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Alltech®

# GLOBAL FEED SURVEY 2016

**December 2015**

# Global Feed Tonnage

**995.6** million metric tons

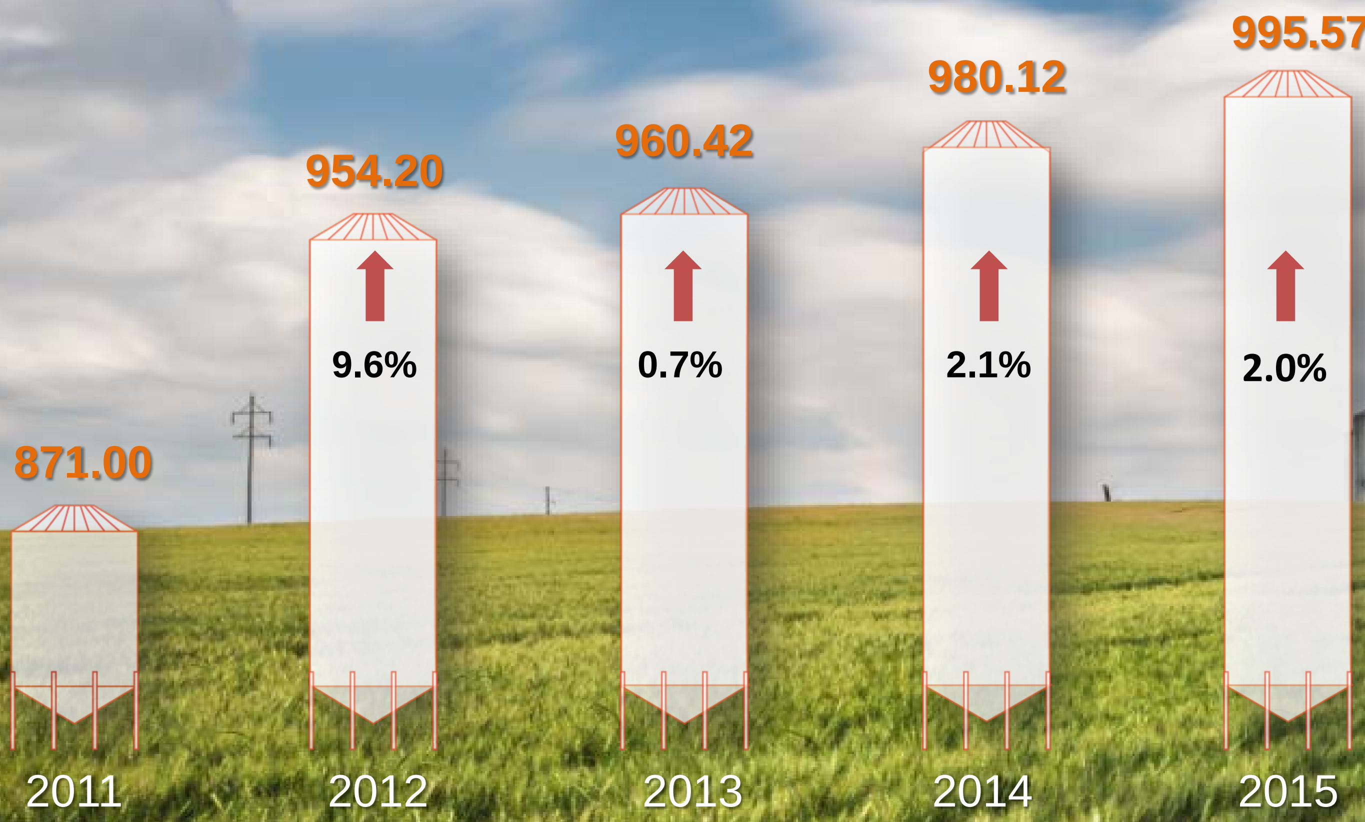
…but still not quite 1 billion

# How was this survey conducted?

- Estimates compound feed production
- Information collected from:
  - Feed industry associations
  - More than 600 Alltech salesforce visiting 32,341 feed mills globally
- Data gathered from 131 countries
- Feed definitions vary from country to country- does not include forages
- Feed prod. fluctuates day to day, week to week
- Survey conducted Dec. 2015

# Global Feed Million Tons

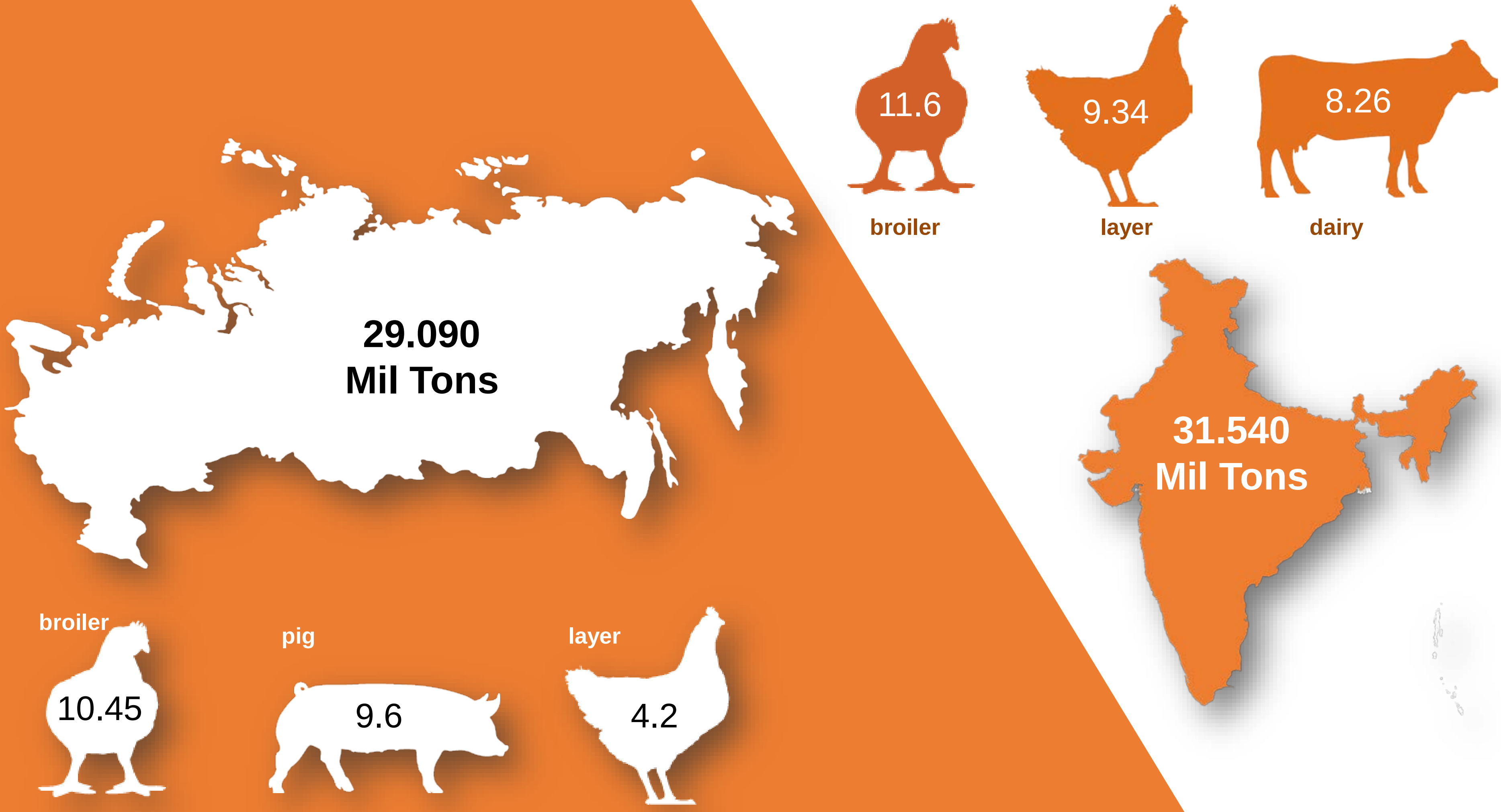
## Five Year Growth of 14%



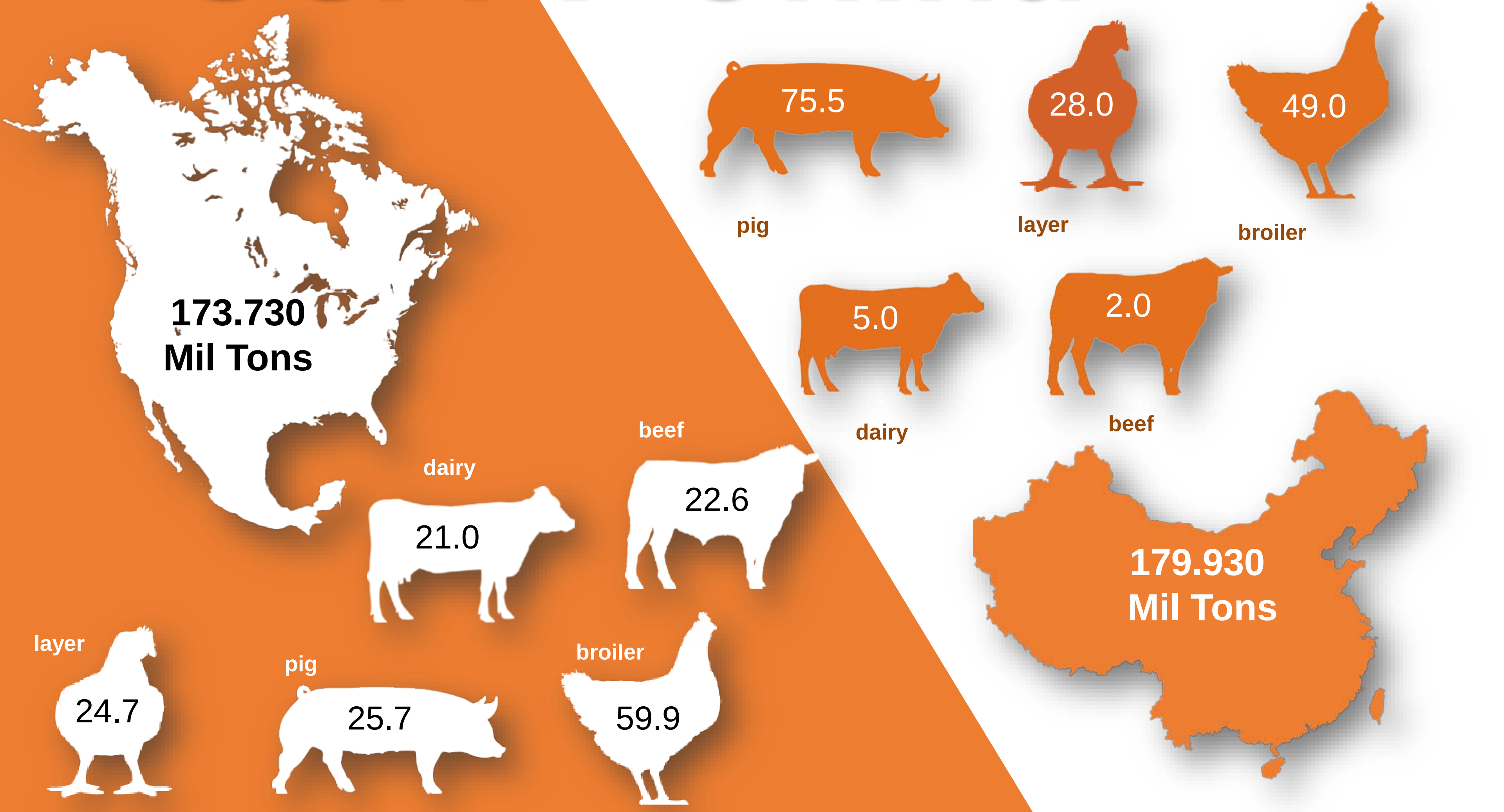
# Top 10 Countries

| Country | Total Mil Tons | Pig | Dairy | Beef | Calf | Lay | Broil | Turkey | Aqua | Pets | Horse |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **China** | 179.930 | 75.500 | 4.900 | 2.000 | 0.010 | 28.000 | 49.000 | 0.000 | 17.300 | 0.420 | 0.010 |
| **USA** | 173.730 | 25.670 | 20.820 | 22.610 | 0.075 | 24.690 | 59.920 | 7.020 | 1.000 | 8.451 | 3.000 |
| **Brazil** | 68.700 | 15.700 | 5.300 | 2.730 | 0.010 | 5.500 | 30.900 | 1.500 | 0.940 | 2.430 | 0.600 |
| **India** | 31.540 | | 8.260 | | 0.080 | 9.340 | 11.600 | 0.000 | 1.160 | 0.380 | 0.010 |
| **Mexico** | 31.110 | 4.960 | 4.800 | 3.510 | 0.240 | 4.050 | 11.440 | 0.050 | 0.230 | 0.900 | 0.300 |
| **Spain** | 29.380 | 15.242 | 2.645 | 3.526 | 0.126 | 1.790 | 3.037 | 0.384 | 0.133 | 0.350 | 0.192 |
| **Russia** | 29.090 | 9.600 | 2.700 | 0.400 | | 4.200 | 10.450 | 0.740 | 0.040 | 0.585 | 0.003 |
| **Germany** | 23.865 | 9.660 | 6.905 | 0.000 | 0.155 | 2.151 | 2.741 | 1.400 | 0.017 | 0.532 | 0.107 |
| **Japan** | 23.380 | 5.630 | 3.150 | 4.440 | 0.000 | 6.260 | 3.810 | 0.000 | 0.300 | 0.310 | 0.050 |
| **France** | 21.200 | 5.088 | 3.500 | 1.500 | 0.425 | 1.800 | 3.500 | 1.140 | 0.100 | 1.245 | 0.250 |

# Russia V India



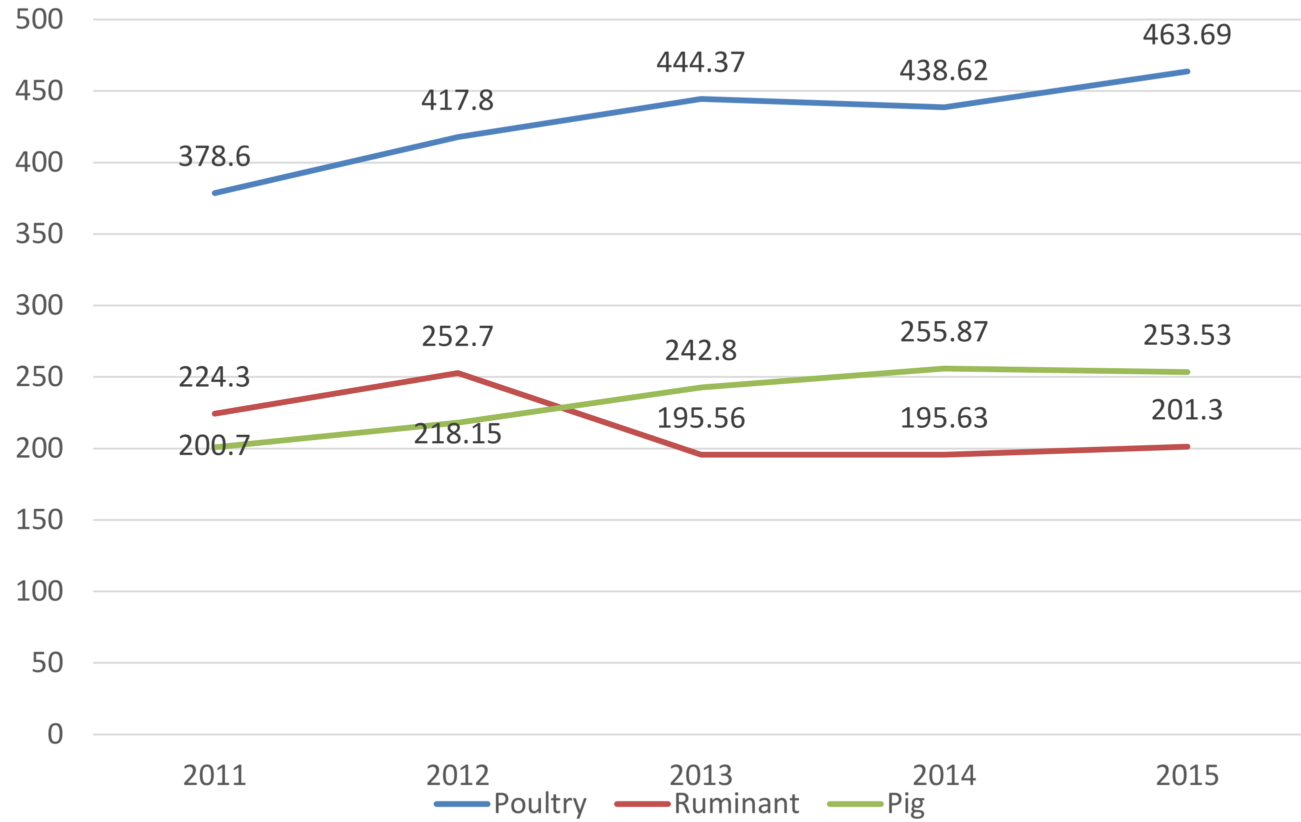
# USA V China




2016 ALLTECH **GLOBAL** FEED SURVEY RESULTS

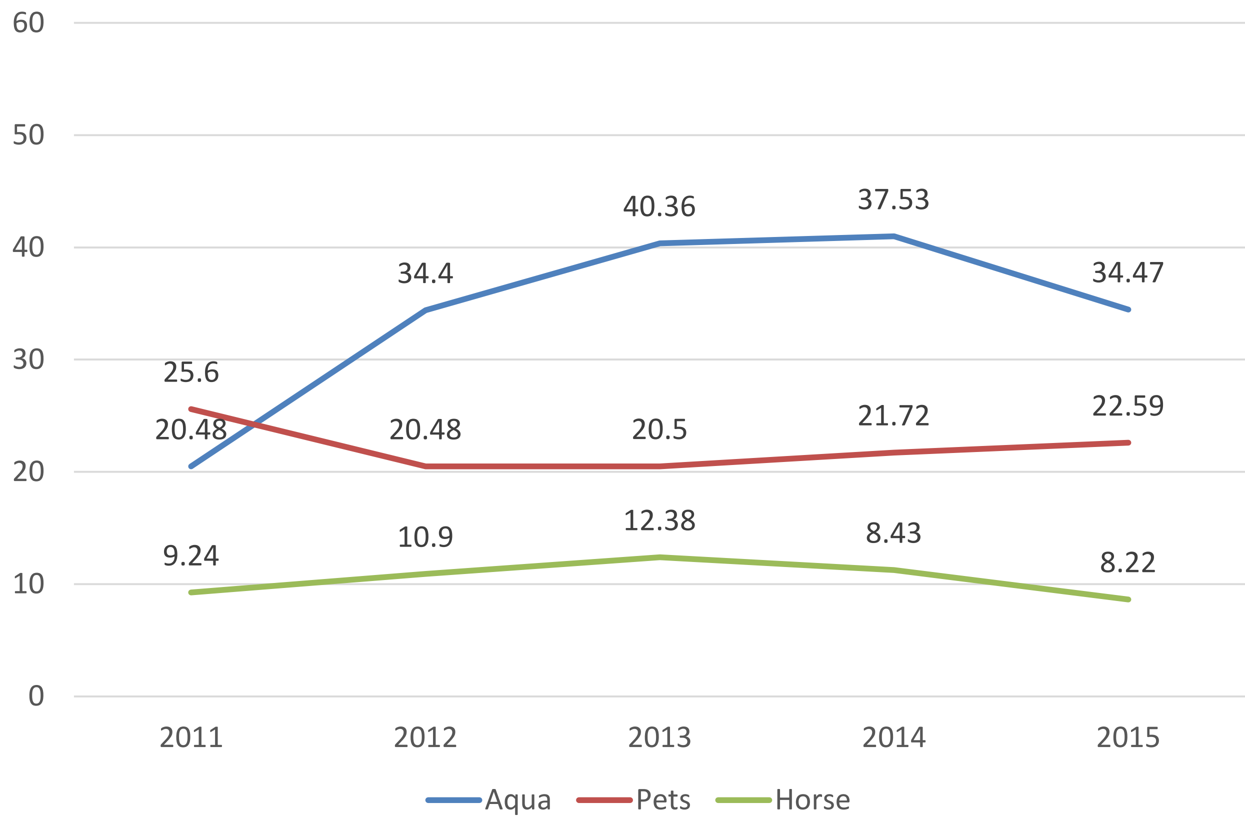
# Global Feed Survey

## Species



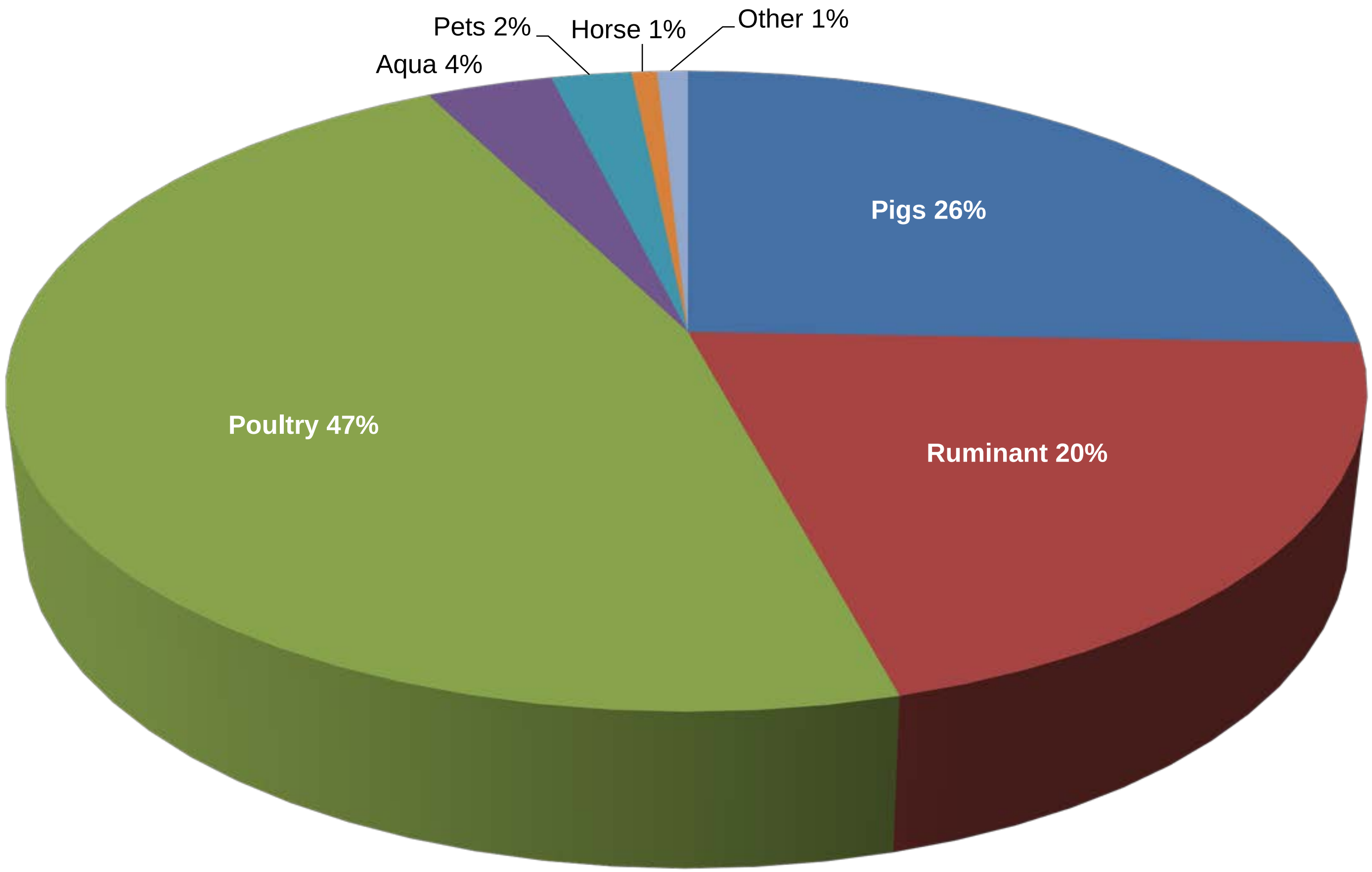
# Global Feed Survey

## Species



# Feed Production

## By Species



| 2015 | Average Price Pig Finisher Diet | Average Price Layer Finisher Diet | Average Price Broiler Finisher Diet |
|---|---|---|---|
| Africa | $312.70 | $440.09 | $487.99 |
| Asia Pacific | $430.15 | $417.47 | $461.60 |
| Europe | $290.75 | $347.53 | $422.04 |
| Latin America | $389.70 | $433.20 | $483.13 |
| Middle East | -- | $408.60 | $466.60 |
| North America | $191.38 | $223.31 | $246.82 |
| **Global Average Price** | **$ 323.93** | **$ 396.80** | **$ 453.04** |

# Pricing Highlights

- Switzerland & Ecuador (top 60) have highest prices.
- China feed prices are double that of other top countries. Japan is triple!
- Others with high feed prices:
  - Nigeria, Haiti, Cuba, Yemen, Seychelles, Armenia
- Lowest poultry feed prices reported in U.S., Brazil, Russia, Canada
- Lowest prices for pig feeds in U.S., Russia, Canada, Argentina
- Feed prices bearing in mind market distortions reflect -
  1) Prices for corn/soybeans
  2) Smaller country feed prices are generally higher

  *2015 Feed Prices lower than previous year*

# Regional Highlights

# Regional Overview

| Region | Total Mills | Tons in 2015 | Average Regional Growth |
|---|---|---|---|
| AF | 1,210 | 36.13 | 4% |
| AP | 14,349 | 350.41 | 0.4% |
| ER | 5,545 | 240.63 | 4.5% |
| LA | 4,006 | 152.28 | 2.6% |
| ME | 719 | 22.05 | -7% |
| NA | 6,512 | 194.08 | 2.3% |

# Europe

Europe (incl. Russia & Turkey) fastest growing.

- Up 10.3 million tons (4.5%) over last year
- Largest contributors Russia (+13%), Turkey (+20%) but Belarus, Poland, Greece & Ukraine also were up more than 5%.
- European zones have 5,545 feed mills.
- Europe is the leading producer of dairy feeds & No.2 in many species.

# North America

Production was up 2%.

- U.S. produced 173.7 million tons, up 2.5%, from 6,012 feed mills (700 fewer than in 2014)
- No. of U.S. feed mills declined.
- Canadian feed production was stagnant.
- North America is the No.1 producer of feeds for cattle, turkeys, pets & horses.
- N.A. has the highest ratio of feed per person.

# Asia Pacific

Production was relatively flat & represents 35% of the world's feed.

**China leads feed producers:**
**-**2% (180 million tons in '15).

Chinese consolidation means a smaller number of larger, more efficient farms with better feed conversions, productivity & thus less feed required.

China has 8,550 feed mills: 3rd year of decline, reflecting government focus on food & feed safety.

India is now No.4 producer (up 7%) but all major Asian markets grew more than 4% except Taiwan & Malaysia.

Asia is the world's No.1 region for pig, layer, broiler & aqua (50% of global production in China)

# Latin America

Latin America: up 2.6% with 15% of global market

- No. of feed mills declined in Brazil.
- Brazil manufactured 68.7 million metric tons from 1,556 feed mills (with about 100 fewer mills).
- Argentina (11%), Bolivia (16%), & Paraguay (25%) all showed big growth in 2015.
- Latin America is the No.2 region in aqua; shrimp & salmon production predominate.

# Africa

Africa: up 4% but a little slower than the 9% growth recorded in 2014 & 2013.

- Biggest manufacturer is South Africa (11.6 million tons) with Egypt at 6.0 million tons
- Nigeria figures showed big growth (+67%) reflecting a stronger economy, restrictions on imports but also more accurate information.

# Middle East

- The Middle East declined 7% in 2014.
  - 21.438 million tons from 719 feed mills
  - Iran is down 24%
    - Still biggest contributor (9.15 million tons)
  - Oman (+35%) & Libya (+212%) led growth
  - M.E. has countries with the largest average feed mills, led by Libya, Kuwait and Oman.

*The ME market is split 1/3 dairy, 1/3 broiler & 1/3 layer feed.*

# Species Highlights

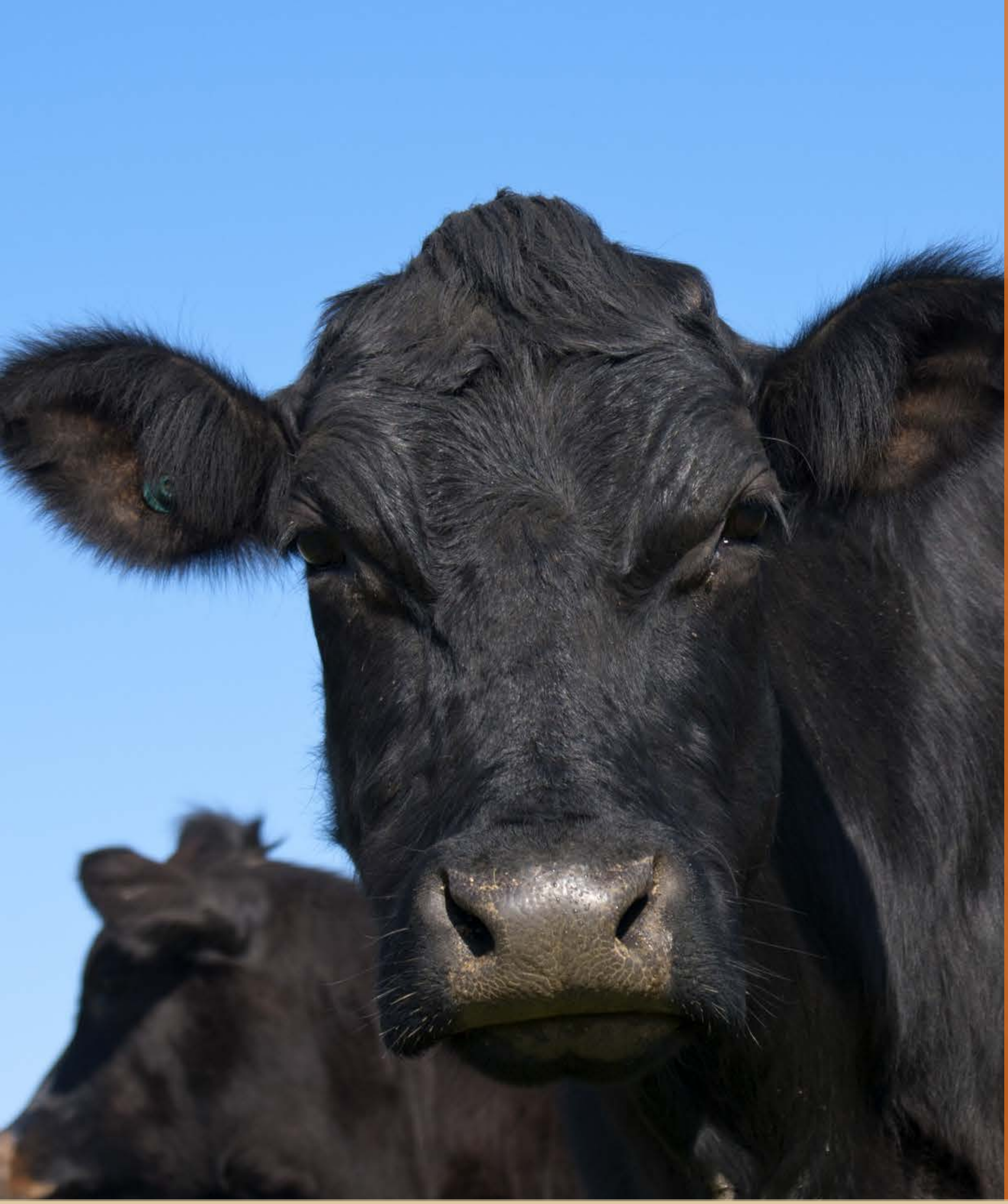
# Poultry

- 463.7 million tons, up 6% over 2014.
- Now 47% of total feed production, growing faster than other species, in particular reflecting growing demand for poultry meat.
- Up 22% over 5 years.
- Top concerns in 2015:
  Antibiotic & coccidiostat free, meat quality, egg strength, value added products.

# Pig

- 253.5 million tons, down 2% from 2014 but up 26% over the 5 years.
- Pigs consume 26% of global feed production.
- Top concerns in 2015: PRRSv 174, PEDv, Seneca Valley Virus, Af. Swine Fever, demand/ supply mismatches.

*Almost 50% of swine feed is made in Asia, with Europe producing a further 25%.*



# Ruminant

- 201.3 million tons for ruminants, 3% increase on 2014.
- Dairy increased 5% to 117 million tons while beef was +3% at 69 million.
- Down 10% over 5 years
- Top concerns in 2015: Antibiotic free, feed efficiency carbon footprint, price competition with other meats.

# Pet / Horse / Other

- 46 countries reported pet food production up 4% from last year.
- NA leads with the US manufacturing almost 40% of global production. LA grew strongly. Asia still less than 10% of total.

*5-year pet food volume has declined, but doesn't capture if consumers moving to higher value.*

# Pet / Horse / Other

- Equine feeds declined 2% from 2014.
- Some of this reflected a re-estimation for markets where statistics are harder to get.

*Equine feed production tends to correlate to economic growth and has stagnated for the past 5 years.*

# Top 10 Pet food Companies

| | |
|---|---|
| Mars Petcare Inc. | United States |
| Nestlé Purina PetCare | United States |
| P&G Pet Care | United States |
| Hill's Pet Nutrition | United States |
| Big Heart Pet Brands | United States |
| Diamond Pet Foods | United States |
| Blue Buffalo | United States |
| Deuerer | Germany |
| Heristo AG | Germany |
| WellPet | United States |

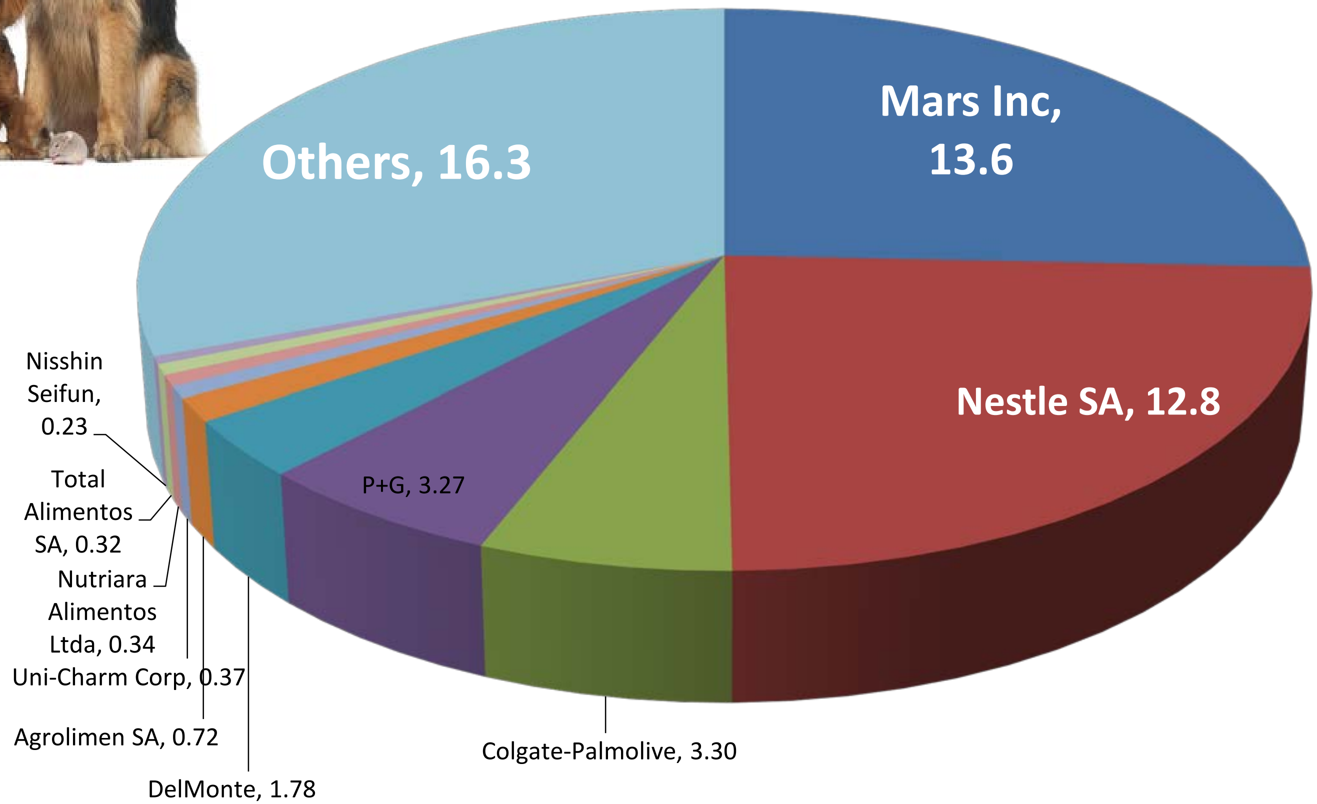
Courtesy of WATTAgNet.com

# The total pet food market is $53 billion

**Nestle and Mars represent approx $30 billion (60%)**

Sourced from http://www.petfoodindustry.com/

## Global Petfood Players
## (Total Market US$ 53 Bn)




Courtesy of WATTAgNet.com and Euromonitor.com

# Aqua

- 35.47 million metric tons (-5% versus 2014)
  - The No.1 market China, which represents half of global production, has dropped to 17.3 million from over 20 million two years ago.

  Declines may represent:
  - More efficient fish farms
  - More accurate data collection
  - Decline in Chinese banquets

*Still up 19% over 5 years reflecting growing global consumer preference for seafood.*

# Top Feed Types *

- **Cereals: Corn (76% preference)**
  - Wheat (21%), barley (1%), and a mix of corn/barley (1%)

- **Proteins: Soybean meal (96% preference)**
  - Sunflower (1%), rapeseed/canola (2%)

*90 Countries of the 131 Surveyed responded
to this question.

# Top 10 Countries

| Country | 2015 Mills |
|---|---|
| China | 8,550 |
| USA | 6,012 |
| Philippines | 3,000 |
| Brazil | 1,556 |
| India | 1,507 |
| Argentina | 900 |
| Spain | 820 |
| Iran | 570 |
| Canada | 500 |
| Russia | 497 |

# Points of Interest

- Global Feed Industry estimated at almost 1 billion tons; compound growth just over 2% a year based on 5 year data.
- Feed sales worth $450 billion, based on average feed prices.
- Over 32,000 feed mills in 131 countries.
- Trends to white meats, especially poultry, at expense of beef reflected in feed tonnage.
- Asia No.1 region. China No.1 feed.
- Equine, Pet food demand reflects economic growth.
- Aqua feed production doesn't reflect continued strong growth in global consumption.

# Top Feed Companies

| Company | Country | Annual production (x1000 metric tons) |
|---|---|---|
| Cargill | United States | 19,500 |
| New Hope Liuhe | China | 15,710 |
| Purina Animal Nutrition | United States | 12,700 |
| CPP China | China | 12,400 |
| Wen's Food Group | China | 12,000 |
| BRF | Brazil | 10,360 |
| Tyson Foods (broiler) | United States | 10,000 |
| East Hope Group | China | 7,600 |
| JA Zen-Noh | Japan | 7,200 |
| Shuangbaotai Group (Twins Group) | China | 6,600 |
| ForFarmers B.V. | Netherlands | 6,490 |
| Tangrenshen Group (TRS) | China | 6,000 |
| Nutreco | Netherlands | 5,900 |
| Haid Group | China | 5,520 |
| CP Foods | Thailand | 5,500 |
| NongHyup Feed Inc. | South Korea | 5,500 |
| Yuetai Group | China | 5,000 |
| DaChan Food (Asia) Ltd. | China | 4,800 |
| Alltech* (Ridley , EMF, Masterfeeds) | Global | 2,000 |

New – *Journal of Applied Animal Nutrition* – available for free online detailing the history & future of the feed industry



JAAN

Review Paper

## Review of the feed industry from a historical perspective and implications for its future

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Summary

The history of the feed industry is pertinent in terms of understanding how and why certain practices have evolved. Some of these practices have been superseded by modern, more natural alternatives, for example the traditional use of antibiotics in feed. In other cases, such as inorganic minerals, more natural versions akin to those found in plant and animal materials are available, although these new initiatives are still being taken up globally. Research continues to increase our knowledge and understanding of nutrient balance and digestion, and in some species this is more advanced than others. The following paper represents the first complete history of the feed industry, its major milestones, and projects how it might continue to utilise new technology developments to improve animal feeding practices.

Keywords: history; feed industry; regions; future

(Received 8 July 2015 – Accepted 24 September 2015)

### Introduction

Nobody knows when deliberate animal feeding systems developed, as it happened before the advent of writing. Techniques of animal husbandry developed spontaneously some 12,000 years ago in several areas of the early so-called 'Fertile Crescent', an ancient area of early human civilisation stretching between Mesopotamia, Assyria and across to Egypt. The ability to create a stable food supply from animals allowed the world's population to grow, residential centres to develop and cities to emerge. The domestication of wild crops and livestock, and the introduction of irrigation and the plough meant that there was enough to feed a world population of over 200 million by the time of the birth of Christ. As the human population grew and societies became increasingly urbanised, plant and animal agriculture became more organised, efficient, and productive, with periodic game-changing advancements in technology and innovation. Once animal production practices transitioned from free-range grazing to confined housing, and animals were bred for better productive performance, providing them with a 'nutritionally balanced' diet became necessary. Changes in agricultural production practices begun in the 18th century culminated in better approaches to overall animal feeding at around the turn of the 19th century. As a result, a constantly evolving feed industry was born.

### Scientific approaches to nutrition

Nutrition became a scientific discipline primarily during the last 200 years. In 1810 a German scientist named Albrecht Daniel Thaer developed the first feed standards by comparing potential feedstuffs to meadow hay and assigning a 'hay value' as a comparative measure. About 50 years later, the Weende Experiment Station in Germany devised the 'proximate analysis system', which allowed feed to be analysed for certain defining characteristics which were used to determine crude fibre, nitrogen (and hence crude protein by calculation), ash and moisture – which, although rather limited in

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# Questions?

# Thank you for joining us!

The webinar recording and results booklet is available at stories.alltech.com.

For media requests, please contact
Ann Hess (ahess@alltech.com).

For general information about the survey,
please contact Alexa Potocki (apotocki@alltech.com).