6: Revenue CAGRs from 2009 to 2013**

Animal Health Segment/ Company	CAGR (2009-2013)
Elanco (Eli Lilly)	15.5%
Bayer Animal Health	6.3%
Merial (Sanofi)	0.8%
Merck Animal Health	5.4%
Zoetis	13.3%
Mean	8.3%

Source: Company reports and Cantor Fitzgerald estimates.

\*CAGR for Merck Animal Health calculated from 2010 to 2013

**Several public companies dedicated to animal health focus primarily on companion animal health.**

There are several smaller public animal health companies that focus on developing, manufacturing, and marketing medicines for companion animals. Virbac, Vetoquinol, and Aratana Therapeutics are manufacturers that serve this space. The largest of these companies, Virbac, had sales of \$695 million in 2012, with 61% of these sales stemming from companion animal health products versus 37% from livestock health. Virbac and Vetoquinol had a CAGR on sales from 2009 to 2013 of +12.0% and +4.4%, respectively, and five-year EPS CAGRs of +11.1% and +4.8%. In the most recent fiscal quarter, Virbac reported +7.1% constant currency growth in its food producing animal segment, while Vetoquinol's livestock sales were down by -5.7% Y/Y.

**Other growing areas in animal health include animal diagnostics and breeding technology companies.**

Idexx is a leader in the animal health diagnostics space, and Zoetis has a veterinary diagnostics division. Idexx Laboratories had sales of \$1.4 billion in 2013, but only 8%, or \$113 million, of these sales stemmed from its livestock, poultry and dairy segment. Idexx annual sales grew at a +7.5% CAGR between 2009 and 2013, while the five-year CAGR for earnings during this time was +14.7%. Genus is a leader in animal breeding and livestock genetic technologies, with sales of \$571 million in Fiscal 2013, with its sales primarily originating from the pig and cattle markets. Genus has exhibited strong growth in recent years with 9% increases in revenue in both 2011 and 2012, but flattening in 2013 with only 1% growth as compared to prior years (attributed to higher animal feed costs associated with drought). Genus sales grew at a +5.3% CAGR between 2009 and 2013, while the five-year CAGR for earnings during this time was +8.4%. As these companies are tied to the same trends in the livestock industry as the animal health manufacturing business, they may represent additional potential comparables for Phibro.

**Agricultural companies also represent potential comparables for Phibro since they are impacted by the same macroeconomic factors affecting growth of the livestock industry.**

Monsanto and Syngenta are market leaders in agriculture, providing supplies such as seed and pesticides to farms globally. Monsanto reported 2013 sales of \$14.9 billion, with its seeds and genomics division representing \$10.3 billion of those sales. Monsanto has posted a +6.2% revenue CAGR between 2009 and 2013, and Syngenta has shown a +3.4% revenue CAGR for the same five-year period. Five year EPS CAGRs were 5.0% and 4.9% for Syngenta and Monsanto, respectively.

**Meat production companies are some of Phibro's main customers and are also affected by livestock industry trends.**

Tyson, Pilgrim's Pride, Sanderson Farms, and JBS are some of the largest public meat production companies. JBS, based in Brazil, represents the largest of these companies in terms of sales, with over \$43 billion in 2013 sales. Tyson follows in second with \$34 billion in sales in 2013. These companies have exhibited varying CAGR on sales from 2009 to 2013 of +6.5%, +4.4%, +10.7%, and +28.2% for Tyson, Pilgrim's Pride, Sanderson Farms, and JBS, respectively. Five-year EPS CAGR for Tyson, JBS and Sanderson Farms from 2009 to 2013 was +67.8%, +33.0%, and +9.2%, respectively, and for Pilgrim's Pride, the four-year Non-GAAP EPS CAGR from 2010 to 2013 was +47.3%. Profitability for these food production companies fluctuates from year to year, with occasional unprofitable years, which is why the CAGRs have such a massive range and the P/E trading multiples remain lower.

We summarize comparables for Phibro, which include companies that are related to livestock trends, in Exhibit 7. Animal diagnostic companies and animal health companies appear to command the highest P/E multiples in the space, while large cap pharmas and meat producers are noticeably lower. We would expect Phibro to trade more in line with its animal health peers.



**Exhibit 7: Phibro Animal Health Comparables**

Company	Ticker	Price as of 5/5/14	Market Cap. (mil)	52-Week		2014E EPS	2014E P/E	2014E EBITDA	2014 Per Share Cash	EV (mil)
				High	Low					
Animal Health Manufacturing										
Zoetis, Inc	ZTS	\$30.53	\$15,287	\$34.28	\$28.14	\$1.52	20.1	\$1,362	\$1.22	\$18,344
Aratana Therapeutics, Inc.	PETX	\$13.88	\$409	\$29.32	\$6.56	(\$1.45)	(9.6)	(\$35)	\$1.55	\$400
Vetoquinol	VETO	\$54.68	\$647	\$55.51	\$33.11	\$2.99	18.3	\$66	\$0.00	\$585
Virbac SA	VIRP	\$238.92	\$2,014	\$253.92	\$179.63	\$10.69	22.3	\$192	\$0.00	\$2,259
Phibro Animal Health	PAHC	\$17.96	\$697	\$18.50	\$15.10	NM	NM	NM	\$0.23	\$1,476
Mean		\$71.19	\$3,811	\$78.31	\$52.51	5.07	20.2	\$540	\$0.60	\$4,613
Animal Health Diagnostics & Technology										
IDEXX Laboratories, Inc.	IDXX	\$129.88	\$6,663	\$129.98	\$81.57	\$3.83	33.9	\$357	\$5.58	\$5,616
Genus plc	GNS	\$17.37	\$1,054	\$23.52	\$15.51	\$0.77	22.4	\$81	\$0.00	\$1,357
Mean		\$73.63	\$3,859	\$76.75	\$48.54	\$2.30	28.2	\$219	\$2.79	\$3,487
Large Cap Pharma with Animal Health Divisions										
Eli Lilly and Company	LLY	\$58.88	\$65,913	\$61.15	\$47.53	\$2.78	21.2	\$4,827	\$4.66	\$63,406
Bayer AG	BAYN	\$138.79	\$114,768	\$142.62	\$101.52	\$8.43	16.5	\$12,521	\$4.39	\$128,136
Merck & Co., Inc.	MRK	\$58.63	\$172,409	\$59.84	\$44.62	\$3.48	16.8	\$16,726	\$5.97	\$184,325
Sanofi	SAN	\$108.88	\$144,188	\$113.75	\$92.87	\$7.20	15.1	\$15,591	\$6.37	\$154,446
Novartis AG	NOVN	\$87.66	\$214,497	\$88.20	\$67.52	\$5.30	16.6	\$17,570	\$2.85	\$230,931
Mean		\$90.57	\$142,355	\$93.11	\$70.81	\$5.44	17.2	\$13,447	\$4.85	\$152,249
Agricultural										
Monsanto Company	MON	\$114.85	\$60,201	\$117.50	\$94.00	\$5.24	21.9	\$4,818	\$7.34	\$60,373
Syngenta AG	SYNN	\$385.62	\$35,381	\$423.05	\$334.44	\$21.34	18.1	\$3,149	\$0.00	\$37,740
Mean		\$250.24	\$47,791	\$270.28	\$214.22	\$13.29	20.0	\$3,983	\$3.67	\$49,057
Meat Production Industry										
Tyson Foods, Inc. Class A	TSN	\$38.44	\$13,393	\$44.24	\$23.39	\$2.93	13.1	\$2,226	\$1.62	\$15,215
Pilgrim's Pride Corporation	PPC	\$23.38	\$6,056	\$23.59	\$9.79	\$1.86	12.6	\$948	\$2.13	\$6,224
Sanderson Farms, Inc.	SAFM	\$82.63	\$1,907	\$84.67	\$59.77	\$7.24	11.4	\$315	\$2.55	\$1,834
JBS	JBSS3	\$3.51	\$10,076	\$4.00	\$2.50	\$0.31	11.2	\$3,480	\$1.30	\$20,638
Mean		\$36.99	\$7,858	\$39.12	\$23.86	\$3.09	12.1	\$1,742	\$1.90	\$10,978

Source: Cantor Fitzgerald research and Company reports



**The animal health industry has a large, diversified customer base.**

The animal health industry serves a diverse base of food producers. In the United States alone, there are about 2.2 million farms, the vast majority of which (87%) are still owned by individuals, but this number has been dwindling. Partnerships and corporate farms (8% and 4% of farms, respectively), represent the remaining categories of farms. For the animal health companies, this means a large, diverse customer base, but also potentially a significant sales force to service customers. The major food processing companies own farms or work in concert with farmers to generate a finished product; providing services such as supplying animals and technical expertise to farmers who raise livestock, supplying feed, as well as processing and packaging the meat products. As such, the food processing companies can be customers of the animal health companies, as well. The food production industry includes major household names, such as Tyson, Perdue and Smithfield (recently acquired by WH Group, a Chinese company). The top players in the chicken production industry include Tyson, Pilgrim's Pride, Perdue, and Sanderson. In the pork industry, the leaders include Tyson, Smithfield, JBS Swift, and Cargill. Last is the beef packers industry where Tyson, JBS, Cargill, and National Beef are the leaders. All of the top food production companies in the pork and poultry production industries are customers of Phibro.

Phibro has approximately 2,850 customers, of which about 2,450 are served by its Animal Health and Mineral Nutrition business. Phibro's products serve a range of livestock producers, and typically Phibro sells its products directly to these producers rather than to small-scale farmers. As a result, its business is dependent on an array of customers, and loss or gain of small numbers of customers should not meaningfully impact its sales. Phibro's largest customer represented 8% of its revenues in Fiscal 2013.

The livestock medicines and vaccine market is estimated to be valued at approximately \$13.3 billion, which represents 60% of the global animal health medicines and vaccines market.<sup>2</sup> We summarize several potential growth drivers as well as risks to the industry.

**Several economic drivers should sustain growth of the animal health industry.****1. The global population is expected to increase by over two billion people by 2050.**

The vast majority of the population growth is expected to come from Asia as well as developing countries in Latin America. Phibro is poised to take advantage of these growth areas having already established itself in Brazil and other countries in South America, China, and India. An IMS survey indicated that Phibro was the fastest growing animal health company in Brazil in 2012.<sup>3</sup> Phibro is also making an effort to grow further into the Chinese market, particularly with its OmniGen product, which could potentially serve the fast growing dairy cow population currently estimated at 5 million in China.

**2. Demand for animal products is expected to consistently increase.**

According to the United Nations, the per capita consumption of milk has doubled, meat has tripled, and egg consumption has increased five-fold since the early 1960s.<sup>4</sup> Current per capita consumption of protein and dairy in emerging markets represents an area of potential growth as these markets consume a fraction of what is eaten in developed markets. China, in particular, has shown dramatic increases in its consumption; its per capita consumption of meat quadrupled, its consumption of milk increased ten-fold, and its egg consumption increased eight-fold since 1980.<sup>5</sup> Brazil has seen rapid growth, as well, doubling its per capita meat consumption and milk consumption by 40% since 1980.<sup>6</sup> We summarize average annual

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<sup>2</sup> [http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248\\_s1.htm](http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248_s1.htm) (Pg 2)

<sup>3</sup> [http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248\\_s1.htm](http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248_s1.htm) (Pg 93)

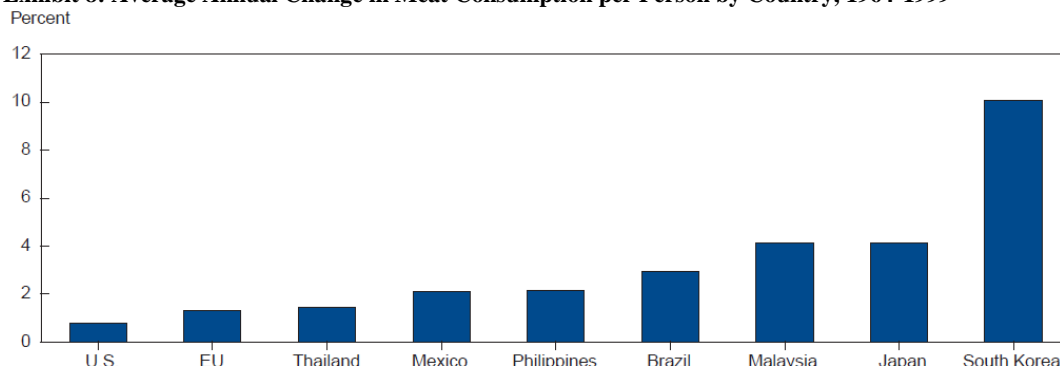
<sup>4</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 9)

<sup>5</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 10)

<sup>6</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 10)

change in meat consumption per person in a number of countries from 1964 to 1999 in Exhibit 8.

**Exhibit 8: Average Annual Change in Meat Consumption per Person by Country, 1964-1999**



Source: USDA Structure of Global Markets for Meat, Cantor Fitzgerald research

Further, projections indicate continued growth, particularly in the emerging markets. While global per capita livestock consumption is expected to increase 26% from 39 kg per year to 49 kg per year by 2050, in emerging markets it is expected to increase 50% from 28 kg per year to 42 kg per year. Similarly, milk consumption per capita is expected to increase 19% from 83 kg per year to 99 kg per year by 2050 globally, versus 52 kg per year to 76 kg per year for developing countries (46%)<sup>7</sup>.

**3. Urbanization is associated with increased animal product consumption.**

In developed countries, the proportion of the population in urban areas is larger than that in developing countries (73% versus 42%, respectively). Urbanization is growing at a faster rate in developing countries; from 1980 to 2003, urbanization increased at an average annual rate of 4.9% in sub-Saharan Africa versus 2.6% in Latin America, but only 0.8% in developed countries.<sup>8</sup> Urbanization has been associated with changes in patterns of food consumption, such as greater consumption of food products away from home, including pre-prepared, or fast foods. Urbanization also leads to improvements in infrastructure such as temperature-controlled supply chains that make it more efficient to trade perishable goods. In 2008, it was estimated that over half the world's population was living in towns and cities, and this number is expected to increase to over 70% by 2050.<sup>9</sup>

**4. Increasing industrialization of food production has led to increased usage of animal medicines and enriched feed mixes.**

As livestock production has grown, many technological advances have made the industry more efficient. Concentrate feeds, or feeds that contain a high density of nutrients, have allowed livestock production in areas that do not necessarily have local availability of feed or natural resources. In developing countries, the use of feed concentrate from 1980 to 2005 has more than doubled, although it has declined slightly in developed countries. Globally, the world used just over 900 million tons in 1980, which grew to over 1,250 million tons of feed concentrate in 2005.<sup>10</sup> Phibro management believes that it may benefit from global industrialization of food production since use of animal medicines leads to increased efficiencies in production, and furthermore, this production requires a number of different agents used in combination, which should benefit multiple animal medicine manufacturers.

**5. Economic growth contributes to demand for animal products, although it may have a greater impact in low-income countries.**

Income growth is generally linked to increased consumption of animal products, though this increase is less evident in countries that are already consuming relatively high amounts of

<sup>7</sup> [http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248\\_s1.htm](http://www.sec.gov/Archives/edgar/data/1069899/000157104914000746/t1400248_s1.htm) (pg 89)

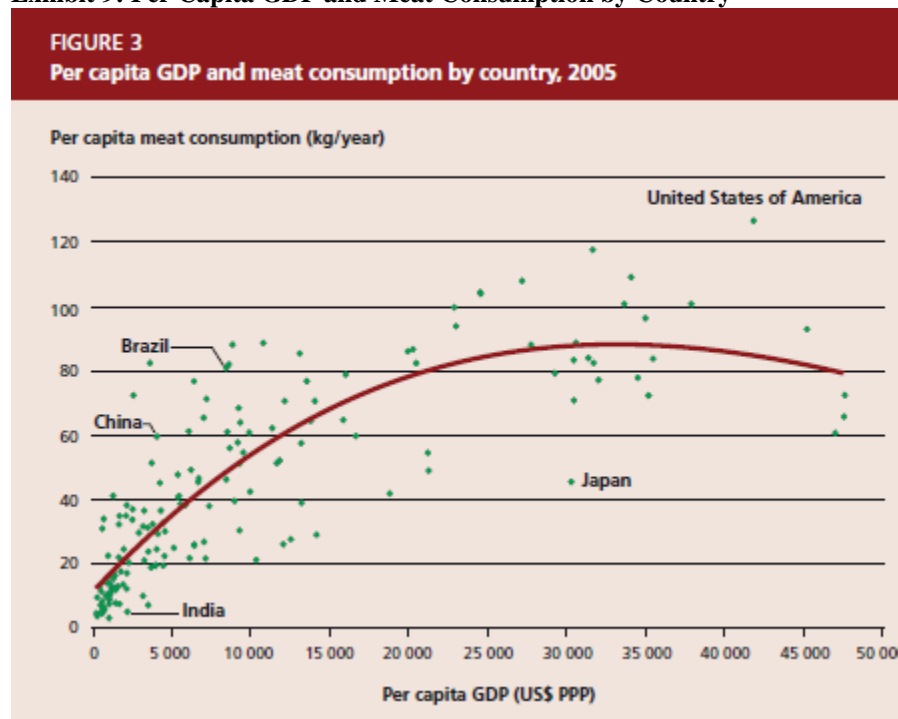
<sup>8</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 11)

<sup>9</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 23)

<sup>10</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 29)

animal products. This trend is highlighted by the slow growth in meat consumption in the U.S. and EU noted in Exhibit 8. We summarize the relationship between per capita GDP and animal product consumption in Exhibit 9.

#### Exhibit 9: Per Capita GDP and Meat Consumption by Country



Source: *The State of Food and Agriculture 2009*, Cantor Fitzgerald research

There are a number of trends in the global livestock industry that may greatly impact companies such as Phibro.

#### 1. Production of livestock has been shifting to developing countries.

In developing countries, production of livestock products has increased rapidly; by 2007, developing countries were producing more meat and eggs than developed countries and nearly surpassing developed countries in terms of milk production. For example, in 1980, developed countries were producing 65% of the world's meat versus 39% in 2007.<sup>11</sup> China and Brazil are showing the fastest growth, particularly in the meat market, and Phibro is making inroads in both markets. From 1980 to 2007, China increased its production of meat more than six times and now produces 31% of the world's meat. Similarly, Brazil increased its production in the same period by a factor of four and now represents 7% of the world's meat production. India has been quickly growing in the milk production space, having tripled its production between 1980 and 2007, and is now producing 15% of the world's milk.<sup>12</sup> In developing countries, infrastructure improvements that are rapidly occurring may also contribute to shifts in pricing. In Brazil, for example, toll roads are expected to be completed by 2015, but while potentially easing transit, ironically may increase the cost of producing and transporting crops within Brazil, forcing the country to increase local livestock production and export more locally produced meat to offset the weakness of the Real against the Dollar.<sup>13</sup> Phibro's operations outside the U.S. contributed 37% of its revenues for Fiscal 2013 and in its largest division, animal health; ex-U.S. sales contributed 52% of its revenues for Fiscal 2013.

<sup>11</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (pg 13-15)

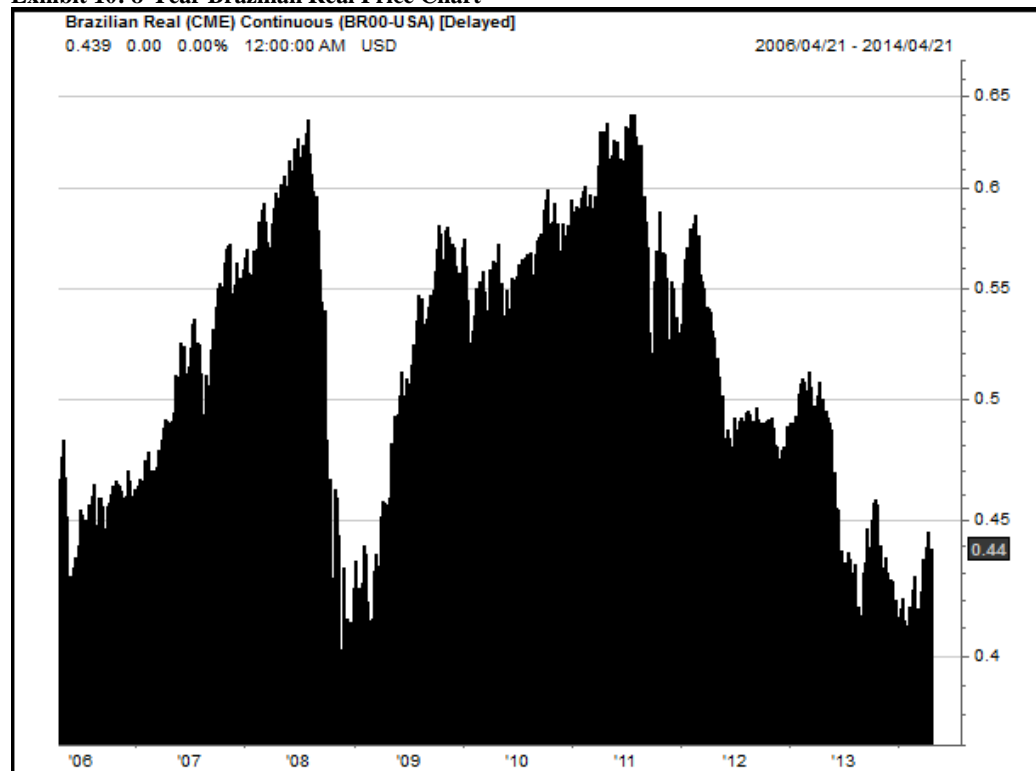
<sup>12</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 13)

<sup>13</sup> [http://www.agriculture.com/family/women-in-agriculture/marketing/south-americas-chging-face\\_340-ar42294](http://www.agriculture.com/family/women-in-agriculture/marketing/south-americas-chging-face_340-ar42294)

Brazil and Latin America were responsible for 18% of its animal health sales, and China and Asia Pacific contributed 15%. We think Phibro's strong position in developing markets will allow it to take advantage of this geographic shift.

Management indicated that it has a sizeable manufacturing plant outside of Sao Paulo, Brazil, which allows it to benefit from the current weakness in the Brazilian Real. Declines in the value of the Real relative to the U.S. dollar result in lower COGS expense for the company, and management noted that it takes approximately six months to work down inventory and benefit from this weakness. We summarize currency trends for the Real in Exhibit 10 and think that its recent devaluation could boost Phibro 2014 profitability.

**Exhibit 10: 8-Year Brazilian Real Price Chart**



Source: FactSet, Cantor Fitzgerald research

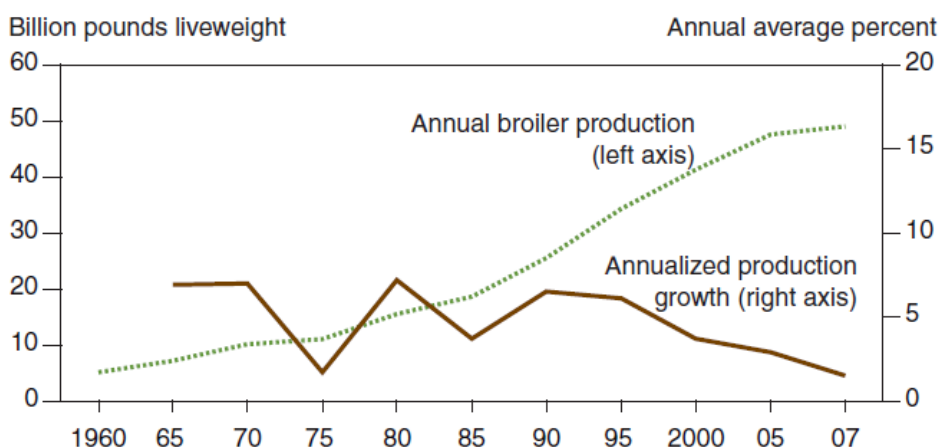
## 2. Technological advances in meat production are promoting growth of the animal health industry.

Advanced breeding technologies as well as feeding technologies are gaining ground and spurring growth, particularly in the broiler chicken and egg production areas. Advanced breeding has included use of hybridization and artificial insemination to further breeding goals. Results of these breeding advances are seen more quickly in short life cycle animals such as poultry. As Phibro is heavily invested in the poultry industry, with 56% of its animal health division sales coming from poultry, we see the technological advances in poultry production as a growth opportunity for Phibro. Developments of feed technologies have included balanced feeding, precision feeding, and addition of amino acids and mineral micronutrients. Use of animal health improvements such as vaccines and antibiotics has also increased widely and spread into developing countries. We think that increased adoption of animal health products in developing countries may help increase demand for products such as Phibro's, thus furthering its growth in developing countries.

3. **Poultry meat is the fastest growing segment of the livestock industry and perhaps the most responsive to technological advances.**

Global poultry production has increased 142%, from about 36 million tons to 87 million tons, from 1987 to 2007, making it the fastest growing area of meat production<sup>14</sup> Poultry production has increased by nearly a factor of ten since the 1960s, as compared to beef production, which has doubled during the same time frame.<sup>15</sup> While annual broiler production continues to grow, the growth rate began slowing in the mid-1990s. We summarize annual broiler production growth as compared to production growth in Exhibit 11.

**Exhibit 11: Broiler Production and Production Growth from 1960 to 2007**



Source: USDA Broiler Production Report, Cantor Fitzgerald research

Poultry tends to respond well to technological advances because of high reproduction rates and short genetic intervals. Since the 1960s, the rate of weight gain for broiler chickens has doubled while feed conversion ratios (ratio of feed to mass gained by animal) have halved.<sup>16</sup> Gains in productivity can be largely attributed to breeding advances, which can be implemented quickly due to the chicken's comparatively short lifespan. Diseases, such as avian flu epidemics, however, have posed a major challenge to that growth, but breeding as well as improvements in vaccination technologies provide for improved disease resistance. Again, we think that Phibro is well-positioned in the growing poultry segment, and it has recently been expanding its product offering in the space with products such as EpiTopix's autologous vaccines (licensed 2013) in its vaccine segment that primarily focuses on poultry.

**While we anticipate continued industry growth, we outline risks to the animal health industry.**

1. **FDA pressure may limit the use of antibiotics in livestock, although we don't anticipate a major near-term impact on sales for Phibro.**

Due to growing evidence that antibiotic use in livestock contributes to the development of antibiotic-resistant infections in humans, FDA has been issuing guidance to limit and control the use of antibiotics in livestock. In April 2012, FDA issued Guidance for Industry (GFI) #209, which recommends the voluntary elimination of medically important antibiotics for growth promotion purposes and limiting use of these compounds to disease prevention and treatment. Medically important refers to antibiotics that are also used in humans for therapeutic purposes. Further, FDA indicated that medically

<sup>14</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 16)

<sup>15</sup> Thornton, Philip K. "Livestock production: recent trends, future prospects." *Philosophical Transactions of the Royal Society B: Biological Sciences* 365.1554 (2010): 2853-2867.

<sup>16</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 20)

important antibiotics are expected to be used for therapeutic purpose under veterinary oversight or consultation. In December 2013, FDA issued GFI #213, which reiterated the points outlined in GFI #209 and clarified veterinary oversight as well as the timeline for the proposed changes (voluntary industry implementation by 2016). This timing is expected to correspond to a simultaneous update in the Veterinary Feed Directives FDA Guidance (last updated in 2009), but in fact, may take longer.

According to these guidance documents, animal drug products are categorized as: over-the-counter (OTC), veterinary prescription, and veterinary feed directive (VFD). FDA would like medically important medicated feed or water products to be listed under VFD status and noted that extra label use is illegal. FDA indicated it will be monitoring to see if the changes are being implemented and proposed a three-year phase-in period, after which FDA will evaluate progress. FDA recommended that all affected companies notify their intent to make these proposed changes within three months of the publication of GFI #213, and as of March 2014, the FDA had received confirmation of intent to make the proposed changes contained in GFI #213 from 25 of the 26 affected companies, including Phibro.<sup>17</sup> While this guidance impacts a large number of Phibro's products, we believe that the additional veterinary oversight may not prove too onerous, as most of the company's customers employ veterinarians and management already disclosed a potential \$15-20 million negative impact for its Animal Health segment under this rule, which represents at worst about 6% of 2013 sales. Management expects to obtain replacement labeling language for therapeutic uses of the impacted drugs so its negative impact estimate represents a worst-case scenario for the business. Further, Phibro expects that one of its key products, Virginiamycin (Stafac), which is in the same antibiotic class as Synercid, has the potential to be taken off the list of medically important antimicrobials due to its dwindling human usage.<sup>18</sup>

## **2. Drought conditions have the potential to reduce livestock herd sizes and limit demand for animal health products.**

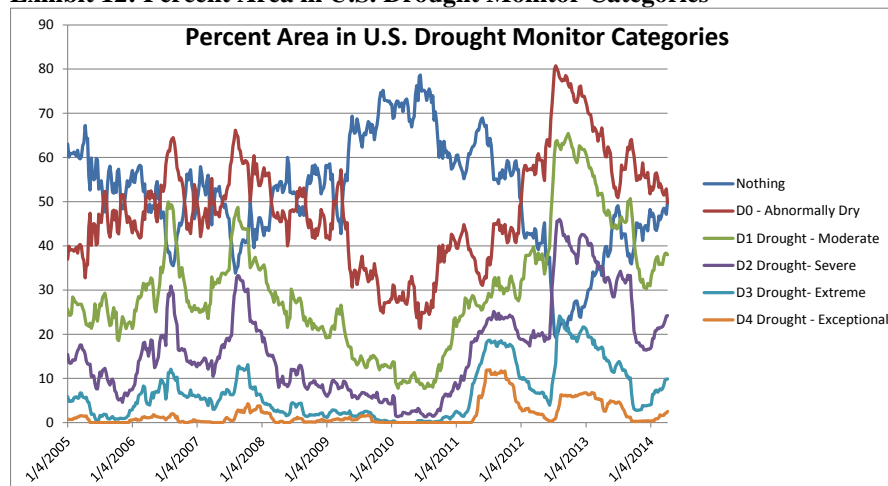
With the limited rain during periods of drought, there is potential for increases in the price of animal feed such as corn and lower grazing area availability, increasing fixed costs for farmers and limiting growth of cattle and hog herds as well as restricting poultry and milk production. In severe drought conditions cattle may spend a higher proportion of the year in feed lots; and entry and exit from feed lots is associated with higher rates of disease. The U.S. Drought of 2012 is a good example of the effects of drought conditions; it was the most severe and widespread drought in the last 25 years. It led to increases in farm prices of corn, soybeans, and crops, which then led to increases in meat prices, with the largest increase in poultry and eggs (5.5% increase in poultry prices seen from June 2012 to June 2013). Cattle inventories saw historic lows, and hog litters saw a decline in the second half of 2012. We summarize drought conditions in the U.S. since 2005 in Exhibit 12, which shows the significant jump in drought conditions in 2012 and the subsequent return to more normalized levels by early 2014. Phibro management indicated that it was not as adversely impacted by this drought as its competitors since only a small fraction of its animal health business focuses on U.S. cattle production.

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<sup>17</sup><http://www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/JudiciousUseofAntimicrobials/ucm390738.htm>

<sup>18</sup> <http://phibropro.com/downloads/GN13002USA0413-%20GFI%20209%20and%20213%20PAH%20Public%20Statement.pdf>



**Exhibit 12: Percent Area in U.S. Drought Monitor Categories**

Source: US Drought Monitor, Cantor Fitzgerald research

Soybean and corn prices (two main components of livestock diet) have come down significantly since the 2012 drought, which should be associated with increased demand for Phibro's products, in our view. We summarize corn and soybean prices over the past 10 years in Exhibit 13.

**Exhibit 13: Ten-Year Corn and Soybean Price Chart**

Source: FactSet, Cantor Fitzgerald research

### 3. Demand for animal medicines has the potential to fluctuate based on outbreak of animal disease epidemics.

Disease outbreaks have the potential to reduce herd populations either by widespread death from the disease or by precautionary destruction of animals, both of which may reduce demand for animal medicines. Consumer concern stemming from the news regarding the disease itself also has the potential to reduce demand for protein associated with the diseases, which is what was experienced with many of the avian flu outbreaks. Another recent disease of concern, porcine epidemic virus (PEDv) kills large numbers of piglets but does not represent a food safety issue. However, demand for animal medicines can also grow with increased outbreaks, causing concern and increasing prophylactic use of vaccines and antibiotics.



**4. Longer term, climate change has the potential to negatively impact livestock production efficiency.**

In the past century, global average surface temperatures have risen by approximately 0.7°C.<sup>19</sup> Livestock is recognized to be a potential contributor to these rising temperatures, but may also suffer from the consequences of increased temperatures. Grazing systems have the potential to degrade from decreasing rainfall and increasing temperatures. Higher temperatures tend to reduce animal feed intake and cause lower feed conversion rates. A warmer climate may also contribute to difficulty keeping animals cool. Higher temperatures combined with variable precipitation also potentially encourage disease. All of these outcomes of increased temperatures have the potential to increase costs for farmers or decrease yield, which could potentially cause farmers to reduce overhead expenses like animal medicines.

**We delve further into species-specific issues that impact Phibro's business.**

**While poultry production is recovering with decreasing feed prices, avian flu outbreaks remain a major concern.**

The poultry industry outlook was improving in mid-2013 due to continued high prices of pork and beef and decreasing prices of feed, both of which may continue to benefit the industry.<sup>20</sup> The main negative driver in the industry is the consumer concern regarding avian influenza outbreaks. China experienced a wave of outbreaks of the H7N9 avian flu in 2013, which had little impact on poultry production, but has been transmitted to 130 humans causing 30 deaths. It appears to be a deadlier virus than H1N5, which has been spreading throughout the Asian poultry industry for a number of years now. Concern regarding these outbreaks may hamper Chinese exports of poultry and has potential to shift consumer consumption behavior. Phibro recently introduced its vaccines into the Chinese poultry market, so the avian flu epidemic has potential to limit growth of Phibro's product line in the short-term. However, the improving industry outlook in other geographic segments is a positive for Phibro's sales, which are heavily dependent on the poultry industry. Poultry production in the U.S in early 2014 does appear to be increasing, as well, although perhaps not as robustly as initially hoped. The USDA reported in March 2014 that it has been decreasing its estimates of broiler meat production for 2014, but still estimates Y/Y growth as 2% higher than in 2013.

**Beef prices remain high after the 2012 drought forced herd liquidation and tested consumer appetite for beef.**

Global beef supplies were expected to remain stagnant in the second half of 2013 in large part due to the ongoing drought-induced herd liquidation in the United States. As of January 2014, evidence of herd expansion was starting to appear, but the January 1 total cow inventory declined by 1% Y/Y and the USDA expects continued declines in beef production for 2014.<sup>21</sup> As of March 1, the number of cattle on feed has continued to decline, although only slightly (99%) below last year's numbers.<sup>22</sup> Beef prices in the U.S. were high in 2013 due to drought conditions, which increased feed prices and forced herd liquidation. European beef prices increased after the horse meat scandal, in which several European countries found that a significant amount of products labeled as beef was actually horse meat. Governments responded with investigations and more stringent supervision of the industry, which forced replacement of horse meat with beef and tightened supply. Beef prices have been rising relative to chicken and pork, which may limit demand with potential slowing of worldwide disposable income growth and increasing inflation. As of the USDA's March 2014 report, cow prices have been continuing to increase as cow slaughter has declined and fed cattle (those ready to be sold for

<sup>19</sup> <http://www.fao.org/docrep/012/i0680e/i0680e.pdf> (Pg 63)

<sup>20</sup> Rabobank Poultry Quarterly, Q2 2013 (Pg 1)

<sup>21</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm236.aspx> (Pg 3)

<sup>22</sup> <http://usda.mannlib.cornell.edu/usda/current/CattOnFe/CattOnFe-03-21-2014.pdf> (Pg 2)

slaughter) prices have been volatile.<sup>23</sup> Cattle only represents 6% of Phibro's business, so we expect less exposure and downside risk if this industry continues to underperform.

Separately, Phibro has been trying to expand into the dairy business via its nutritional specialties segment, namely its OmniGen product (which is used to enhance the immune system of dairy cows and generates increased, higher quality milk production). Sales of OmniGen will be largely dependent on the number of dairy cows in the various regions it is targeting. The USDA forecasted 9.3 million dairy cows in February 2014, but the number of cows being culled continues to be high.<sup>24</sup> However, prices for replacement heifers and dairy calves has increased recently, indicating increased demand and potentially suggesting herd expansion in the near foreseeable future, which may benefit Phibro. The USDA is also forecasting strong dairy product prices for the remainder of 2014, which should encourage expansion within the dairy industry.

**Pork margins are improving due to declining feed costs, but the spread of a new virus in the U.S., porcine epidemic diarrhea virus (PEDv), has the potential to threaten herd growth.**

With slight pricing increases and declining feed costs, margins were expected to recover in the pork industry towards the end of 2013.<sup>25</sup> The concerns in China regarding the avian flu drove some of the price increases for pork in China. The USDA reported a dramatic increase in hog prices in the second half of February 2014, with the average price of lean hogs (51-52 percent lean hog) 13% percent higher than a year ago.<sup>26</sup> The new virus PDEV has been spreading, causing piglet deaths, and may limit production in the short-term until the industry learns how to minimize the effects of this disease. In March 2014, the USDA reported a jump in PDEV outbreaks, with the average weekly cases in the first two weeks of February increasing to 310 from the January weekly average of 237.<sup>27</sup> In the U.S., there may be some early indications of increasing herd sizes, with modest increases in breeding perhaps as a response to expected lower corn costs with a new crop. Pork has also been benefitting from recently high beef costs, which may be causing consumers to switch to pork as an alternative.<sup>28</sup> Improved margins and herd sizes have the potential to help Phibro's swine segment, which represents 16% of its current sales overall, but PDEV may represent an increasing issue for growing herds. We summarize some of the industry factors affecting the various species in Exhibit 14.

**Exhibit 14: Industry Specific Trends Impacting Phibro**

Factors	Poultry	Pork	Cattle
<b>Disease outbreaks</b>	H7N9, H5N1 associated with consumer concern and export restrictions	PDEV kills piglets, decreasing pig numbers	Foot and mouth disease and bovine spongiform encephalopathy could lead to trade bans
<b>Drought effects</b>	Causes feed price increases that lower margins	Causes feed price increases that lower margins	Causing steady decline in cattle herds for number of years

Source: Cantor Fitzgerald research and Company reports

PDEV = Porcine epidemic diarrhea virus, H7N9 = Avian influenza A virus subtype H7N9, H5N1 = Avian influenza A virus subtype H5N1

<sup>23</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm237.aspx> (Pg 3)

<sup>24</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm237.aspx> (Pg 14)

<sup>25</sup> Rabobank Pork Quarterly, Q3 2013 (Pg 1)

<sup>26</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm237.aspx> (Pg 5)

<sup>27</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm237.aspx> (Pg 6)

<sup>28</sup> <http://ers.usda.gov/publications/ldpm-livestock,-dairy,-and-poultry-outlook/ldpm237.aspx> (pg 5)

**We summarize livestock production cycles for cattle, pork and poultry to better illustrate how each category can respond to shifting market conditions.**

**Cattle production cannot easily respond to demand due to a long, intensive raising process, which is dependent on climate conditions.**

The cattle industry is highly dependent on the availability of natural resources such as grasslands and grain supply. Farmers are constrained in their production capability by these resources as well as the life cycle of the cattle, preventing them from immediately responding to increased cattle prices and demand. The life cycle of cattle includes the time needed to breed birth and raise cattle to a proper weight. The “cattle cycle” is about 8-12 years long, which is the longest cycle of all animals in the meat production industry.<sup>29</sup> To raise calves, farmers are highly dependent on pasture conditions, as beef cows forage outside while raising a calf. After weaning, calves can be transferred to feedlots, where cattle are fed concentrates comprised of protein and grain that allow an average weight gain of 2.5 to 4 pounds per day. Depending on prices, farmers will either increase or reduce herd sizes, but obviously this life cycle delay as well as climate conditions prevent them from responding to higher demand immediately. For this reason, we believe that cattle represents the riskiest livestock segment and appreciate Phibro’s low exposure to this category.

**Pork production has limited dependence on climate or land resources, and pigs can be raised in about 24 to 29 weeks.**

When a female pig is born (gilt), it will be ready to breed after about 32 weeks and can be mated with a male pig (boar). After giving birth (farrowing), the female pig (called a sow after giving birth) can bear a litter of nine piglets on average about every 16 weeks. After birth, piglets are weaned at 2-3 weeks of age and then fed concentrates for a slow growth phase for the next six weeks to attain a weight of 20-60 pounds. The pigs then begin an intensive feeding period for the next 16-20 weeks to reach desired weight of 240-270 pounds. From birth, pigs take about 24 to 29 weeks to get to proper weight.<sup>30</sup> Most pigs are raised in what is called a confinement production, or a facility that allows for year-round production, protecting hogs from seasonal weather changes and utilizing minimal land resources. With a shorter life cycle and protection from climate fluctuations, pork producers can respond to factors such as increased demand and increased prices for pork meat.

**Poultry production requires the shortest time frame, and takes place largely indoors.**

A broiler hen is a chicken being raised for meat production rather than to lay eggs. An egg to be grown into a broiler is taken to a hatchery and stored in an incubator until hatching at about 21 days and then transported to commercial grow-out facilities, an indoor climate-controlled facility where they are provided with feed and water.<sup>31</sup> A 3-3.5 pound broiler can be raised in about 8 weeks in an indoor facility with ventilation and heating to maintain a controlled climate at various seasons. The main problem with these large facilities is that diseases can spread under tight confinement or poor sanitary conditions, which may require higher levels of medication.

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<sup>29</sup> <http://www.ers.usda.gov/topics/animal-products/cattle-beef/background.aspx>

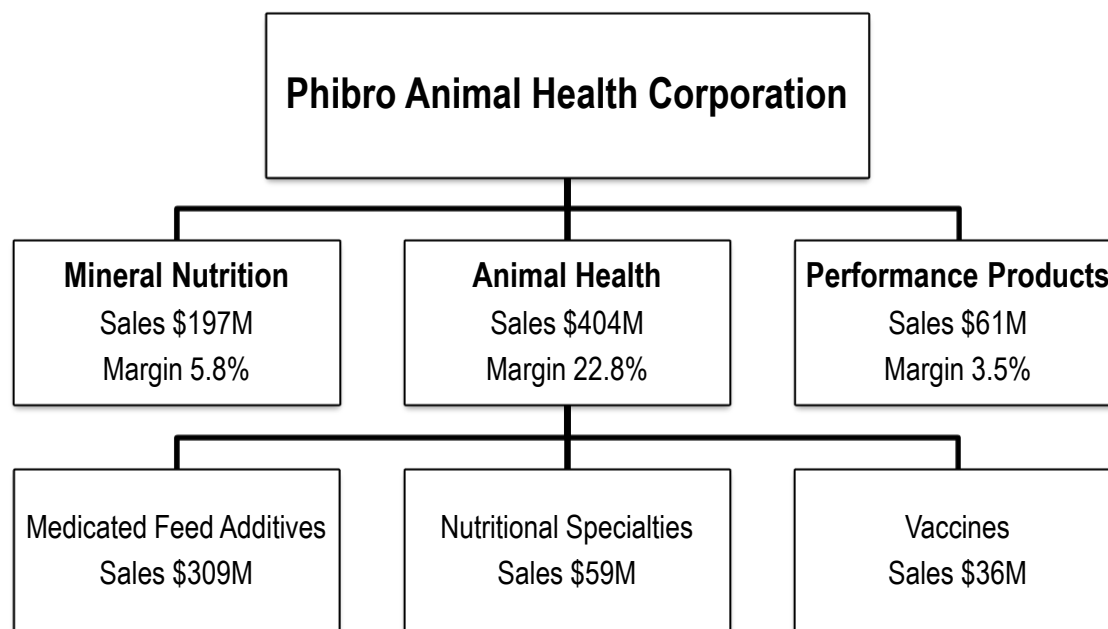
<sup>30</sup> <http://www.ers.usda.gov/topics/animal-products/hogs-pork/background.aspx>

<sup>31</sup> <http://www.epa.gov/agriculture/ag101/printpoultry.html>

## Company Overview

Phibro primarily focuses on developing products for livestock and segments its products into three categories: animal health, mineral nutrition, and performance products. We summarize Phibro's major business divisions in Exhibit 15.

**Exhibit 15: Phibro Animal Health Major Divisions**



Source: Cantor Fitzgerald research and Company reports, all financials reflect TTM ended December 31, 2013

### Broad portfolio allows for complementary marketing efforts.

Phibro markets its various products, which include greater than 1,000 varieties in all its divisions, to livestock producers and veterinarians in over 65 countries. Its broad array of products in several product categories and serving multiple species allows for cross marketing of its products by its 225-member sales team. Management noted that producers need to utilize a number of different medical products in varying combinations to address different situations and seasons. Further, overuse of a single product could result in lessened efficacy, and for this reason, producers need to maintain relationships with a number of animal health companies rather than relying exclusively on offerings from a single animal health company.

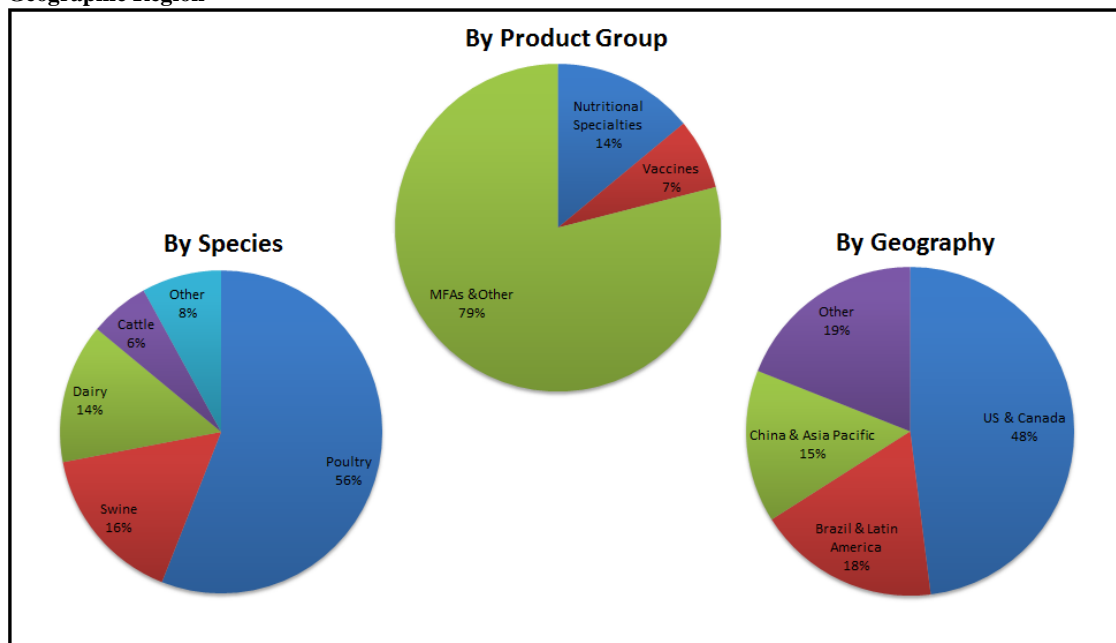
Phibro employs 105 technical, field service staff to ensure quality assurance and help generate more brand loyalty for Phibro. Management indicated that its sales force consists of highly educated and technically competent veterinarians and nutritionists who help production staff identify disease pressures and opportunities to use Phibro products. We assume that Phibro has no competitive advantage with respect to its sales force training or tactics versus its competitors.

### Animal health is Phibro's largest, most established division.

Phibro's animal health business manufactures and markets over 550 products that include antibacterials, anticoccidials, nutritional specialty products, and vaccines. Phibro's animal products largely target poultry, which contributed approximately 56% of Fiscal 2013 sales. Phibro's animal health products are largely sold in the U.S. and Canada, with sales in those regions representing 48% of Fiscal 2013 sales. Annual net sales in this segment grew at a CAGR of +5.6% annual from Fiscal

2011 to 2013, and its adjusted EBITDA margin improved from 17.4% in Fiscal 2011 to 21.6% in Fiscal 2013, making it Phibro's most profitable division. Management indicated that its most recent margins in this business are running closer to 23%. Phibro further sub-divides its animal health business into medicated feed additives (MFAs), nutritional specialties, and vaccines. We summarize sales by product group, species, and geographic region in Exhibit 16.

**Exhibit 16: Phibro Animal Health Fiscal 2013 Percentage of Sales by Product Group, Species, and Geographic Region**



Source: Cantor Fitzgerald research and Company reports

**Medicated feed additives is Phibro's largest segment within its animal health division.**

Medicated feed additives accounted for 79% of Phibro's animal health sales in Fiscal 2013. The MFA segment is comprised primarily of the sale and production of antibacterials and anticoccidials. Growth in this segment is expected to largely stem from increased presence in emerging markets, and the MFA sector as a whole is expected to experience compound annual growth rates of +5.3% between 2012 and 2017, according to Vetnosis. We summarize the company's main products in this category in Exhibit 17 and also highlight the products that will be impacted by Guidance for Industry # 213 (as determined by FDA's published affected products list):

**Exhibit 17: Antibiotic Product List**

Brand	Active Ingredient	Description	Affected by GFI #213
Terramycin/ TM-50/ TM-100	oxytetracycline	Antibacterial, multiple species	Y
Neo-Terramycin/ Neo-TM	oxytetracycline + neomycin	Antibacterial, multiple species	Y
Nicarb	nicarbazine	Anticoccidial, poultry	Y
Amprolium	amprolium	Anticoccidial, poultry and cattle	Y
Bloat Guard	poloxalene	Anti-bloat treatment, cattle	
Banminth	pyrantel tartrate	Anthelmintic, livestock	Y
Mecadox	carbadox	Antibacterial, swine	Y
Stafac/ Eskalin/ V-Max	virginiamycin	Antibacterial, swine, and cattle	Y
Coxistac/ Posistac	salinomycin	Anticoccidial, poultry and cattle	Y
Rumatel	morantel tartrate	Anthelmintic, livestock	
Cerdistac/ Cerdimix	oxibendazole	Anthelmintic, livestock	
Aviax/ Aviax II	semduramicin	Anticoccidial, poultry	Y
Aviax Plus	semduramicin + nicarbazine	Anticoccidial, poultry	Y

Source: Cantor Fitzgerald Research, Company Reports

**Virginiamycin is Phibro's leading product in the medicated feed additives division.**

Virginiamycin is a treatment for bacterial infections and enteric diseases in a variety of animal species, including poultry, cattle, and swine. Specifically, virginiamycin is used to prevent necrotic enteritis in chickens, to treat and control swine dysentery, and to aid in the prevention of liver abscesses. Phibro markets virginiamycin under the brand names Stafac, Eskalin, and V-max. Phibro is the only worldwide manufacturer and seller of virginiamycin. Intellectual property in the form of manufacturing knowledge and cost efficiency has allowed Phibro to protect this product from generics even though it has been off-patent for approximately 20 years. Virginiamycin is approved for use in over 30 countries and has over 90 product registrations. The drug is included on FDA's GFI affected product list, which is the FDA's list of products that it recommends should be switched from OTC status to veterinary oversight. We anticipate that these products will eventually switch to the veterinary feed directive category, but think that this change should have minimal impact on sales given that Phibro's customers have access to veterinarians who will continue to prescribe the medication for disease prevention purposes.

Phibro has indicated that there is potential for virginiamycin to be taken off the list of medically important drugs. While virginiamycin has never been used in human medicine, it is in a class of antimicrobials, streptogramins, which have been used in humans. Synercid, an antibiotic in this class, was the main treatment for vancomycin-resistant *Enterococcus faecium* infections (VREf), but as of 2010, the FDA determined that it is no longer an effective treatment for VREf, and there are other antimicrobials that have since been approved for VREf. Based on this information, Phibro feels that virginiamycin should no longer be classified as "medically important," and Phibro is pursuing this issue with the Center for Veterinary Medicine.<sup>32</sup> Irrespective of its classification, we do not expect Phibro to lose any virginiamycin revenues as a result of the GFI.

**Nutritional specialties represents Phibro's next largest animal health segment and has shown strong recent growth.**

Phibro's nutritional specialties segment accounted for 14% of its animal health sales in Fiscal 2013 and focuses largely on products for the dairy cow industry. Net sales in this category were \$52 million in Fiscal 2013 and grew over 20% Y/Y in the six months ending December 31, 2013, as compared to the same six-month period in 2012. From Fiscal 2011 to 2013, nutritional specialties sales had a CAGR of 10%. Management believes that its competitors lack a nutritional segment, which makes it a

<sup>32</sup> <http://phibropro.com/downloads/GN13002USA0413-%20GFI%202009%20and%202013%20PAH%20Public%20Statement.pdf>

competitive advantage for the company. We summarize Phibro's main nutritional specialty products in Exhibit 18:

**Exhibit 18: Nutritional Specialties Product List**

Brand	Description
AB20	Natural flow agent to improve feed quality
Chromax	Source of chromium to encourage swine reproduction
Biosaf	Heat stable live-cell yeast to improve production and increase milk yield
Procreatin 7	Live-cell yeast for dairy cow nutrition
Animate	Maintains calcium levels in dairy cows
Safmannan	Yeast cell walls that optimize production
OmniGen-AF	Optimizes dairy cow immunity
Reap	Feed enzyme that increases nutrient availability for poultry and swine
NutrafitoPlus	Blend of saponins, triterpenoids and polyphenols that improves absorption of nutrients
Provia 6086	Microbial combined with Safmannan and Biosaf

Source: Cantor Fitzgerald Research, Company Reports

**OmniGen-AF represents Phibro's leading product in its nutritional specialties space.**

OmniGen is a patented product acquired in 2012, shown in several studies to maintain cows' immune systems. It is a non-antibiotic immune enhancer that helps reduce metabolic disorders and allows dairy cows to produce more, higher quality milk. Phibro has an ongoing project involving studies at dairies throughout the U.S., with more than 270,000 cows, which allows producers to measure the before/after impact of this product to increase trial and purchase. OmniGen is estimated to have achieved penetration into 20% of the 20 million U.S. dairy cow market. In 2013, Phibro launched OmniGen in Europe and Brazil, which represent an additional potential 15 million and 2 million dairy cows, respectively. The next area that Phibro is targeting is China, which has about 5 million dairy cows. This product therefore represents another growth opportunity for the company, based on geographic expansion.

**Vaccines represent Phibro's smallest segment within animal health, but we think that these products have strong growth potential and higher profitability.**

Phibro's last animal health segment, vaccines, has focused largely on the poultry industry and accounts for roughly 7% of animal health sales. This segment may represent an opportunity for high growth potential. In 2013, Phibro entered into a manufacturing and distribution agreement with EpiTopix, which made Phibro the exclusive distributor of its vaccines for chickens and provided Phibro an entry into vaccine sales for broiler chickens in the United States. Phibro has also re-launched its vaccines in China and Brazil, the second and third largest broiler chicken markets, respectively, and views its emerging markets poultry vaccine business as an area of future expansion for the company.

**TAbic is one of Phibro's new leading products in its vaccine segment, which is a new formulation technology that provides superior efficiency and convenience.**

Phibro acquired the TAbic vaccine technology as part of its 2009 Abic acquisition from Teva. TAbic is a patented formulation technology allowing vaccines to be delivered via effervescent tablets rather than via glass vials. The effervescent tablets are packaged in aluminum blister packages and are easier to transport and store than glass vials, while offering less risk for product damage as well as more convenient handling and disposal. In 2012 Phibro licensed this technology to a major animal health company and received a \$5 million license payment. We think the company may have additional opportunities to license this technology to other manufacturers.

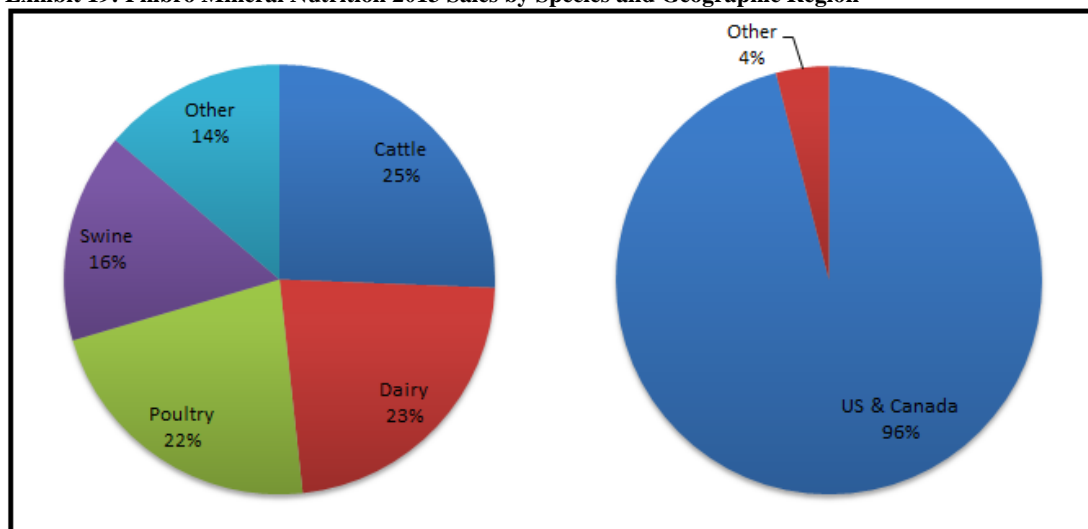


Net sales for vaccines in Fiscal 2013 were \$29 million. Y/Y sales grew +28.1% from 2011 to 2012, but then declined -21.9% in 2013, making its CAGR from Fiscal 2011 to 2013 flat (0%). Management attributes the dip to difficult Y/Y comps because of the \$5 million TABic license payment in 2012, and it also encountered temporary challenges with its Chinese distributors, which have subsequently been resolved. Comparing sales from the second quarter of Fiscal 2012 to 2013, the vaccine segment grew by \$6 million or +111%, largely due to market entry into Turkey as well as increased sales in India and China. Management expects to receive two \$4 million milestone payments in FY2015 and FY2016 for its TABic technology, followed by a 10-year royalty stream on TABic sales estimated to be in the 4% range. The vaccines industry is expected to experience compound annual growth rates of +6.8% from 2012 to 2017, according to Vetnosis.

**Mineral nutrition is Phibro's next largest division after animal health and represents a consistent source of revenue.**

Phibro's mineral nutrition business includes the manufacturing and distribution of more than 450 formulations of trace minerals such as zinc, manganese, copper, and iron that are used to fortify livestock feed. Growth in this business is largely driven by livestock production numbers, but pricing varies depending on the costs of the underlying commodity metals. Sales for Fiscal 2013 in mineral nutrition were \$203 million, and sales have remained roughly level since 2011, with CAGR of -1% from 2011 to 2013, which could be potentially be attributed to the 2012 drought that decreased livestock numbers. Beef production has been declining in recent years, with growth rates of -1.1% and -0.8% in 2012 and 2013, respectively, and the USDA is projecting a 4.5% decline in 2014, potentially reflecting a delay in the impact of the drought on production numbers. This division's operating margin was 4.8% in Fiscal 2013, and operating margins have been relatively flat to declining during the prior two years (5.4% in 2011 and 5.1% in 2012). While this business is largely concentrated in the United States and Canada, it is diversified across several species. We summarize sales by species and geographic region in Exhibit 19.

**Exhibit 19: Phibro Mineral Nutrition 2013 Sales by Species and Geographic Region**



Source: Cantor Fitzgerald research and Company reports

**Performance products represent Phibro's last division, which is unrelated to the animal health industry, and management indicated that this segment may eventually be divested, as it is a low margin business.**

Phibro's performance product division manufactures and markets ingredients for use in personal care, automotive and industrial chemical, and chemical catalyst industries, and sales are largely concentrated in the United States. Performance product net sales were \$65 million with an operating margin of 2.7%

for the fiscal year ending in 2013. Performance products sales had a CAGR of 0.6% from Fiscal 2011 to 2013.

**Phibro recently acquired AquaVet and plans to extend its existing products into the growing aquaculture market.**

In January 2014, Phibro acquired AquaVet, a veterinary consulting and contract research firm. With this acquisition, Phibro gained a team of aquaculture professionals that have experience in product development and will be mainly focused on identifying, testing and getting approval for Phibro's existing antibiotics to be used in the aquaculture space. Phibro's antibiotic, Terramycin, is already approved for use in fish. Fish represented about 16.6% of the world's intake of animal protein in 2009, and global food fish production has been expanding at an average annual rate of 8.8% from 1980 to 2010, making it a significant, interesting growth space within the farming industry.<sup>33</sup>

As a comparator, Zoetis has a group of products focused on aquaculture, which includes fish vaccines and diagnostics used in fish farming. Pfizer entered the space after its acquisition of Microtek in 2010. Its "other" category in its livestock sales, which includes fish and sheep, had \$107 million in sales in 2012.

## Management

### Exhibit 20: Company Management

Executive	Title	Biography
Jack Bendheim	Chairman and Chief Executive Officer	Jack Bendheim was recently appointed CEO and Chairman of the Board of Directors prior to Phibro's offering and has served as president and COO of Phibro since 1988. He has served as a director of Phibro since 1984, as Executive Vice President and Treasurer from 1983 to 1988 and as Vice President and Treasurer from 1975 to 1983. He also serves as a director of Empire Resources, and is the current Chairman of the Animal Health Institute, an industry organization advocating for animal health concerns as well as effective FDA, USDA and EPD regulatory and approval processes. He has worked in the animal health industry and at Phibro for nearly 45 years.
Gerald Carlson	Director and COO	Gerald Carlson was recently appointed COO prior to Phibro's offering and has served as CEO of Phibro since May 2002. He has served as a director of Phibro since 2008. Prior to working at Phibro, he served as the Commissioner of Trade and Development for the state of Minnesota from 1999 to 2001. Before 1998, he served as Senior Vice President of Corporate Planning and Development for Ecolab, a global provider of cleaning and sanitation products. During his 32-year career at Ecolab, he also served as Senior Vice President of International as well as Senior Vice President and General Manager of Institutional North America.
Richard Johnson	Chief Financial Officer	Richard Johnson has served as CFO for Phibro since September 2002. Prior to joining Phibro, he served as Director of Financial Management for Laserdyne Prima, a manufacturer of laser cutting and welding systems, from 2001 to 2002. He served as Vice President of Planning and Control, Latin America, for Ecolab from 1992 to 1999 and held several other senior financial positions at Ecolab prior to 1992.
Daniel Bendheim	Director and Executive Vice President, Corporate Strategy	Daniel Bendheim was recently appointed Director and Executive Vice President, Corporate Strategy, of Phibro and has served as President, Performance Products, since 2004. From 2001 to 2004, he served as Vice President of Business Development for Phibro and had held prior positions at Phibro since 1997. Prior to joining Phibro, he worked as an analyst at South Coast Capital, a boutique investment bank.

Source: Cantor Fitzgerald Research, Company Reports

## Financial Performance and Outlook

The Phibro fiscal year ends on June 30.

**Revenues:** We model FY2014 revenues of \$677 million (+3.6% Y/Y growth) and FY2015 revenues of \$722 million (+6.6% Y/Y growth) based on management guidance, recent quarterly growth trends for each of the company's respective segments, and a positive outlook on increased demand associated with lower livestock feed prices in 2014 as well as an anticipated TABic milestone payment of \$4 million in FY2015.

<sup>33</sup> <http://www.fao.org/docrep/016/i2727e/i2727e00.htm> (Pg 5, 8)

**Gross Margins:** We model gross margins in the 30% range, which gradually improve over time due to increased sales of vaccines and animal health products, which carry the highest margins in the company.

**SG&A:** We model low single-digit growth rates to SG&A over time since we don't expect the company to meaningfully increase its sales force over time or to alter its commercialization tactics.

**Interest Expense:** Phibro borrowed \$290 million in tandem with its IPO, and we model a ~4% interest expense on this term debt, which we expect to be paid down over its seven-year term. We model some slight increases to LIBOR during this period. We think that management may opt to postpone repaying its debt for several years.

**Tax:** Phibro has approximately \$45 million in NOLs and expects a one-time tax credit in 2015 when it utilizes these carryforwards. Thereafter, management expects its tax rate to stabilize in the 30% range.

**EPS:** We model non-GAAP adjusted FY2014 EPS of \$0.63 based on a non-GAAP adjusted net income of \$32.4 million and an average share count of 51.4 million shares for the full year. In FY2015 we expect non-GAAP adjusted EPS of \$1.39, and a non-GAAP adjusted net income of \$54.0 million (using an average share count of 38.9 million shares).

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## Valuation

We value Phibro using discounted cash flow analysis (DCF) applied to cash flows from FY2014-FY2020. We utilize a 9% weighted average cost of capital (WACC), which is slightly higher than that of Zoetis, and a 3% terminal growth rate, since we expect the animal health market to continue expanding along with the broader economy. This analysis generates a \$26 price target, which supports our BUY rating.

Zoetis currently trades at an 11x multiple of its 2014E EBITDA, and if we value Phibro with a slight discount (applying a 10x multiple to its estimated FY2015 EBITDA of \$101M), we also arrive at a \$26 price target.

If we utilize comparable transactions like the recent Lilly acquisition of the Novartis Animal Health Business for 5x sales, and think about a far smaller 2x sales multiple applied to FY2015 Phibro sales (given Phibro's lower margins and livestock focus), we arrive at a hypothetical value of \$37 per share, which supports our BUY thesis.

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## Risks

- (1) Potential exit of the 3i shareholders who own approximately 7% of outstanding shares could pressure the stock.
- (2) Any additional regulatory restrictions on antibacterial use in the U.S. or amongst international importers could decrease demand for Phibro's products.
- (3) Disruptive macroeconomic events such as wars, economic downturns that lead to reduced consumer spending, weather changes leading to droughts and increased feed prices, or currency weakness, could adversely impact Phibro's business.
- (4) Animal epidemics could temporarily reduce demand for Phibro's products.
- (5) Competition from other animal health companies or generic players could pressure Phibro.
- (6) Obsolescence of any of Phibro's antibacterials due to increased bacterial resistance could be a longer-term risk to the business.
- (7) 92.4% of share voting power is expected to reside with the Bendheim family, which may obstruct future takeover attempts.

**Exhibit 21: Phibro Income Statement (dollars in millions)**

				30-Sep	31-Dec	31-Mar	30-Jun							
	2011	2012	2013	1Q:14A	2Q:14A	3Q:14E	4Q:14E	2014E	2015	2016	2017	2018	2019	2020
<b>Revenues:</b>														
Product sales, net	618.3	654.1	653.2	162.2	172.7	169.7	172.1	676.7	721.6	761.4	804.2	850.2	899.8	953.1
<b>Total revenues</b>	<b>\$618.3</b>	<b>\$654.1</b>	<b>\$653.2</b>	<b>\$162.2</b>	<b>\$172.7</b>	<b>\$169.7</b>	<b>\$172.1</b>	<b>\$676.7</b>	<b>\$721.6</b>	<b>\$761.4</b>	<b>\$804.2</b>	<b>\$850.2</b>	<b>\$899.8</b>	<b>\$953.1</b>
<b>Operating expenses:</b>														
Cost of product sales	471.7	490.0	474.2	112.7	121.6	118.8	120.4	473.5	501.2	525.1	550.6	577.9	607.0	638.3
SG&A	105.4	114.8	122.2	33.1	34.1	33.9	34.4	135.6	142.5	148.0	153.9	160.2	166.8	173.9
<b>Operating income (loss)</b>	<b>\$41.2</b>	<b>\$49.3</b>	<b>\$56.7</b>	<b>\$16.4</b>	<b>\$17.0</b>	<b>\$17.0</b>	<b>\$17.2</b>	<b>\$67.6</b>	<b>\$77.9</b>	<b>\$88.2</b>	<b>\$99.6</b>	<b>\$112.1</b>	<b>\$125.9</b>	<b>\$141.0</b>
Interest expense	30.4	31.4	31.4	8.8	8.8	6.5	6.5	30.5	14.7	13.8	12.9	12.0	12.0	12.0
Interest expense, shareholders	4.2	4.3	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest (income)	(0.3)	(0.3)	(0.1)	(0.0)	(0.1)	(0.1)	(0.1)	(0.3)	0.0	0.0	0.0	0.0	0.0	0.0
Foreign currency (gains) losses, net	(5.8)	1.2	3.1	0.6	1.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Other income (expense)	20.6	(0.4)	0.2	0.0	0.0	0.0	28.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0
Income (loss) before income taxes	(7.9)	13.1	17.8	7.0	7.1	10.6	(17.2)	7.6	63.2	74.4	86.8	100.1	113.9	129.0
Tax Rate	-63.8%	46.8%	-39%	17%	68%	28%	NM	NM	20.0%	30.0%	30.5%	30.5%	30.5%	30.5%
Provision for income tax	5.0	6.1	(7.0)	1.2	4.8	3.0	3.0	12.0	12.6	22.3	26.5	30.5	34.7	39.3
<b>Net income (loss)</b>	<b>(\$12.9)</b>	<b>\$7.0</b>	<b>\$24.9</b>	<b>\$5.8</b>	<b>\$2.3</b>	<b>\$7.6</b>	<b>(\$20.2)</b>	<b>(\$4.4)</b>	<b>\$50.5</b>	<b>\$52.1</b>	<b>\$60.3</b>	<b>\$69.6</b>	<b>\$79.1</b>	<b>\$89.6</b>
Weighted average number of shares-basic and diluted	68.9	68.9	68.9	68.9	68.9	30.5	37.4	51.4	38.9	39.1	39.3	39.5	39.7	39.9
<b>GAAP EPS</b>	<b>(\$0.19)</b>	<b>\$0.10</b>	<b>\$0.36</b>	<b>\$0.08</b>	<b>\$0.03</b>	<b>\$0.25</b>	<b>(\$0.54)</b>	<b>(\$0.09)</b>	<b>\$1.30</b>	<b>\$1.33</b>	<b>\$1.53</b>	<b>\$1.76</b>	<b>\$1.99</b>	<b>\$2.25</b>
<b>Adjustments to non-GAAP Income</b>														
Income (loss) before income taxes	(7.9)	13.1	17.8	7.0	7.1	10.6	(17.2)	7.6	63.2	74.4	86.8	100.1	113.9	129.0
Other income (expense)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign currency (gains) losses, net	(5.8)	1.2	3.1	0.5	0.5	0.5	0.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Loss on extinguishment of debt	20.6	0.0	0.0	0.0	0.0	0.0	28.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangible Amortization	4.0	3.0	4.0	1.3	1.3	1.3	1.3	5.0	3.5	3.5	3.5	3.5	3.5	3.5
Stock-based compensation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Adjusted non-GAAP Income</b>	<b>11.9</b>	<b>17.3</b>	<b>25.0</b>	<b>8.7</b>	<b>8.8</b>	<b>12.3</b>	<b>12.5</b>	<b>42.4</b>	<b>66.7</b>	<b>77.9</b>	<b>90.3</b>	<b>103.6</b>	<b>117.4</b>	<b>132.5</b>
Provision for income tax	5.0	6.1	(7.0)	1.2	4.8	3.0	3.0	12.0	12.6	22.3	26.5	30.5	34.7	39.3
Tax adjustments	(1.0)	1.0	14.0	(0.5)	(0.5)	(0.5)	(0.5)	(2.0)	0.0	(9.0)	(9.0)	0.0	0.0	0.0
Total Tax	4.0	7.1	7.0	0.7	4.3	2.5	2.5	10.0	12.6	13.3	17.5	30.5	34.7	39.3
Cash tax rate	33.8%	41.2%	27.9%	7.7%	49.0%	20.4%	19.9%	23.6%	19.0%	17.1%	19.3%	29.5%	29.6%	29.7%
<b>Adjusted non-GAAP Net Income</b>	<b>7.9</b>	<b>10.2</b>	<b>18.0</b>	<b>8.0</b>	<b>4.5</b>	<b>9.8</b>	<b>10.0</b>	<b>32.4</b>	<b>54.0</b>	<b>64.6</b>	<b>72.8</b>	<b>73.1</b>	<b>82.6</b>	<b>93.1</b>
Weighted average number of shares-basic and diluted	68.9	68.9	68.9	68.9	68.9	30.5	37.4	51.4	38.9	39.1	39.3	39.5	39.7	39.9
<b>Adjusted Diluted EPS</b>	<b>\$0.11</b>	<b>\$0.15</b>	<b>\$0.26</b>	<b>\$0.12</b>	<b>\$0.07</b>	<b>\$0.32</b>	<b>\$0.27</b>	<b>\$0.63</b>	<b>\$1.39</b>	<b>\$1.65</b>	<b>\$1.85</b>	<b>\$1.85</b>	<b>\$2.08</b>	<b>\$2.34</b>

Source: Cantor Fitzgerald estimates and Company reports

Exhibit 22: Phibro Sales Estimates (dollars in millions)

				30-Sep	31-Dec	31-Mar	30-Jun							
	2011	2012	2013A	1Q:14A	2Q:14A	3Q:14E	4Q:14E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
<b>MFAs and other</b>	\$273.3	\$290.5	\$303.7	\$78.0	\$80.0	\$79.0	\$82.0	\$319.0	\$338.2	\$358.4	\$380.0	\$402.7	\$426.9	\$452.5
Growth		6.3%	4.5%	1.2%	5.3%			5.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
<b>Nutritional Specialties</b>	\$43.1	\$47.7	\$52.3	\$14.1	\$16.4	\$16.0	\$14.0	\$60.6	\$67.9	\$74.7	\$81.4	\$87.9	\$94.9	\$102.5
Growth		10.7%	9.8%	23.2%	28.5%			15.8%	12.0%	10.0%	9.0%	8.0%	8.0%	8.0%
<b>Vaccines</b>	\$28.8	\$36.9	\$28.9	\$9.1	\$11.5	\$11.0	\$12.0	\$43.6	\$59.5	\$69.6	\$81.6	\$95.7	\$111.5	\$128.9
Growth		28.1%	-21.9%	19.2%	111.0%			50.9%	36.5%	17.1%	17.2%	17.3%	16.4%	15.7%
<b>ANIMAL HEALTH</b>	\$345.2	\$375.2	\$384.9	\$101.2	\$108.0	\$103.3	\$110.8	\$423.2	\$465.5	\$502.7	\$542.9	\$586.4	\$633.3	\$684.0
Growth		8.7%	2.6%	5.2%	14.6%	10.0%	10.0%	9.9%	10.0%	8.0%	8.0%	8.0%	8.0%	8.0%
<b>Mineral Nutrition</b>	\$209.3	\$210.1	\$203.2	\$46.2	\$50.6	\$50.2	\$47.3	\$194.3	\$196.2	\$198.2	\$200.2	\$202.2	\$204.2	\$206.2
Growth		0.4%	-3.3%	-7.2%	-4.3%	-3.0%	-3.0%	-4.4%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
<b>Performance Products</b>	\$63.9	\$68.8	\$65.0	\$14.9	\$14.1	\$16.2	\$14.0	\$59.2	\$59.8	\$60.4	\$61.0	\$61.7	\$62.3	\$62.9
Growth		7.8%	-5.5%	-8.1%	-17.0%	-5.0%	-5.0%	-8.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
<b>TOTAL</b>	\$618.3	\$654.1	\$653.2	\$162.2	\$172.7	\$169.7	\$172.1	\$676.7	\$721.6	\$761.4	\$804.2	\$850.2	\$899.8	\$953.1
Growth		5.8%	-0.1%	0.1%	5.2%	4.3%	4.8%	3.6%	6.6%	5.5%	5.6%	5.7%	5.8%	5.9%

Source: Cantor Fitzgerald estimates and Company reports

**Exhibit 23: Phibro Balance Sheet (dollars in millions)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Assets</b>									
<b>Current Assets:</b>									
Cash and cash equivalents	53.9	27.4	9.0	8.9	2.8	5.2	12.2	23.8	46.0
Accounts receivable, net	99.1	99.1	101.2	106.3	110.5	115.1	119.9	125.2	130.8
Inventories	120.1	140.0	141.5	141.4	140.2	139.6	139.4	139.7	140.4
Prepaid expenses and other current assets	28.7	29.8	31.5	31.2	30.0	28.1	25.5	22.4	18.8
<b>Total current assets</b>	<b>301.9</b>	<b>296.4</b>	<b>283.3</b>	<b>287.8</b>	<b>283.5</b>	<b>287.9</b>	<b>297.0</b>	<b>311.0</b>	<b>336.0</b>
Property and equipment, net	101.7	104.4	104.0	102.8	101.6	100.3	99.1	97.8	96.5
Intangible assets, net	15.0	35.2	45.2	55.2	65.2	75.2	85.2	95.2	105.2
Other assets	22.3	38.2	40.0	41.8	43.6	45.4	47.2	49.0	50.8
<b>Total assets</b>	<b>440.9</b>	<b>474.1</b>	<b>472.4</b>	<b>487.5</b>	<b>493.9</b>	<b>508.8</b>	<b>528.4</b>	<b>553.0</b>	<b>588.5</b>
<b>Liabilities and Stockholders' Equity</b>									
Current portion of long-term debt	5.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Accounts payable	67.9	57.9	62.8	66.6	69.8	73.2	76.8	80.7	84.9
Accrued expenses and other current liabilities	52.6	57.4	53.6	49.9	46.4	43.1	40.0	37.0	34.2
<b>Total current liabilities</b>	<b>125.9</b>	<b>115.4</b>	<b>116.5</b>	<b>116.5</b>	<b>116.3</b>	<b>116.4</b>	<b>116.9</b>	<b>117.8</b>	<b>119.2</b>
Domestic senior credit facility	14.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term debt	297.3	297.7	279.7	259.7	229.7	199.7	164.7	124.7	84.7
Long-term debt, shareholders	33.5	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities	58.5	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
<b>Total liabilities</b>	<b>529.1</b>	<b>543.1</b>	<b>458.3</b>	<b>438.3</b>	<b>408.1</b>	<b>378.2</b>	<b>343.7</b>	<b>304.6</b>	<b>266.0</b>
<b>Stockholders' equity</b>									
Common stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	42.7	42.9	155.9	155.9	155.9	155.9	155.9	155.9	155.9
Accumulated deficit	(116.0)	(94.1)	(123.6)	(88.0)	(50.9)	(5.6)	49.0	113.1	187.7
Accumulated other comprehensive income (loss)	(15.0)	(17.8)	(18.3)	(18.7)	(19.2)	(19.7)	(20.2)	(20.7)	(21.2)
<b>Total stockholders' equity (deficit)</b>	<b>(88.2)</b>	<b>(68.9)</b>	<b>14.1</b>	<b>49.2</b>	<b>85.8</b>	<b>130.6</b>	<b>184.7</b>	<b>248.4</b>	<b>322.5</b>
<b>Total liabilities and stockholders' equity (deficit)</b>	<b>440.9</b>	<b>474.1</b>	<b>472.4</b>	<b>487.5</b>	<b>493.9</b>	<b>508.8</b>	<b>528.4</b>	<b>553.0</b>	<b>588.5</b>

Source: Cantor Fitzgerald estimates and Company reports

**Exhibit 24: Phibro Cash Flow Statement (dollars in millions)**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Operating Cash</b>										
Net Income (loss)	(12.9)	7.0	24.9	(4.4)	50.5	52.1	60.3	69.6	79.1	89.6
Depreciation and amortization	16.7	17.5	19.0	20.9	22.0	22.2	22.4	22.6	22.9	23.1
Amortization of deferred financing costs	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Amortization of imputed interest and debt discount	0.4	0.3	0.6	0.6	0.7	0.7	0.8	0.9	1.0	1.1
Deferred income tax	0.7	(2.4)	(12.0)	(2.0)	(1.0)	(0.9)	(0.8)	(0.7)	(0.7)	(0.6)
Foreign currency (gains) losses, net	(7.6)	3.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Other	1.2	(0.5)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)
Loss on extinguishment of debt	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Payments of premiums and costs on extinguished debt	(15.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Changes in assets and liabilities:</b>	<b>(9.0)</b>	<b>5.1</b>	<b>(34.8)</b>	<b>(7.3)</b>	<b>(8.9)</b>	<b>(6.6)</b>	<b>(6.5)</b>	<b>(6.4)</b>	<b>(6.4)</b>	<b>(6.5)</b>
<b>Net cash provided by operating activities</b>	<b>(4.7)</b>	<b>31.9</b>	<b>0.4</b>	<b>10.6</b>	<b>66.1</b>	<b>70.4</b>	<b>79.1</b>	<b>88.8</b>	<b>98.7</b>	<b>109.5</b>
<b>Cash flows from investing activities</b>										
Capital expenditures	(21.6)	(14.8)	(19.9)	(20.5)	(20.8)	(21.0)	(21.2)	(21.4)	(21.6)	(21.8)
Business acquisitions	0.0	(3.4)	(18.7)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
Sale of assets	2.2	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net cash used in investing activities</b>	<b>(19.5)</b>	<b>(17.6)</b>	<b>(37.3)</b>	<b>(30.5)</b>	<b>(30.8)</b>	<b>(31.0)</b>	<b>(31.2)</b>	<b>(31.4)</b>	<b>(31.6)</b>	<b>(31.8)</b>
<b>Cash flows from financing activities</b>										
IPO	0.0	0.0	0.0	113.0	0.0	0.0	0.0	0.0	0.0	0.0
Borrowings under the domestic senior credit facility	64.4	1.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayments of the domestic senior credit facility	(46.9)	(4.5)	(55.0)	(67.9)	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from long-term debt	296.8	0.0	0.0	282.0	0.0	0.0	0.0	0.0	0.0	0.0
Payments of long-term debt and capital leases	(246.0)	(4.7)	(5.2)	(300.0)	(20.0)	(30.0)	(30.0)	(35.0)	(40.0)	(40.0)
Debt issuance costs	(8.2)	0.0	(0.9)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid to common shareholders	(50.0)	0.0	(3.0)	(25.0)	(15.0)	(15.0)	(15.0)	(15.0)	(15.0)	(15.0)
<b>Net cash provided by financing activities</b>	<b>10.2</b>	<b>(8.2)</b>	<b>10.9</b>	<b>2.1</b>	<b>(35.0)</b>	<b>(45.0)</b>	<b>(45.0)</b>	<b>(50.0)</b>	<b>(55.0)</b>	<b>(55.0)</b>
<b>Effect of exchange rate</b>	<b>(0.1)</b>	<b>(0.7)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>	<b>(0.5)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(14.1)</b>	<b>5.3</b>	<b>(26.5)</b>	<b>(18.3)</b>	<b>(0.1)</b>	<b>(6.1)</b>	<b>2.4</b>	<b>6.9</b>	<b>11.6</b>	<b>22.2</b>
<b>Cash and cash equivalents, at beginning of period</b>	<b>62.7</b>	<b>48.6</b>	<b>53.9</b>	<b>27.4</b>	<b>9.0</b>	<b>8.9</b>	<b>2.8</b>	<b>5.2</b>	<b>12.2</b>	<b>23.8</b>
<b>Cash and cash equivalents, at end of period</b>	<b>48.6</b>	<b>53.9</b>	<b>27.4</b>	<b>9.0</b>	<b>8.9</b>	<b>2.8</b>	<b>5.2</b>	<b>12.2</b>	<b>23.8</b>	<b>46.0</b>

Source: Cantor Fitzgerald estimates and Company reports



**Exhibit 25: Companies Mentioned**

Company Name	Exchange	Ticker	Rating
3i Corporation	N/A	Private	NC
Aratana Therapeutics, Inc.	NASDAQ	PETX	NC
Bayer AG	Xetra	BAYN-DE	NC
BFI Co	N/A	Private	NC
Bioniche Life Sciences Inc.	Toronto	BNC-CA	NC
Boehringer Ingelheim	N/A	Private	NC
Cargill	N/A	Private	NC
Eli Lilly and Company	NYSE	LLY	NC
Epitopix	N/A	Private	NC
Genus plc	London	GNS-GB	NC
IDEXX Laboratories, Inc.	NASDAQ	IDXX	NC
JBS S.A.	Sao Paulo	JBSS3-BR	NC
Merck & Co., Inc.	NYSE	MRK	NC
Monsanto Company	NYSE	MON	NC
National Beef	N/A	Private	NC
Novartis AG	SIX Swiss	NOVN-CH	NC
Perdue	N/A	Private	NC
Pfizer Inc.	NYSE	PFE	NC
Pilgrim's Pride Corporation	NASDAQ	PPC	NC
Sanderson Farms, Inc.	NASDAQ	SAFM	NC
Sanofi	Euronext Paris	SAN-FR	NC
Syngenta AG	SIX Swiss	SYNN-CH	NC
Teva Pharmaceutical Industries Limited	Tel Aviv	TEVA-IL	NC
Tyson Foods, Inc. Class A	NYSE	TSN	NC
Valeant Pharmaceuticals International, Inc.	NYSE	VRX	BUY
Vetoquinol SA	Euronext Paris	VETO-FR	NC
Virbac SA	Euronext Paris	VIRP-FR	NC
WH Group	N/A	Private	NC
Zoetis, Inc. Class A	NYSE	ZTS	NC

Source: Cantor Fitzgerald research, FactSet

## Company Description

*Phibro Animal Health Corporation is an international livestock focused animal health company that manufactures animal medicines and nutritional products utilized by large industrial meat producers. At this time, Phibro's products primarily focus on the poultry and swine segments of the livestock market but the company is also making inroads into peripheral areas such as dairy and aquaculture which could become more prominent in the future.*

## Disclosures Appendix

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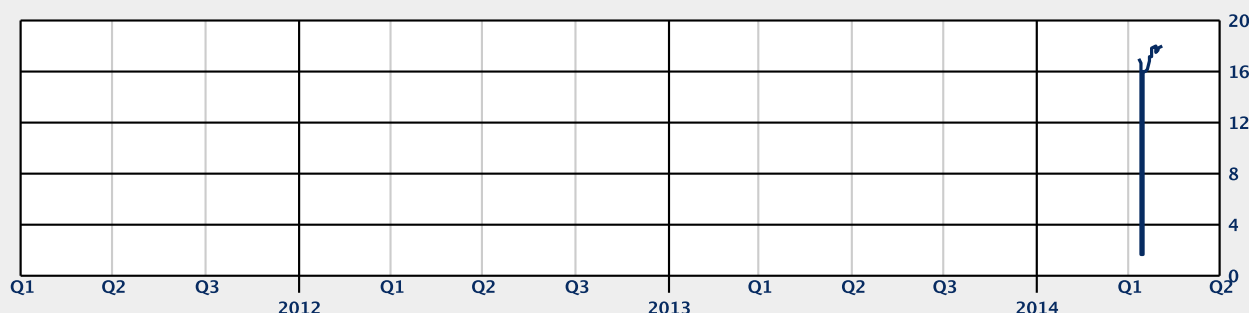
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**Rating and Price Target History for: Phibro Animal Health Corporation (PAHC) as of 05-05-2014**



B=Buy H=Hold S=Sell I=Initiated D=Dropped

Created by BlueMatrix

**Rating and Price Target History for: Valeant Pharmaceuticals International, Inc. (VRX) as of 05-05-2014**



B=Buy H=Hold S=Sell I=Initiated D=Dropped

Created by BlueMatrix

Rating	Cantor		IB Serv./Past 12 Mos.	
	Count	Percent	Count	Percent
BUY [B]	80	55.17	20	25.00
HOLD [H]	54	37.24	8	14.81
SELL [S]	11	7.59	1	9.09