



THE ALLTECH GLOBAL FEED SURVEY

Dr Pierce Lyons enjoyed speaking to the press and it's an enjoyment that his son Dr Mark Lyons carried forward in late January when he presented the 2019 Alltech Global Feed Survey which he says "is the premier insight into the global feed industry." Dr Mark Lyons was presenting the figures for 2018, the eighth annual survey carried out by the company, during an online press conference for journalists from around the world.

It was back in the early 1990s when Dr Pierce Lyons "started to talk to us about the amount of feed tonnage around the world," Dr Mark Lyons, President and CEO of Alltech, remembered.

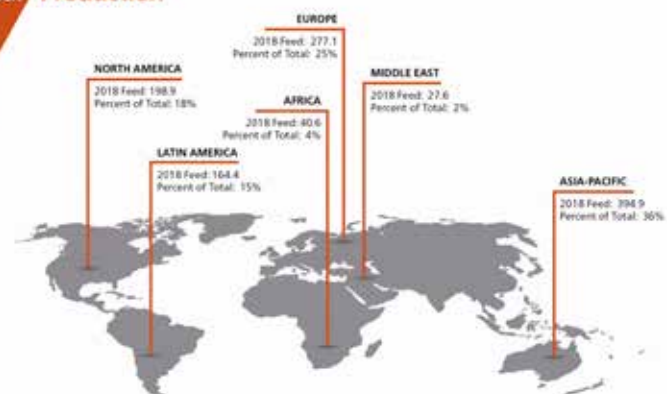
Speaking to the worldwide press from his company's headquarters in Kentucky, USA, Dr Mark Lyons recalled his father saying that "At some stage in the future there will be a billion tonnes of feed produced and that gave Alltech a sense of what was really possible.

"He told us that if we could sell US\$1 into every tonne of feed we would be a billion-dollar company. That change the ambition and direction of our business, and as he always did, made us think bigger and bigger."

Now with the information the company has been able to gather over the past eight years, it has provided different insights. It shows changes in economic growth, changing production levels and changes within industries while identify new trends in the 144 countries surveyed, he says.

Dr Mark Lyons says the survey is now sought after as people

Regional Production



Regional Growth



"India, one of the fastest growers in feed production terms this year, is up 13 percent by our estimates, which is also reflected in the eight percent GDP growth that we see"

1.103 billion
metric tons

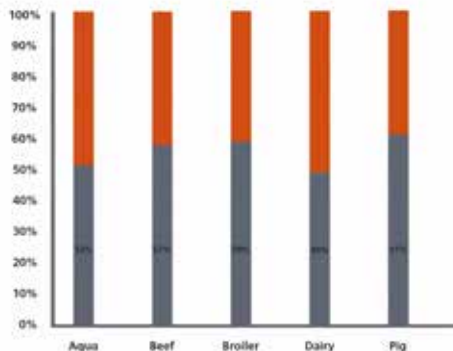
3% increase

29,605 feed
mills

Top 8 of 2018

Percentage of Global Total
for Primary Species

■ Top 8
■ Global Total



“Two years ago, the feed industry crossed the threshold of one billion tonnes and is expected to maintain an upward trajectory as the world’s population continues to grow”

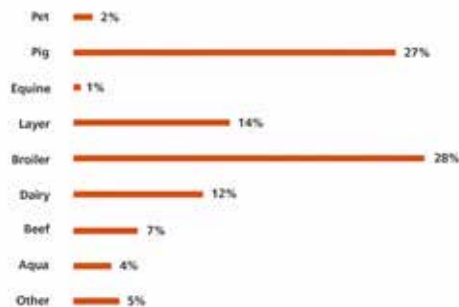
“dig a little bit deeper and add and compile their own information to extrapolate new finding.

“So this year, with our 8th annual global survey, we are able to show that we are beyond that one billion, at 1.1 billion tonnes of feed produced in 2018. This represents an estimated three percent increase over the previous year, similar to last year, with about 30,000 feed mills reporting.

“We reach out to our colleagues early in the year and touch base with them throughout the year, to get information from our feedmill customers, in over 144 countries. We are talking to feed associations and governments and what we find is that we have to create this estimate because the information received is calculated in so many different ways.

“And so, through that process, we come up with this

Global Species Feed Production



estimate that allows us to really think about the data in deeper ways.”

Asia leads but faces challenges

Two years ago, the feed industry crossed the threshold of one billion tonnes and is expected to maintain an upward trajectory as the world’s population continues to grow — particularly the middle class, which is increasingly showing its interest in protein consumption.

In terms of regional production, Asia continues to lead the way with almost 400 million tonnes of feed. 36 percent of global feed with Europe representing a quarter, North America 18 percent, Latin America 18 percent, Africa four percent and Middle East just two percent.

“If we look for growth it is Africa that offers the greatest opportunity, which reflect the economic growth seen in this continent and in particular in countries such as Kenya and Tanzania and where VAT on feedstuffs has been removed.

“The poultry sector is really dominating what we are seeing in Asia,” adds Dr Lyons.

China remains the major feed producer and has done so with 180-190 million tonnes annually for several years and maintained those levels in 2018.

“The major species in China is the pig and we are entering into the Year of the Pig. Forty-two percent of overall feed production in China is going to pigs. There is a lot of discussion around this right now with the outbreak of African Swine Fever. This will be a challenging and interesting year in the Chinese market.

“India, one of the fastest growers in feed production terms this year, is up 13 percent by our estimates, which is also reflected in the eight percent GDP growth that we see. It’s a great market that is led by poultry. We also saw something interesting which surprised us. Petfood production in Asia grew 13 percent across a diverse number of countries. This is a new area we should be taking a look at.”

A graphic highlights Asia’s dominance shows that this region is the largest producer of aqua feeds, layer and poultry feeds and is also experiencing rapid growth in pet feed production, in the order of 13 percent in countries such as Indonesia, Taiwan, Thailand and Sri Lanka.

Some quick facts from the survey

1. The top eight countries produce 55 percent of the world’s feed production
2. Vietnam saw an increase of nearly one million metric tons of aquaculture feed, contributing to the estimated six percent growth of the Asia-Pacific region’s aquaculture feed production in 2018
3. Morocco saw the largest growth of any country in Africa thanks to the addition of two new feedmills as well as an extension to an existing feedmill late last year
4. Although not typically known for its pig production, India took a big leap in pig feed production in 2018. Why? The industry is trending toward more organised farming in areas like Kerala and Punjab, with new feed millers contributing to this growth
5. Where’s the beef? Feed production for beef was stagnant this year. Not only that, but the third-largest producing region, Asia-Pacific, dropped enough to let Latin America step up and take the bronze
6. Southeast Asia’s feed production represents over

Latin America

• #2 regional producer of Broiler feed

• Broiler primary for 5 of the top 8

• Broiler feed is down 2%, contributed by

- Brazil
- Chile
- Colombia
- Venezuela



Top 8 in '18	Production	Primary Species	Percent of Primary to Total
Brazil	68.7	Broiler	46%
Mexico	34.8	Broiler	29%
Argentina	22.1	Dairy	26%
Colombia	8.2	Broiler	31%
Peru	5.1	Broiler	31%
Chile	4.8	Pig	29%
Ecuador	2.7	Broiler	45%
Haiti	2.4	Pig	34%

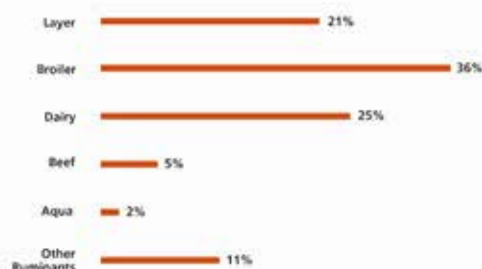
Middle East

• Highest regional growth in mills (10%)

• Largest growth was in broiler feed production (500,000 tons)
- Primarily Iran

• 75% of other ruminant feed is produced in Saudi Arabia for sheep, goats and camels

Feed Production for the Middle East



Asia-Pacific

Largest producer of

- Aquafeed
- Layer
- Broiler
- Other poultry

• Pet feed production grew 13%, primarily in Indonesia, Taiwan, Thailand and Sri Lanka



Top 8 in '18	Production	Primary Species	Percent of Primary to Total
China	187.9	Pig	42%
India	38.7	Broiler	34%
Japan	24.2	Layer	23%
Thailand	21.1	Broiler	35%
Indonesia	20.3	Broiler	35%
South Korea	19.7	Pig	33%
Vietnam	19.6	Pig	56%
Philippines	19	Pig	42%

Europe

Largest producer of

- Calf feed:
- Turkey
- The Netherlands
- Spain

- Turkey feed:
- France
- Germany
- Italy
- Poland

- Other ruminants feed:
- Greece
- Spain
- Turkey



Top 8 in '18	Production	Primary Species	Percent of Primary to Total
Russia	39.2	Pig	42%
Spain	34.5	Pig	48%
Turkey	25.5	Dairy	27%
Germany	23.0	Pig	39%
France	21.4	Pig	23%
U.K.	18.4	Broiler	31%
Italy	14.3	Pig	25%
Netherlands	13.7	Pig	37%

Africa

• Largest tonnage growth (1.16, or 9%) was in broiler feed

• Region with highest finisher diet prices

• Morocco saw the largest growth
- Dairy, beef, layer and broiler all up
- Less than regional average feed finisher costs

Regional Average for Finisher Diet Prices



“Norway is Europe’s largest producer of aquafeed, contributing 45 percent of the region’s total aquafeed production”

20 percent of the Asia-Pacific region’s feed production.

Indonesia, Vietnam, The Philippines and Thailand carry most of the weight and contribute to 93 percent of Southeast Asia’s feed production.

7. Showing seven percent growth last year and 13 percent this year, India is clearly growing its feed production at a rapid clip, not just in one, but in all species! From aquafeed to goat grains, India’s feed production increased across all 13 categories assessed
8. The European Union (EU) countries contribute to more than 50 percent of all major species feed production in Europe (with the exception of aquafeed)
9. Norway is Europe’s largest producer of aquafeed, contributing 45 percent of the region’s total aquafeed production
10. Layer feed grew by four percent globally, indicating a growing need and continued interest in this efficient protein source
11. After years battling African Swine Fever, Estonia is back in the game, showing a more than three-fold increase in pig feed production over last year
12. Eighty percent of European turkey feed production occurs in the EU
13. Higher costs of corn and soy reduced Brazil’s broiler feed production by two percent eating away at the entire region’s total and making Latin America the only region to see a decrease in broiler feed production
14. Dairy showed growth in all regions, indicating the ongoing affinity for this protein source
15. Africa’s feed production grew the most of any region at five percent. Expected to have one of the fastest-growing populations, how will this region farm in the future? Will it embrace conventional farming or leapfrog other methods and embrace Agriculture 4.0?
16. Turkey saw a big leap in Spain with an additional 300,000 tonnes of feed estimated in 2018
17. Pet feed reassessed: It turns out Europe is not the primary producer as originally thought! North America leads by about 200,000 tonnes of feed, making it a close race. With a renewed focus on value rather than volume in the pet food sector, who will lead in 2019 and beyond?
18. Insect protein is working its way into aquaculture feed production
19. The North American regions continues its steady course of two percent growth; the biggest contributors to this increase were beef and broiler each at three percent

