

# Analysis and Forecast on China Feed Industry

(2016-2017)



All Rights Reserved:



Beijing Orient Agribusiness Consultants Limited

March, 2017

## Background

2016 is the first year of China's "13th Five Year Plan" and the integration, adjustment, transformation and upgrading of China's feed industry deepened continually. A restorative growth was found in the livestock and poultry farming and hog and poultry inventories rebounded due to the support of high farming benefits. As a result, the industrial feed output increased. The overall feed enterprises' profitability increased due to the dropped cost of feed raw materials. However, the differentiation between enterprises intensified and the feature that the strong ones are ever strong tended to be more obvious. Meanwhile, a irreversible tendency was found in the main feed raw material market: the temporary corn purchase policy was turning to "marketized purchase+subsidy" and the corn market was in the reform of "policy-type market" to "market-type market". However, a few years would be needed to solve the oversupply problem; the main protein feed raw material would continually depend more on the international market and the replacement of soybean meal for other meals would be further obvious; the degree of additives such as amino acid and vitamins in the international work division would tend to further deepen.

This report would analyze the operation of China's feed industry the competitive situation of China's feed industry market, the state of operation of the key feed enterprise groups in 2016. Meanwhile, it summarized the production, trade, consumption and the characteristics of the price changes of the main feed raw materials and predicted the industrial development and market trends of China's industrial feed and main feed raw materials in 2017.

BOABC has been paying attention to China's feed sector for 20 consecutive years and also has been maintaining good relations with governmental departments, associations and key feed companies. Based on accurate and authoritative data, this

report will represent scientific forecasts.

BOABC's report will provide important decision-making to domestic and foreign feed material producers, traders, feed producers and investment companies and also will provide important reference for industrial associations and research institutions.



# Table of Content

---

<b>Chapter One</b>	<b>2016 China Feed Industry Overview and 2017 Prospects</b>	<b>1</b>
1	2016 Industrial Feed Production in China	1
1.1	China's Industrial Feed Output Increased to About 212 Million Tons in 2016, up about 6% Year on Year	1
1.2	Variation in Industrial Feed Products Structure in 2016	2
1.2.1	Proportion of Compound Feed in Total Industrial Feed Output Increased Slightly to 87.5%	3
1.2.2	Concentrate Feed Output Kept Downtrend, Proportion down to 9.0%	4
1.2.3	Premix Feed Output Grew Stably and Little Changes in Proportion	5
1.3	Variation in Livestock and Poultry Feed output and Structure by Variety in 2016	6
1.3.1	Feed Output Proportion of Different Varieties	6
1.3.2	Hog Feed Output Increased and Proportion of Concentrate Feed Continued to Drop	6
1.3.3	Meat Poultry Feed Output Increased From The Low Level Last Year	7
1.3.4	Egg Poultry Feed Output Restorative Increased	8
1.3.5	Aquatic Feed Output Was Lower Than Last Year	9
1.3.6	Ruminant Feed Output Dropped Slightly	10
2	2016 Industrial Feed Price and Processing Benefit in China	11
2.1	Overall Livestock and Poultry Compound Feed Tended To Drop	11
2.2	Cost of Main Feed Raw Materials Dropped Sharply and Processing Benefits of Industrial Feed Remained High	11
3	Analysis of Large-Scale Feed Groups	12
3.1	Operation Characteristics of Industrial Feed Industry in 2016	12
3.1.1	Along with the Accelerating of Feed Industry Integration, Number of Companies Reduced Sharply	12
3.1.2	The Profitability of Large Feed Enterprise Groups Increased	13
3.1.3	Large Feed Enterprise Groups' Operating Performance Differentiated	13
3.2	Analysis on Large Feed Enterprise Groups	13
3.2.1	New Hope Liuhe	13
3.2.2	Wens Group	14

3.2.3 Twins Group .....	15
3.2.4 CP Group.....	16
3.2.5 Haid Group .....	17
3.2.6 Zhengbang Group .....	18
3.2.7 Tongwei Group .....	19
3.2.8 Dabeinong Group .....	20
3.2.9 Tangrenshen Group.....	21
3.2.10 Wellhope Group.....	22
3.2.11 TECON .....	23
3.2.12 Jinxinnong .....	24
3.2.13 Tech-Bank Group .....	25
4 Prospects on Feed Industry in China .....	26
4.1 Industrial Feed Output Continued to Increase While Growth Slowed Down.....	26
4.2 Industrial Integration Continued and Enterprise Number down.....	26
4.3 Market Concentration Further Increased and The Number of Feed Groups with Million Tons Increased .....	27
4.4 Large Feed Enterprise Groups Paid More Attention to The Extension of The Industrial Chain and Capital Operation .....	27
<b>Chapter Two 2016 China Corn Market Analysis and 2017 Prospects .....</b>	<b>28</b>
5 2016 China Corn Market Analysis and 2017 Prospects .....	28
5.1 Chinese Corn Market Policy Analysis.....	28
5.1.1 Temporary Purchase Policy Was Canceled and New Policy of Marketized Purchase+Subsidy Was Implemented .....	28
5.1.2 Plantation Structure Was Adjusted and Corn Cultivation Was Reduced in Non-Advantageous Regions .....	29
5.1.3 Increasing Subsidies for Corn Deep Processing Enterprises to Promote Corn Consumption .....	29
5.1.4 Issued Policies to Stabilize Corn Market Price.....	30
5.2 2016 Chinese Corn Production .....	30
5.2.1 Corn Imports Lower Than Last Year and Import Cost Continued To Go Down.....	30
5.2.2 Corn Production Cost Stabilized and Farmers' Earnings Lower Than Last Year After Receiving Subsidies .....	32
5.3 2016 China Corn Trade .....	33

5.3.1 Corn Imports Lower Than Last Year and Import Cost Continued To Go Down.....	33
5.3.2 Ukraine Became the Largest Corn Original Country, Accounting for 84% .....	34
5.4 2016 China Corn Demand .....	35
5.4.1 Corn Consumption Increased by 15% to 190 Million Tons .....	35
5.4.2 Alternative Consumption Reduced and Feed Corn Demands Increased Steadily	35
5.4.3 High Profits Were Found in Corn Further Processing and Consumption for Processing Reached A New Record .....	36
5.5 The Corn Price Fluctuated and Dropped After Cancellation of the Temporary Reserve Policy, down 17% Year on Year.....	37
5.6 Replacement Demand for Corn in 2016 .....	38
5.6.1 Imports of Sorghum and Barley Declined Between 30% To 50% Due To Strengthened Control on Imported Alternatives .....	38
5.6.2 Feed Wheat Consumption Decreased as Wheat Market Price Stabilized by Policy .....	39
5.7 2017 China Corn Market Forecast.....	39
5.7.1 Corn Planting Area Will Continue to Reduce .....	39
5.7.2 Corn Imports Will Keep Decreasing, Exports May Increase.....	40
5.7.3 Corn Total Consumption Will Keep Growing, Deep Processing Corn Consumption Will Rise Sharply .....	40
5.7.4 Domestic Corn Market Supply & Demand Situation Will Remain Loose in 2017..	40
5.7.5 Corn Market Price Will Be Lower than the Previous Year .....	41

### **Chapter Three 2016 China Vegetable Protein Feed Market Analysis and 2017**

<b>Prospects.....</b>	<b>42</b>
6 2016 China Vegetable Protein Feed Market Analysis and 2017 Prospects .....	42
6.1 2016 Vegetable Protein Feed Production .....	42
6.1.1 Vegetable Protein Feed Output up 5% Year on Year.....	42
6.1.2 Output of Soybean Meal Increased, Rapeseed Meal and Cottonseed Meal Output declined .....	43
6.1.3 Shandong, Jiangsu, Guangdong Are the Main Vegetable Protein Feed Producers .....	43
6.2 2016 Vegetable Protein Feed Trade.....	44
6.2.1 Vegetable Protein Feed Imports Reduced, Soybean Meal, Rapeseed Meal, DDGS Imports All Dropped in China.....	44

6.2.2 Vegetable Protein Feed Exports Increased, Soybean Meal Still Be Main Variety .	44
6.3 2016 Vegetable Protein Feed Demand .....	45
6.3.1 Vegetable Protein Feed Total Demand Dropped 1% Year on Year .....	45
6.3.2 Soybean Meal Percentage Increased in Vegetable Protein Feed, Replacing Rapeseed Meal & Cottonseed Meal .....	46
6.3.3 Soybean Meal Played a Leading Role in Hog Feed, Egg Poultry and Meat Poultry .....	47
6.3.4 Shandong & Guangdong Are the Largest Consumers of Vegetable Protein Feed	49
6.4 2017 China Vegetable Protein Feed Market Forecast.....	50
6.4.1 Domestic Vegetable Protein Feed Output to Keep Growing Mainly in Soybean Meal .....	50
6.4.2 Vegetable Protein Feed Demand to Keep Rising .....	51
6.4.3 Import Dependence of Vegetable Protein Feed to Decrease .....	51
6.4.4 Protein Feed Costs to Be Higher than 2016 .....	51
7 2016 China Soybean Meal Market Analysis and 2017 Prospects .....	51
7.1 2016 Soybean Meal Production .....	51
7.1.1 Soybean Meal Output Grew by 6% from 2015 .....	51
7.1.2 Oil Plants' Crushing Profits Was Better than 2015, Processing Profits Was Higher in the Second Half of 2016 .....	52
7.1.3 Soybean Meal Output in Shandong, Jiangsu, Guangdong and Guangxi Accounted for more than 50% of Total Soybean Meal Output .....	53
7.2 2016 Soybean Meal Trade .....	54
7.2.1 Soybean Meal Exports Rose 22% from 2015, Export Price Dropped 7% Year on Year.....	54
7.2.2 Japan Is the Biggest Export Destination Country, Accounting for 62% .....	55
7.3 2016 Soybean Meal Demand .....	56
7.3.1 Soybean Meal Consumption Increased by 7% from 2015 .....	56
7.3.2 90% of the Soybean Meal Were Used for Hog, Meat Poultry and Egg Poultry Feed .....	56
7.3.3 Shandong, Guangdong, Liaoning, Henan and Hebei: the 5 Biggest Soybean Meal Consumption Provinces .....	57
7.4 Soybean Meal Prices in 2016 Increased and Average Prices up by 8% .....	58
7.5 Prospects on 2017 Soybean Meal Market.....	59

7.5.1 Soybean Meal Supply will Ascend Steadily .....	59
7.5.2 Soybean Meal Exports to Keep High Level .....	59
7.5.3 Soybean Meal Demand to Keep on Increasing & Occupying Demand Space of Other Meals .....	60
7.5.4 Average Prices of Soybean Meal will Increase .....	60
8 2016 China Rapeseed Meal Market Analysis and 2017 Prospect .....	60
8.1 2016 Rapeseed Meal Production .....	60
8.1.1 Rapeseed Output Reduced, Imports Was Hindered, Rapeseed Meal Output Dropped Sharply .....	60
8.1.2 Sichuan, Guangdong, Fujian and Jiangsu Are the Main Rapeseed Meal Producers .....	61
8.2 2016 Rapeseed Meal Trade .....	62
8.2.1 Rapeseed Meal Imports Grew Sharply, Approximately Four Times of 2015 .....	62
8.2.2 98.6% of Imported Rapeseed Meal Came from Canada .....	63
8.3 2016 Rapeseed Meal Demand .....	64
8.3.1 Rapeseed Meal Consumption down 23% from 2015 .....	64
8.3.2 70% of Rapeseed Meal Were Used for Aquatic and Ruminant Feed .....	64
8.3.3 Guangdong, Jiangsu and Hubei: the 3 Largest Rapeseed Meal Consumption Provinces .....	65
8.4 Rapeseed Meal Average Price Was 8% Higher than the Previous Year .....	66
8.5 Prospects on 2017 Rapeseed Meal Market .....	67
8.5.1 Rapeseed Meal Output to Drop .....	67
8.5.2 Imports to Be More than 2016 .....	67
8.5.3 Rapeseed Meal Demand to Remain Stable .....	67
8.5.4 Average Price of Rapeseed Meal to Be Higher than 2016 .....	68
9 2016 China Cottonseed Meal Market Analysis and 2017 Prospects .....	68
9.1 2016 Cottonseed Meal Production .....	68
9.1.1 Cottonseed Meal Output Continued to Drop due to a Decline in Cottonseed Supply .....	68
9.1.2 Xinjiang is the Largest Cottonseed Meal Producing Province .....	69
9.2 2016 Cottonseed Meal Trade .....	69
9.2.1 Cottonseed Meal Exports Was Only 8% of 2015, Export Price Went down .....	69
9.2.2 Cottonseed Meal Exports Was Mainly in Korea Rep etc. ....	70



9.3 2016 Cottonseed Meal Demand .....	71
9.3.1 Cottonseed Meal Consumption down 12% Year on Year .....	71
9.3.2 Almost 80% Cottonseed Meal Were Used for Ruminant and Aquatic Feed.....	72
9.3.3 Inner Mongolia, Hebei, Heilongjiang and Guangdong: the 4 Largest Cottonseed Meal Consumption Provinces.....	72
9.4 Cottonseed Meal Prices in 2016 Went up 10% .....	73
9.5 Prospects on 2017 Cottonseed Meal Market.....	74
9.5.1 Cottonseed Meal Output to Decline Slightly Due to Cotton Output Less Than 2015 .....	74
9.5.2 Cottonseed Meal Exports Bringing Little Impact on Supply and Demand.....	74
9.5.3 Average Export Prices of Cottonseed Meal will Go Up.....	75
10 2016 China Ddgs Market Analysis and 2017 Prospects.....	75
10.1 2016 DDGS Production.....	75
10.1.1 Domestic DDGS Output Increased by 17%.....	75
10.1.2 Jilin and Heilongjiang: the 2 Largest DDGS Production Provinces .....	76
10.2 2016 DDGS Trade.....	76
10.2.1 Due to Anti-subsidy & Anti-dumping of DDGS from the US, DDGS Imports Fell 55% Year on Year .....	76
10.2.2 99% of the Imported DDGS from US .....	77
10.3 2016 DDGS Demand.....	77
10.3.1 DDGS Consumption Dropped Year on Year due to a Decline of Imports.....	77
10.3.2 Over 50% of DDGS are Used for Ruminant and Hog Feed .....	78
10.3.3 Northeast, North China and South China: the Major DDGS Consumption Regions .....	79
10.4 DDGS Price Remained up 10% from the Previous Year.....	79
10.5 Prospects on 2017 DDGS Market .....	80
10.5.1 Domestic DDGS Supply to Grow Slightly in 2017 .....	80
10.5.2 DDGS Import Scale to Continue to Narrow .....	81
10.5.3 DDGS Consumption to Rise Slightly.....	81
10.5.4 Corn Market Price to Go down at Home and Abroad, DDGS Average Price May Be Lower than 2016 .....	81

<b>Chapter Four 2016 China Animal Protein Feed Market Analysis and 2017 Prospects.....</b>	<b>82</b>
--	-----------

11 2016 China Fish Meal Market Analysis and 2017 Prospects.....	82
11.1 Global Fish Meal Output Hit Lowest Point, Demand Expanded.....	82
11.1.1 Global Fish Meal Output Hit the Lowest Level in Recent 10 Years Thanks to Peru and Chile Output Fell in 2016.....	82
11.1.2 Global Fish Meal Export Scale Expanded from the Previous Year.....	82
11.2 Fish Meal Output Dropped & Imports Rose in China.....	83
11.2.1 Coastal Fish Stocks Reduced, Fish Meal Output Continued to Fall in China.....	83
11.2.2 Fish Meal Imports Grew 1% from the Previous Year in China.....	83
11.2.3 Sources of Imported Fish Meal Was more Scattered, Proportion of Non-mainstream Countries Increased.....	84
11.3 Fish meal Demand Grows in China, Consumption Is Mainly in Aquaculture & Pig Farming.....	85
11.3.1 Fish Meal Total Demand Growth Is more than 7%.....	85
11.3.2 90% of Fish Meal Is Added in Aquatic Feed & Pig Feed.....	86
11.3.3 Consumption Structure of Fish Meal in Aquatic Feed.....	87
11.3.4 Guangdong, Jiangsu, Hubei and Hunan: the 4 Largest Fish Meal Consumption Provinces.....	87
11.4 Fish Meal Price Fell 8% from the Previous Year.....	88
11.5 Prospects on 2017 Fish Meal Market.....	89
11.5.1 Domestic Fish Meal Output to Continue to Decrease.....	89
11.5.2 International Fish Meal Market Supply Situation to Be Looser, Fish Meal Imports to Continue to Increase.....	89
11.5.3 Fish Meal Consumption to Rise.....	90
11.5.4 Fish Meal Price to Lower Lightly.....	90
12 2016 China Meat and Bone Meal Market Analysis and 2017 Prospects.....	90
12.1 Meat and Bone Meal Output in 2016 Increased by 5%.....	90
12.2 2016 Meat and Bone Meal Trade.....	91
12.2.1 Meat and Bone Meal Import Volume down 20% and Import Price down 6.5% Year on Year.....	91
12.2.2 US Is the Largest Meat and Bone Meal Supplier, Other Suppliers Are Uruguay, Australia, New Zealand and Argentina.....	92
12.3 2016 Meat and Bone Meal Demand.....	93
12.3.1 Meat and Bone Meal Total Demand Up 6.5% Year on Year.....	93
12.3.2 Meat and Bone Meal Mainly Used for Aquatic and Poultry Feed.....	94

12.3.3 Shandong is the Largest Meat and Bone Meal Consumption Province .....	94
12.4 Average Price of Meat and Bone Meal Dropped 13% from Last Year .....	95
12.5 Prospects on 2017 Meat and Bone Meal Market .....	96
12.5.1 Meat and Bone Meal Output to Grow .....	96
12.5.2 Meat and Bone Meal Trade Scale to Continue to Decrease, the Influence on Supply and Demand to Be Weak .....	96
12.5.3 Meat and Bone Meal Demand to Rise Slightly .....	96
<b>Chapter Five 2016 China Feed Additive Market Analysis and 2017 Prospects</b>	<b>97</b>
13 2016 China Lysine Market Analysis and 2017 Prospects .....	97
13.1 2016 Lysine Production .....	97
13.1.1 Lysine Saw Excess Capacity, Industry Entered Integration Stage .....	97
13.1.2 Lysine Output Around 1.1 Million Tons .....	97
13.2 2016 Lysine Trade .....	98
13.2.1 Exports Increased 29%, Export Price down 12% Year on Year .....	98
13.2.2 Top 5 Countries of Destination Accounting for 53% .....	99
13.3 2016 Lysine Demand .....	100
13.3.1 Lysine Demand Increased Year on Year .....	100
13.3.2 63% of Lysine Used for Hog Feed .....	100
13.3.3 Guangdong, Shandong, Hunan and Henan: the 4 Highest Lysine Consumption Provinces .....	101
13.4 Lysine Price Went Upward, Average Price up 10% Year on Year .....	102
13.5 Prospects on 2017 Lysine Market .....	103
13.5.1 Lysine Supply Increased, Market Competition Intensified .....	103
13.5.2 Lysine Exports to Maintain at a Relatively High Level .....	103
13.5.3 Lysine Demand to Grow Steadily .....	103
13.5.4 Lysine Price Level to Be Higher than 2016 .....	104
14 2016 China DL-Methionine Market Analysis and 2017 Prospects .....	104
14.1 2016 DL-Met Production .....	104
14.1.1 Major International DL-Met Producers Enlarged Production Capacity .....	104
14.1.2 Domestic DL-Met Output Increased Largely .....	104
14.2 2016 DL-Met Trade .....	105
14.2.1 Methionine Imports Grew 6% Year on Year, Import Price Dropped 25% .....	105
14.2.2 Singapore, Belgium, Japan: the Major Original Countries .....	106

14.3 2016 DL-Met Demand .....	106
14.3.1 Methionine Total Demand Increased by 12.5% from Last Year.....	106
14.3.2 70% of DL-Met were Used for Meat Poultry and Egg Poultry Feed.....	107
14.3.3 Shandong, Guangdong, Liaoning, Hebei and Henan: the Major DL-Met Consumption Provinces .....	107
14.4 DL-Met Price Went Downward, down 30% Year on Year.....	108
14.5 Prospects on 2017 DL-Met Market.....	109
14.5.1 Domestic Production Capacities Will Continue to Increase.....	109
14.5.2 Rising in DL-Met Growth Demand .....	109
14.5.3 Methionine Imports Will Be Relatively Stable.....	109
14.5.4 DL-Met Price to Be Higher than 2016.....	109

## List of Maps

Map 1, Distribution of Industrial Feed Output by Province in 2016 .....	2
Map 2, Distribution of Vegetable Protein Meal Output by Province in 2016 .....	44
Map 3, Distribution of Vegetable Protein Meal Demand by Province in 2016 .....	50
Map 4, Distribution of Soybean Meal Output by Province in 2016.....	54
Map 5, Distribution of Soybean Meal Demand by Province in 2016.....	58
Map 6, Distribution of Rapeseed Meal Output by Province in 2016.....	62
Map 7, Distribution of Rapeseed Meal Demand by Province in 2016.....	66
Map 8, Distribution of Cottonseed Meal Output by Province in 2016 .....	69
Map 9, Distribution of Cottonseed Demand by Province in 2016 .....	73
Map 10, Distribution of DDGS Output by Province in 2016.....	76
Map 11, Distribution of DDGS Demand by Province in 2016.....	79
Map 12, Distribution of Fish Meal Demand by Province in 2016.....	88
Map 13, Distribution of Meat and Bone Meal Demand by Province in 2016.....	95
Map 14, Distribution of Lysine Demand by Province in 2016.....	102
Map 15, Distribution of DL-Methionine Demand by Province in 2016 .....	108

## List of Figures

Figure 1, Variation in China's Industrial Feed Production, 2007-2016 .....	1
Figure 2, Variation in China's Feed Production by Product Variety, 2007-2016.....	3
Figure 3, Variation in China's Feed Structure by Product Variety, 2007-2016.....	3
Figure 4, China's Compound Feed Output and Proportion, 2007-2016.....	4
Figure 5, China's Concentrate Feed Output and Proportion, 2007-2016.....	5
Figure 6, China's Additive Premix Feed Output and Proportion, 2007-2016 .....	5
Figure 7, Variation in China's Feed Structure by Livestock Variety, 2007-2016.....	6
Figure 8, Variation in China's Hog Feed Structure, 2007-2016 .....	7
Figure 9, Variation in China's Meat Poultry Feed Structure, 2007-2016 .....	8
Figure 10, Variation in China's Egg Poultry Feed Structure, 2007-2016.....	9
Figure 11, Variation in China's Aquatic Feed Structure, 2007-2016.....	10
Figure 12, Variation in China's Ruminant Feed Structure, 2007-2016 .....	10
Figure 13, Variation in Compound Feed Prices of Hog, Meat Poultry and Egg Poultry, 2007-2016.....	11
Figure 14, Variation in Feed Processing Benefits of Hog, Meat Poultry and Egg Poultry, 2007-2016...	12
Figure 15, Variation in Feed Sales Volume of New Hope Liuhe Group, 2010-2016 .....	14
Figure 16, Variation in Feed Sales Volume of Wens Group, 2010-2016.....	15
Figure 17, Variation in Feed Sales Volume of Twins Group, 2010-2016.....	16
Figure 18, Variation in Feed Sales Volume of CP Group, 2010-2016 .....	17
Figure 19, Variation in Feed Sales Volume of Haid Group, 2010-2016 .....	18
Figure 20, Variation in Feed Sales Volume of Zhengbang Group, 2010-2016.....	19
Figure 21, Variation in Feed Sales Volume of Tongwei Group, 2010-2016 .....	20
Figure 22, Variation in Feed Sales Volume of Dabeinong Group, 2010-2016 .....	21
Figure 23, Variation in Feed Sales Volume of Tangrenshen Group, 2010-2016 .....	22
Figure 24, Variation in Feed Sales Volume of Wellhope Group, 2010-2016 .....	23
Figure 25, Variation in Feed Sales Volume of TECON Group, 2010-2016.....	24
Figure 26, Variation in Feed Sales Volume of Jinxinnong Group, 2010-2016.....	25
Figure 27, Variation in Feed Sales Volume of Tech-Bank Group, 2010-2016 .....	26
Figure 28, Variation in China's Corn Acreage, 2007-2016 .....	31
Figure 29, Variation in China's Corn Yield, 2007-2016 .....	31
Figure 30, Variation in China's Corn Output, 2007-2016 .....	32
Figure 31, Variation in China's Corn Import Volume and Import Price, 2007-2016.....	34

Figure 32, China's Corn Import by Original Country in 2016 .....	34
Figure 33, Variation in China's Corn Demand, 2007-2016 .....	35
Figure 34, Variation in Corn Starch Processing Benefits, 2007-2016 .....	36
Figure 35, Variation in Corn Alcohol Processing Benefits, 2007-2016 .....	37
Figure 36, Variation in Corn Average Prices in Producing Regions, Main Consumption Regions and Nationally, 2007-2016 .....	38
Figure 37, Variation in China's Corn and substitutes Import Volume, 2010-2016 .....	39
Figure 38, Variation in China's Vegetable Protein Feed Output, 2007-2016.....	42
Figure 39, Variation in China's Vegetable Protein Feed Production Structure, 2007-2016.....	43
Figure 40, Variation in China's Vegetable Protein Feed Import Volume, 2007-2016.....	45
Figure 41, Variation in China's Vegetable Protein Feed Demand, 2007-2016.....	46
Figure 42, Variation in China's Vegetable Protein Feed Demand Structure, 2007-2016.....	47
Figure 43, Vegetable Protein Demand Structure in Hog Feed in 2016 .....	47
Figure 44, Vegetable Protein Demand Structure in Meat Poultry Feed in 2016.....	48
Figure 45, Vegetable Protein Demand Structure in Egg Poultry Feed in 2016.....	48
Figure 46, Vegetable Protein Demand Structure in Aquatic Feed in 2016.....	49
Figure 47, Vegetable Protein Demand Structure in Ruminant Feed in 2016 .....	49
Figure 48, Variation in China's Soybean Meal Output, 2007-2016 .....	52
Figure 49, Variation in Domestic and Import Soybean Crushing Benefits, 2008-2016 .....	53
Figure 50, Variation in China's Soybean Meal Export Volume and Export Price, 2007-2016.....	55
Figure 51, China's Soybean Meal Export by Country of Destination.....	55
Figure 52, Variation in China's Soybean Meal Demand, 2007-2016 .....	56
Figure 53, China's Soybean Meal Demand by Livestock Variety in 2016 .....	57
Figure 54, Variation in Soybean Meal Average Price of Main Producing Regions and Consumption Regions, 2007-2016.....	59
Figure 55, Variation in China's Rapeseed Meal Output, 2007-2016 .....	61
Figure 56, Variation in China's Rapeseed Meal Import Volume and Import Price, 2007-2016.....	63
Figure 57, China's Rapeseed Meal Import by Original Country in 2016 .....	63
Figure 58, Variation in China's Rapeseed Meal Demand, 2007-2016 .....	64
Figure 59, China's Rapeseed Meal Demand by Livestock Variety in 2016 .....	65
Figure 60, Variation in China's Rapeseed Meal Price, 2007-2016.....	67
Figure 61, Variation in China's Cottonseed Meal Production, 2007-2016 .....	68
Figure 62, Variation in China's Cottonseed Meal Export Volume and Export Price, 2007-2016.....	70

Figure 63, China’s Cottonseed Meal Export by Country of Destination in 2016.....	71
Figure 64, Variation in China’s Cottonseed Meal Demand, 2007-2016 .....	71
Figure 65, China’s Cottonseed Meal Demand by Livestock Variety in 2016 .....	72
Figure 66, Variation in China’s Cottonseed Meal Price, 2007-2016 .....	74
Figure 67, Variation in China’s DDGS Production, 2007-2016.....	75
Figure 68, Variation in China’s DDGS Import Volume and Import Price, 2007-2016 .....	77
Figure 69, Variation in China’s DDGS Demand, 2007-2016.....	78
Figure 70, China’s DDGS Demand by Livestock Variety in 2016.....	78
Figure 71, Variation in China’s DDGS Price, 2007-2016 .....	80
Figure 72, Variation in Global Fish Meal Production, 2010-2016 .....	82
Figure 73, Variation in China’s Fish Meal Production, 2007-2016 .....	83
Figure 74, Variation in China’s Fish Meal Import Volume and Import Price, 2007-2016.....	84
Figure 75, China’s Fish Meal Import by Original Country in 2016 .....	85
Figure 76, Variation in China’s Fish Meal Demand, 2007-2016 .....	85
Figure 77, China’s Fish Meal Demand by Livestock in 2016.....	86
Figure 78, China’s Fish Meal Demand structure in Aquatic Feed in 2016.....	87
Figure 79, Variation in Import Fish Meal Prices of SD65% and Super SD, 2007-2016 .....	89
Figure 80, Variation in China’s Meat and Bone Meal Production, 2007-2016 .....	91
Figure 81, Variation in China’s Meat and Bone Meal Import Volume and Import Price, 2007-2016....	92
Figure 82, China’s Meat and Bone Meal Import by Original Country in 2016 .....	93
Figure 83, Variation in China’s Meat and Bone Meal Demand, 2007-2016 .....	93
Figure 84, China’s Meat and Bone Meal Demand by Livestock in 2016 .....	94
Figure 85, Variation in Import Meat and Bone Meal Prices in Major Ports, 2007-2016.....	96
Figure 86, Variation in China’s Lysine Output, 2007-2016 .....	98
Figure 87, Variation in China’s Lysine (including Ester and Salt) Export Volume and Export Price, 2007-2016.....	99
Figure 88, China’s Lysine (including Ester and Salt) by Country of Destination in 2016 .....	99
Figure 89, Variation in China’s Lysine Demand, 2007-2016 .....	100
Figure 90, China’s Lysine Demand by Livestock Variety in 2016 .....	101
Figure 91, Variation in China’s 98.5% and 65% Lysine Average Prices, 2007-2016.....	103
Figure 92, Variation in China’s DL-Mehtionine Output, 2007-2016.....	105
Figure 93, Variation in China’s DL-Mehtionine Import Volume and Import Price, 2007-2016.....	105
Figure 94, China’s DL-Methionine Import by Original Country in 2016.....	106

Figure 95, Variation in China’s DL-Methionine Demand, 2007-2016.....106

Figure 96, China’s DL-Methionine Demand by Livestock Variety in 2016.....107

Figure 97, Variation in Prices of China’s Solid and Liquid DL-Methionine, 2007-2016 .....109

## List of Tables

Table 1, Corn Planting Costs & Benefits in the Northeast, 2008-2016 .....33

Attached Table 1, Industrial Feed Output in China and Each Province, 2007-2016.....110

Attached Table 2, Compound Feed Output in China and Each Province, 2007-2016 .....111

Attached Table 3, Concentrate Feed Output in China and Each Province, 2007-2016 .....112

Attached Table 4, Additive Premix Feed Output in China and Each Province, 2007-2016...113

Attached Table 5, China’s Corn Import by Original Country, 2014-2016 .....114

Attached Table 6, China’s Sorghum Import by Original Country, 2014-2016.....114

Attached Table 7, China’s Barley Import by Original Country, 2014-2016.....114

Attached Table 8, China’s Soybean Meal Export by Country of Destination, 2014-2016 .....115

Attached Table 9, China’s Rapeseed Meal Import by Original Country, 2014-2016.....115

Attached Table 10, China’s Cottonseed Meal Export by Country of Destination, 2014-2016  
.....116

Attached Table 11, China’s Fish Meal Import by Original Country, 2014-2016.....116

Attached Table 12, China’s DDGS Import by Original Country, 2014-2016.....116

Attached Table 13, China’s Lysine (including Ester and Salt) Export by Country of Destination,  
2014-2016 .....117

Attached Table 14, China’s DL-Methionine Import by Original Country, 2014-2016.....117

Attached Table 15, China’s Corn Import by Enterprises in 2016 .....118

Attached Table 16, China’s Sorghum Import by Enterprises in 2016.....119

Attached Table 17, China’s Barley Import by Enterprises in 2016.....120

Attached Table 18, China’s DDGS Import by Enterprises in 2016.....121

Attached Table 19, China’s Fish Meal Import by Enterprises in 2016.....122

Attached Table 20, China’s Lysine (including Ester and Salt) Export by Enterprise in 2016 123

Attached Table 21, China’s DL-Methionine Import by Enterprises in 2016 .....123

Attached Table 22, China Corn Supply-Demand Balance Sheet, 2010/11-2016/17.....124

Attached Table 23, China Soybean Meal Supply-Demand Balance Sheet, 2010/11-2016/17



.....	124
Attached Table 24, China Rapeseed Meal Supply-Demand Balance Sheet, 2010/11-2016/17	
.....	125
Attached Table 25, China Cottonseed Meal Supply-Demand Balance Sheet, 2010/11-2016/17.....	125
Attached Table 26, China DDGS Supply-Demand Balance Sheet, 2010-2017.....	125
Attached Table 27, China Fish Meal Supply-Demand Balance Sheet, 2010-2017.....	126
Attached Table 28, China Lysine Supply-Demand Balance Sheet, 2010-2017.....	126
Attached Table 29, China DL-Methionine Supply-Demand Balance Sheet, 2010-2017 .....	126



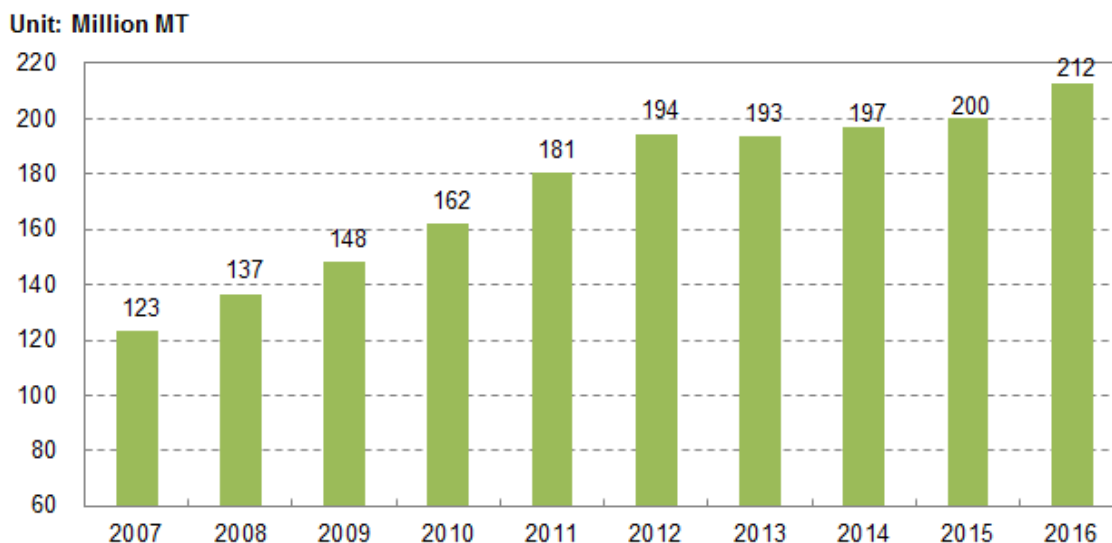
## Chapter One 2016 China Feed Industry Overview and 2017 Prospects

### 1 2016 Industrial Feed Production in China

#### 1.1 China's Industrial Feed Output Increased to About 212 Million Tons in 2016, up about 6% Year on Year

Benefited from a recovery growth of poultry feed output and a steady increase in pig feed output, 2016 industrial feed output ascended greatly to 212 million MT, up 6.2% or 12 million MT year on year.

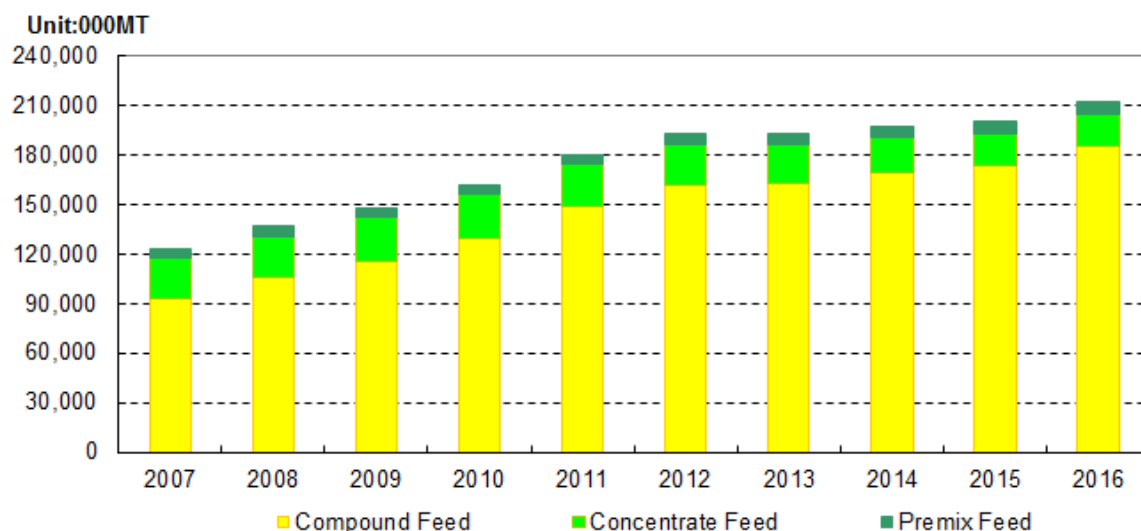
Figure 1, Variation in China's Industrial Feed Production, 2007-2016



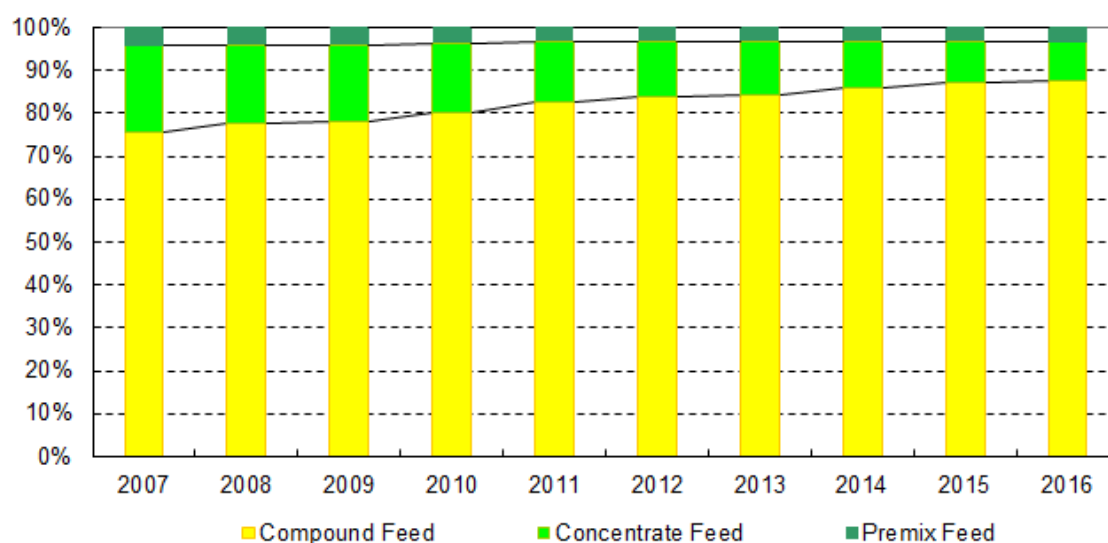
Data Source: MOA, predicted data of 2016

2016 industrial feed output in top 2 provinces: Guangdong and Shanghai, both was upward of 20 million MT; the number of provinces whose output ranged at 10-20 million MT was 7. The proportion of feed output in above nine provinces was 64.0%.



**Figure 2, Variation in China's Feed Production by Product Variety, 2007-2016**


Data Source: MOA, predicted data of 2016

**Figure 3, Variation in China's Feed Structure by Product Variety, 2007-2016**


Data Source: MOA, predicted data of 2016

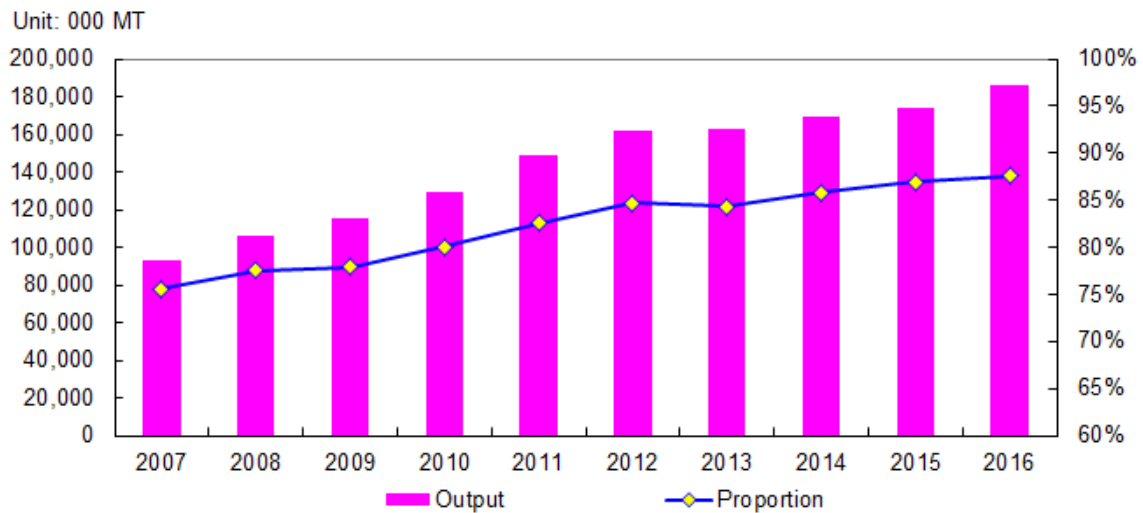
### 1.2.1 Proportion of Compound Feed in Total Industrial Feed Output Increased Slightly to 87.5%

Compound feed was widely used in 2016. On the one hand, along with the scale of farm expanding, feed companies directly cooperated with the farms, pushing up compound feed output; on the other hand, due to an obvious increase in poultry feed, the proportion of

compound feed in poultry was higher.

2016 compound feed output reached 186 million MT, up 6.9% or 12 million MT; the proportion in industrial feed output ascended to 87.5%, 0.6 percentage point higher than last year.

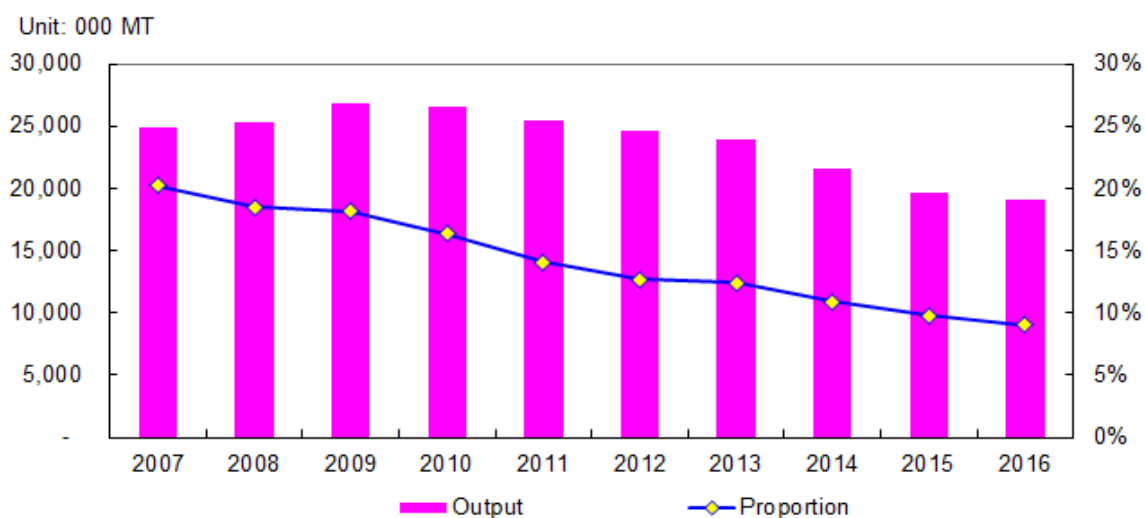
**Figure 4, China's Compound Feed Output and Proportion, 2007-2016**



Data Source: MOA, predicted data of 2016

### 1.2.2 Concentrate Feed Output Kept Downtrend, Proportion down to 9.0%

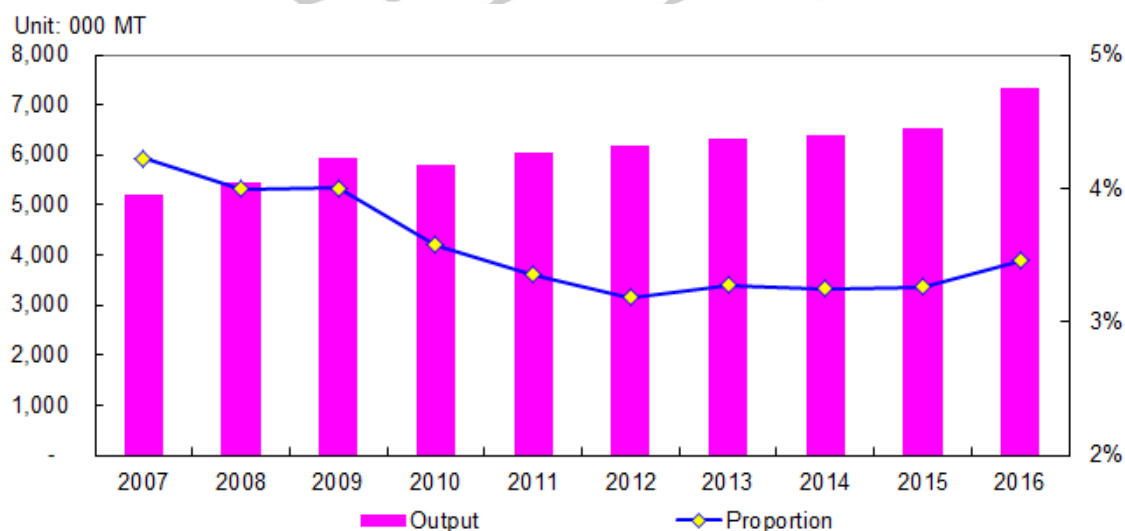
Concentrated feed output has decreased for seven consecutive years after the first negative growth in 2010. 2016 concentrated feed output would be 19.1 million MT, down 2.4% or half million MT year on year. The proportion of concentrated feed in industrial feed output further decreased to 9.0%, 0.8 percentage point less than last year.

**Figure 5, China's Concentrate Feed Output and Proportion, 2007-2016**


Data Source: MOA, predicted data of 2016

### 1.2.3 Premix Feed Output Grew Stably and Little Changes in Proportion

The progress of techniques of feed formula and an increase in direct use of premix feed by large-scale farming companies were important forces to push up premix feed output in 2016. 2016 premix feed output should reach 7.3 million MT, up 12.5% or 0.8 million MT year on year. The proportion of additive premix feed in industrial feed output was 3.5%, 0.2 percentage point higher than 2015.

**Figure 6, China's Additive Premix Feed Output and Proportion, 2007-2016**


Data Source: MOA, predicted data of 2016

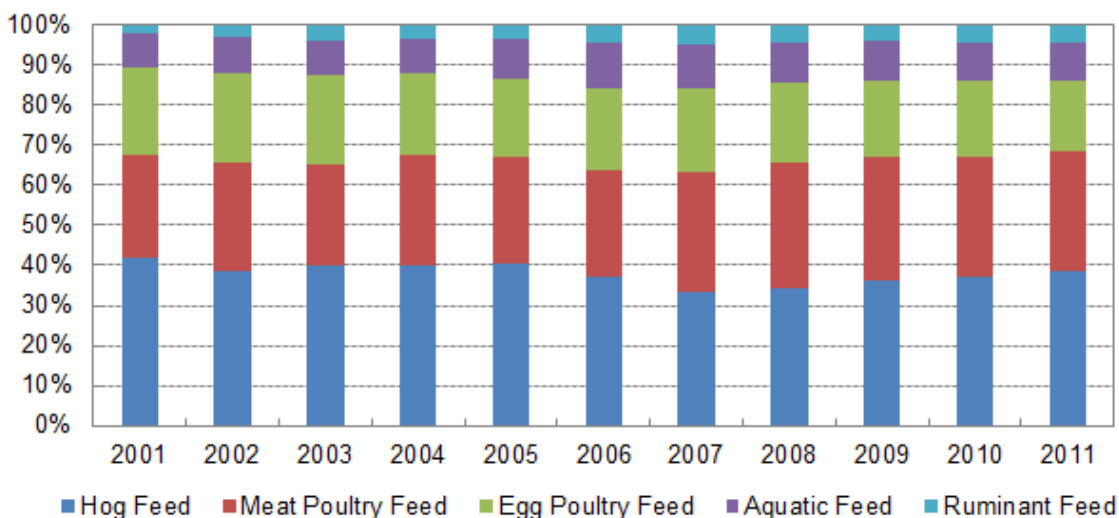
### 1.3 Variation in Livestock and Poultry Feed output and Structure by Variety in 2016

#### 1.3.1 Feed Output Proportion of Different Varieties

In 2016, hog, meat poultry and egg poultry feed output all increased, and aqua and ruminant feed output decreased slightly.

Judging from the proportion of output, the proportion of hog feed in industrial feed output was 41.3%, 0.4 percentage point less than 2015; the proportion of meat poultry feed output was 29.4%, 1.8 percentage points higher than 2015; the proportion of egg poultry feed output reached 14.9%, 0.2 percentage point less than 2015; the proportion of aqua and ruminant feed output was 8.6% and 4.1%, 0.9 percentage point and 0.3 percentage point less than 2015 respectively.

**Figure 7, Variation in China's Feed Structure by Livestock Variety, 2007-2016**



Data Source: MOA, predicted data of 2016

.....

## About BOABC (CNagri.com)

BOABC—As leader in China's modern agriculture service industry, BOABC was established in 1996, by virtue of nearly 20 years' accumulation in China's agriculture and food industry, as well as our experience in industry data, intelligence, information gathering and analysis, integration of resources for agriculture and food related enterprises, institutions, investors, consumers. Our services including agricultural research, consulting service, media, marketing, private equity investment, financial consultants, public relations and communications conference and exhibition, we also provide integrated services to help enterprises of all types and institutional clients in understanding the rapid development of China's agriculture and food industry, and help them to create greater business value.

## Related Reports

- China Grains weekly Market Report
- China Animal Husbandry weekly Market Report
- China Corn Industry Analysis and Forecast Report
- China Pig Industry Analysis and Forecast Report
- China Broiler Industry Analysis and Forecast Report
- China Corn Market Review and Outlook
- Chinese industrial feed industry Atlas (2014)
- Chinese Agricultural Commodity Yearbook (2015)

## Special Survey Service

With 20 years of industry research experience, BOABC is China's best data, information, consulting service provider in agricultural and food fields. We have successfully provided nearly a thousand Chinese and overseas enterprises and governmental agencies with all kinds of special research services including industrial special subject research, market research, strategy consulting, feasibility study on fund-raising investment alternative before listing, regional planning, business plans and so on.

### ❖ Typical Cases:

- ❖ In 2000, Chinese pig feed Market Research Report for Ajinomoto;
- ❖ In 2005, Chinese corn processing industry development trend analysis and the development path of research project for COFCO;
- ❖ In 2008, Chinese sweet corn processing industry research for Seminis;
- ❖ In 2009, Chinese feed industry and the integration of enterprise research report for CJ;
- ❖ In 2010, Pig breeding and feed dealer research project;
- ❖ In 2011, Nutritional supplements premix research needs in food industry for Lekang Ruide;
- ❖ In 2011, China's corn imports Research Project Proposal for ADM;
- ❖ In 2013, Chinese feed additive premix production industry data and business conditions for cargill;



Copyright belongs to BOABC. Without authority, anyone shall not spread by reprinting, transmitting, copy, record, rewritten, publication or other direct or indirect ways. The offender shall be investigated for liability according to law.

## Contact

TEL: 86-10-64402118

Add: Room 1509, Jintai Golden Tower,  
No. 1, Xibahe South Road, Chaoyang  
District, Beijing

E-mail: report.boabc@boabc.com

Web site: www.cnagri.com