
Market Size, Competition Pattern and Future Development Forecast of China Animal Vaccine Market



Beijing Orient Agribusiness Consultant Co., Ltd

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Research Background

Since 2003, with the rapid development of livestock and poultry breeding industry and the implementation of compulsory immunization policy for major animal diseases, China's market size of animal vaccine has seen rapid growth, the sales value of domestic and foreign manufacturers has increased to 1.4 billion yuan in 2015 from about 3 million yuan, reaching a compound growth rate of 15.1%, of which, hog and poultry vaccine accounted for 86.3% of total sales value.

China's market size of animal vaccine will maintain stable growth in next ten years, BOABC makes following analyses:

First, vaccine cost for unit livestock and poultry will rise up, which will drive China's market size of animal vaccine up smoothly. China will speed up transformation and upgrading of livestock and poultry production mode, though total breeding quantity will grow at low speed, the scale level and market share of large groups will increase rapidly, the use of vaccine in productive process will be more scientific and standard.

Second, vaccine products of different classes have greater potential, especially high-end vaccine. Taking swine vaccine for example, the penetration ratio of commercial PVC2 vaccine and FMD vaccine respectively is less than 35% and 15%, future market potential is great, at the same time, scale farms' demand for high-end products will increase further. In addition, market potential of PRV, diarrhea, M.Hyo. and other products will be released gradually.

Third, compulsory immunization policy adjustment stimulates the growth of animal vaccine market size. China temporarily stop implementing national unified tender for purchasing CSF and PRRS vaccine in 2016, as compulsory product the price difference between commercial CSF vaccine and tender CSF vaccine is more than five times, the market size of CSF vaccine

will expand gradually. At the same time, brucellosis and CE vaccine are included in the scope of compulsory immunization, and government tendering procurement will drive the growth of market size of these two products.

However, with the improvement of R&D capacity and mature of productive technology of China's animal biological product enterprises, the competition of this industry is becoming fierce increasingly, it becomes particular critical that how enterprises make proper development strategy to make them obtain leading advantages in cruel market competition. Facing with this condition, it becomes more important to learn and grasp the development situation and trend of this industry. For example, how to grasp the trend of national policies and regulations for this industry? How about the competition pattern and trend? How about the market size and development potential of different vaccine products? How about the characteristics of different disease vaccines? How about the demand of customers? How about the R&D direction of new products and operation situation of major domestic competitors?

The report will make detailed analysis mainly on above questions and in-depth research on the development environment, market size, development trend, operation situation of domestic and foreign vaccine enterprises and future development trend of China's animal biological product industry on the basis of stating current situation of the industry in 2015 so as to make comprehensive organization and judgment on the competition situation and development trend of China's animal vaccine industry and assist manufacturers and investment organization to better grasp the development course of China's animal vaccine industry.

This report is written elaborately based on the data from national level authoritative departments including the National Bureau of Statistics, General Administration of Customs , the MOA, China Institute of Veterinary Drug Control, China Veterinary Drug Association, China Animal Agricultural Association and industrial associations, the data are accurate and authoritative, moreover, this report integrates the views of experts, having high scientificity

and prospectiveness. BOABC believes that the report is an important reference material for domestic and foreign animal vaccine manufacturers, investors, associations and research organizations to make strategic decision.



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Chapter One Development Course and Policy Environment of China's Animal Vaccine Industry

1.1 Development course of China's animal vaccine industry

China's research and production of animal vaccine products began in the Institute of Blood Serum of Qingdao Commodity Inspection Bureau established in 1918 and the Beiping Central Epidemic Prevention Department established in 1919. In 1930, Shanghai Commodity Inspection Bureau established a research institute of veterinary biological products, and produced hyperimmune serum against rinderpest, anthrax, swine fever and fowl cholera, as well as cowpox and rabies tissue vaccine. Before 1949, there were very few types of veterinary biological products. Perhaps only about 10 types of vaccines were being researched and produced; besides, the output was small and there is no unified standard concerning quality. In 1950, there were only 9 veterinary biological products factories which produced a total of over 35 million ml of veterinary biological products.

In 1952, China established the national veterinary biological products inspection institute, and formulated the first Rules for Production and Inspection of Veterinary Biological Products, which prescribed the production and inspection procedures for 36 types of veterinary biological products. It unified the quality standard for veterinary biological products in China for the first time. Later, China successively established 28 veterinary biological products pharmaceutical factories in the provinces, cities and autonomous regions, and the production scale of veterinary biological products witnessed great improvement.

In 1970, the Ministry of Agriculture issued the No.5 Decree of the Minister, which made detailed prescriptions concerning the pilot-scale test, production and assessment of procedures of veterinary biological products. At the same time, the biological drug monitoring system was established, which standardized the quality requirement and standardization of veterinary biological products research and development. In late 1970s, the diagnosis technique has developed from the traditional agglutination test, treatment response test and neutralization test into the enzyme-linked immunosorbent based on the technology of enzyme - marked antibodies and immune-fluorescent staining test based on the fluorescein-labelled antibody technology.

In 1990s, the diagnosis technology has developed into the stage of molecular biology. Biotechnologies such as monoclonal antibody, nucleic-acid probe and the test kits have been widely applied in China's veterinary production practice.

China's animal vaccine industry has changed greatly since the beginning of the 21 century, there has been more than 80 vaccine manufacturers in China and their annual output totally has reached more than 60 billion ml. China's market size of animal vaccine showed strong growth in recent seven years, and the sales value of animal vaccine manufacturers reached 13.167 billion yuan in 2015, increasing 12.29% year on year. During the period from 2009 to 2015, the compound growth rate of the sales value of animal vaccine was 12.42%.

Currently, there are about 70 domestic animal vaccine manufacturers (excluding enterprises manufacturing serum vaccine) in China, including 57 swine vaccine manufacturers and 57 poultry vaccine manufacturers, of which, 40 enterprises manufacture both swine vaccines and poultry vaccines. In addition, foreign brands mainly include Boehringer Ingelheim, Zoetis, Merial, MSD, CEVA, HIPRA, etc.

1.2 Position and share of animal vaccine in China's animal health product industry

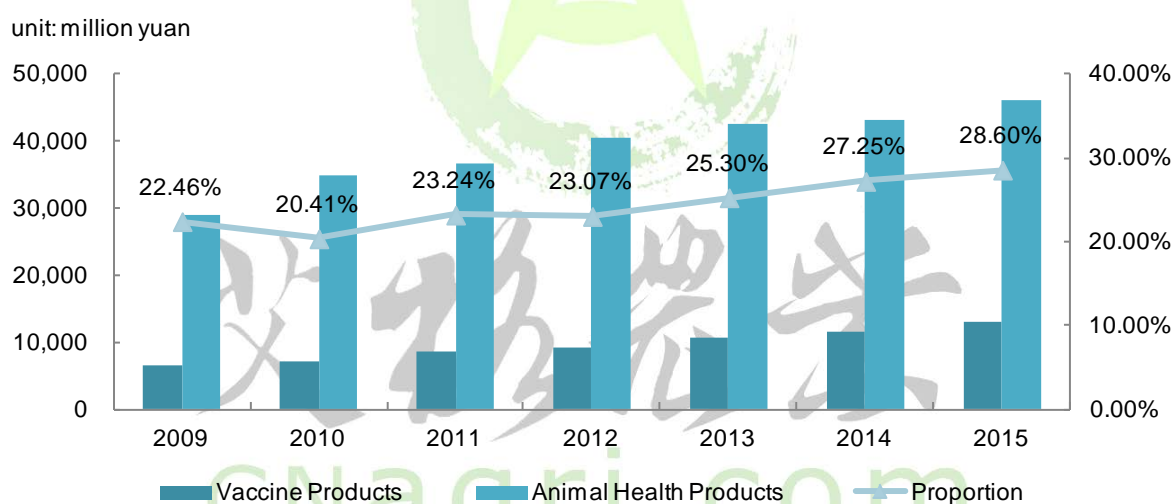
In China's animal health industry, the market size of chemical drug still is greater than that of vaccine, but the growth of market size of animal vaccines will be faster than that of overall animal health industry as domestic livestock and poultry farmers raise management level and the demand for vaccines increases gradually especially for high quality products. During the period from 2009 to 2015, the compound growth rate of sales value of animal vaccines was 12.42% in China, while the compound growth rate of overall animal health industry was 7.99%.

The sales value of animal vaccines accounts for an increasing proportion in the total sales

value of animal health products in China. In 2015, China's sales value of animal vaccines roughly was 13.167 billion yuan (including foreign brands) and accounted for 28.60% of total sales value of animal health products, and the proportion increased by 6.14% from 22.46% in 2009.

BOABC thinks that the position of vaccines in domestic animal health industry will rise further and animal vaccine demand will grow steadily as domestic livestock and poultry farmers reasonably use antibiotics or reduce application of antibiotics.

Fig1.1, Proportion of sales value of animal vaccines in that of animal health products in China, 2009-2015



Data Source: China Institute of Veterinary Drug Control, BOABC

1.3 Comparison between global and Chinese animal vaccine industry

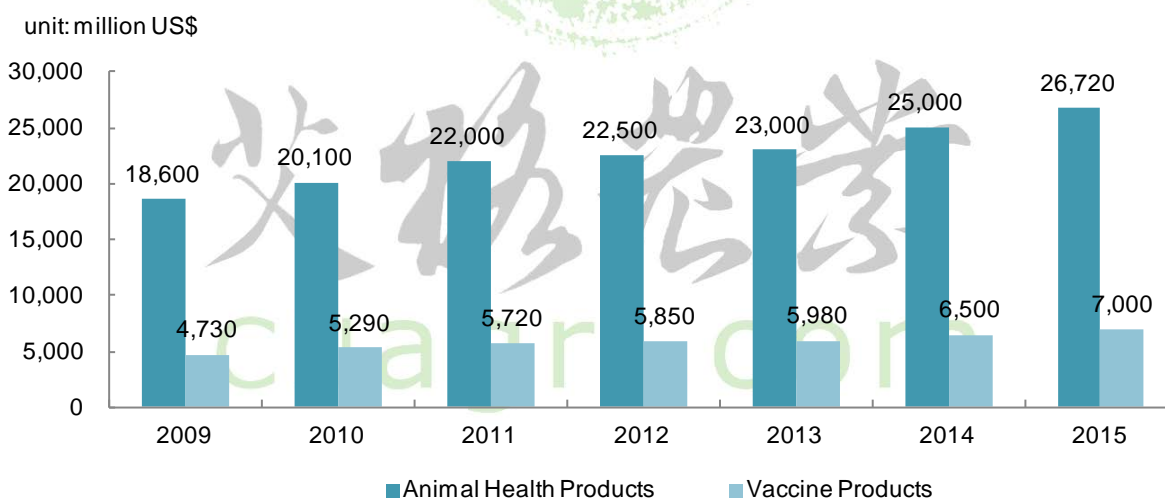
According to data from IFAH, global sales value of animal health products roughly was 26.7 billion dollars (excluding sales value of Chinese enterprises) in 2015, which is equal to about 165.6 billion yuan. Of that, the sales value of animal vaccines was about 7 billion dollars (about 43.4 billion yuan) and accounted for 26.2% of the total sales value of animal health market. According to BOABC's data, the sales value of domestic animal vaccines was 10.819 billion yuan in China, roughly accounting for 5.9% of the sales value of global market

(including sales value of Chinese enterprises).

As for the development speed of animal vaccine market, during the period from 2009 to 2015, global sales value of animal vaccines increased to 26.7 billion dollars from 18.6 billion dollars, reaching a compound growth rate of 6.22%; while China's sales value of animal vaccines (including foreign brands) increased to 13.167 billion yuan from 6.522 billion yuan, reaching a compound growth rate of 12.42%. In this sense, the development speed of China's animal vaccine market was faster than that of global market.

With the transformation and upgrading of domestic livestock and poultry industry in the future, China's animal vaccine market will continue to develop rapidly and become one of world's fastest growing markets.

Fig1.2, Global sales values of animal health products and animal vaccines, 2009-2015



Data Source: BOABC

In terms of animals using the products, pet-health-care products accounted for the largest market share in international animal health-care products market. In 2015, the sales revenue of international veterinary health-care products for pet and other animals was about 10.9 billion dollars, which accounted for about 41% of the total sales revenue of international

animal health-care products. The rest 59% was for the products used by pigs, sheep, poultry and other edible animals. This is quite different from the situation in China, where the sales revenue of vaccine products for pets and other animals was about 509 million Yuan, only 3.87% of the total sales revenue of China's animal vaccine products. Such a proportion is far less than the international level.

1.4.3 Influence of compulsory immunization policy adjustment on China's animal vaccine industry

As for policy, compulsory immunization policy was continuously tried out in 2015. The MOA published "National Animal Disease Compulsory Immunization Plan in 2015" and China continuously implemented compulsory immunization policy for four animal diseases including highly pathogenic avian influenza, PRRS, foot-and-mouth disease and hog cholera, the proportion of vaccinated herd was over 90% all year round and the proportion of vaccinated livestock and poultry which should be vaccinated reached 100%, and over 70% immune antibody was qualified the whole year; at the same time, the MOA implemented compulsory immunization in regions including Tibet, Xinjiang, etc. threatened by PPRV.

In July 2016, the MOA clearly put forwards temporarily stopping implementing national compulsory immunization policy for CSF and PRRS, and the state makes CSF and PRRS prevention and control guidance, prevention and control work will be carried out according to actual situation.

BOABC thinks that specific implementing regulations haven't been announced, but commercialization of CSF vaccine and PRRS vaccine will be good for the development of the industry and enterprises, market competition is the ultimate way of improving product quality and guaranteeing farmers' benefit. The influences of this policy on vaccine industry and enterprises are as follows:

1) Influence on vaccine industry

Increase of CSF vaccine market size: CSF vaccine is vaccinated compulsorily in domestic, if

commercial vaccine is used comprehensively, the market size will increase to 1.4 billion yuan from current 860 million yuan.

Market size of PRRS vaccine decreases slightly: farmers are cautious about using PRRS vaccine, many pig farms use vaccine according to their own conditions. If the government stops tendering fully, BOABC thinks the increase of commercial vaccine can't make up the the decrease of tender vaccine in a short term.

2) Influence on enterprises

If PRRS vaccine and CSF vaccine are commercialized completely, enterprises depending on tender vaccines will be impacted greatly as the promotion of commercial vaccines depends on perfect sales team and sound distribution channels, which is completely different from that of government tender vaccine. As for enterprises engaging in high-end commercial vaccine in advance, the loss of tender vaccine will impact the performance of the company in a short term, but in the long run, scale pig farms have strong demand for safer commercial vaccines. With the rising of market share of commercial vaccines, the performance of the company will increase stably.

1.5 Development direction of China's animal vaccine industry

In next five to ten years, China's animal vaccine industry will usher in the second round of shuffle, mergers and acquisitions of domestic enterprises will increase, the business will be diversified, product line will be completed gradually, and marketing model will change to service marketing from product marketing. Specifically,

China's animal vaccine industry will be in a transition stage from growth stage to mature period with a growth rate of 10%-15%. According to international experiences, intensive breeding is the main driving factor for the reform of animal health industry. With the increasing of scale breeding enterprises in China, it's predicted that domestic animal vaccine market will keep a growth rate of 10-15% in the future.

The concentration ratio of the industry is increasing gradually. According to international experiences, the concentration ratio of animal health industry is increasing, international competition pattern that Zoetis, Boehringer Ingelheim, Merial, MSD, Bayer, and other magnates competes has formed. The market share of domestic animal vaccine industry will rapidly be occupied by leading enterprises: 1) regulatory policies become stricter, the implementation of GMP and GSP certifications will further eliminate backward enterprises; 2) the state adjusts compulsory immunization policy, some medium and small-sized enterprises relying on government tendering procurement; 3) farmers' recognition on quality and brand of vaccines is increasing, enterprises lacking R&D capacity will face more operation difficulties; 4) domestic large scale animal vaccine enterprises increase input in R&D and new product development and devote to building scientific research system combining independent R&D and cooperative R&D, and they will make great progress in comprehensive R&D ability.

Core competitiveness of an enterprise mainly is reflected in product R&D ability and service marketing ability. According to international experiences, Boehringer Ingelheim, Zoetis, Merial and MSD have several advanced R&D centers globally, and their annual R&D expenditure roughly accounts for 10-15% of their sales value, and they all have many products with international competitiveness. In brand marketing aspect, excellent enterprises build perfect sales and service teams, provide all-round technical service and personalized solution for customers, and continuously raise customer value.

Fig1.3, Forecast on China's market size of animal vaccines, 2016-2025

Data Source: China Institute of Veterinary Drug Control, BOABC

Chapter Two China's Market Size of Animal Vaccine Industry in 2015(sales value in this report refers to sales value of enterprise)

2.1 China's market size of animal vaccine market

China's market size of animal vaccines showed strong growth in past seven years, and its sales value reached 13.167 billion yuan (including foreign brands) in 2015, increasing 12.29% year on year, and reaching a compound growth rate of 12.42% during the period from 2009 to 2015.

BOABC thinks that the main forces for the growth of domestic animal vaccine market include 1) stable growth of total farming quantity of animals; 2) increase of scale farms and more normalized immune procedure; 3) animal health enterprises strengthen market development, farmers' awareness of immunization is enhanced and their acceptability for high-end products is increasing.

Fig2.1, Change trend of China's sales value of animal vaccine, 2009-2015

Data Source: China Institute of Veterinary Drug Control, BOABC

2.2.3.5 Market size and product features of PCV2 vaccine

PCV2 vaccine belongs to conventional vaccine/commercial vaccine, and is distributed by direct selling or dealers. According to data from China Institute of Veterinary Drug Control, there are about 22 enterprises manufacturing and selling PCV2 vaccine in domestic. It's learned by BOABC that JINYU Biological Pharmaceutical and Jinhe Biotechnology both obtained PCV2 production approval in 2016.

Currently, PCV2 vaccine products on the market include GMO vaccine and whole virus

inactivated vaccine. The PCV2 vaccine products of 18 manufacturers all are whole virus inactivated vaccine, their strains include SH strain, LG strain, WH strain, ZJ/C strain and DBN-SX07 strain and they all are PCV-2b serotype, and the effect of products depends on antigen content and purity.

In 2015, the sales value and sales volume of PCV2 vaccines respectively reached CNY1.118 billion and 215 million doses in domestic. With total sales value of CNY721 million, top five enterprises including Boehringer Ingelheim, Yibio, Nannong Hi-tech, Hile and Wuhan Chopper totally occupied a market share of 64.43%. (Note: the prices of BI's PCV2 vaccine products are 2-4 times of that of domestic PCV2 vaccine products, so BI's sales value is great.)

Fig2.14, Market concentration of PCV2 vaccine in China, 2015

Data Source: Annual Reports of Listed Companies, China Institute of Veterinary Drug Control, BOABC

Table2.5, Manufacturers of PCV2 vaccine and product category in China, 2015

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Vaccine Variety	Strain	Manufacturer
PCV2 GMO Vaccine	VR2332	Boehringer Ingelheim
	VLP	YEBIO
		Wuhan Chopper
	CP08 strain	THE SPIRIT JINYU BIOLOGICAL PHARMACEUTICAL (obtaining approval in 2016)
PCV2 Vaccine, Inactivated	SH strain	NANNONG HI-TECH
		PULIKE
		QYH
		ZHENGYE GROUP
	LG strain	WEIKE
		HILE
	WH strain	WINSUN
		KEQIAN
		Wuhan Chopper
		QYH
		CAHIC
	ZJ/C strain	NANJING TIANBANG
QILU Animal Health		
EBVAC		
RINGPU		
Sichuan Huapai		
Zhejiang Jianliang		
DBN-SX07 strain	Jinhe (obtaining approval in 2016)	
	Da Bei Nong (Fuzhou)	
	Chengdu Tecbond	
	Shandong HuaHong	

Data Source: China Institute of Veterinary Drug Control

2.3.2 China's market size of poultry vaccine

In 2015, the sales value of poultry vaccine reached CNY4.263 billion and increased 11.58% year on year, of which, the sales value of domestic brands was CNY3.393 billion, while the sales value of foreign brands (Merial, CEVA and MSD) was CNY 870 million.

In terms of product circulation forms, poultry vaccine in China is divided into government tender vaccine and commercial vaccine which takes a leading position with sales value of CNY3.338 billion, and government tender vaccine only was recombinant avian influenza virus

H5 subtype with sales value of CNY950 million.

By diseases, ND mostly uses combined vaccine, so BOABC divided domestic poultry vaccine products into six categories including ND series (single vaccine and combined vaccine), H5N1, MD, IBD, IB and others, and the sales values of them respectively CNY2.057 billion, CNY1.106 billion, CNY436 million, CNY343 million, CNY55 million and CNY266 million.

BOABC believes that China's production mode of poultry industry will change rapidly, breeding quantity will maintain slow growth, and the proportion of scale farming will rise significantly, and all these factors will drive poultry vaccine market grow stably in the future.

Fig2.15, Sales value of poultry vaccine in China, 2009-2015

Data Source: China Institute of Veterinary Drug Control, BOABC

2.3.3 Market concentration of top 10 poultry vaccine enterprises in China

In 2015, the sales value of top 10 poultry vaccine enterprises including eight domestic enterprises and two foreign enterprises (Merial and CEVA) totally was CNY3.010 billion in domestic, while the sales value of rest 43 enterprises totally was CNY1.253 billion. Among eight domestic enterprises, six enterprises were designated manufacturers of H5N1, and 40%-60% sales value of them came from government tender vaccine; the other two enterprises Ringpu and Pulike only run conventional poultry vaccine and operated well relatively.

As for the competition pattern of poultry vaccine in domestic, BOABC thinks compulsory immunization policy for H5N1 and designated production create eight large scale poultry vaccine enterprises. Market operation of other products leads to fierce competition, foreign enterprises (Merial, CEVA and MSD) and domestic leading enterprises (Yebio, Ringpu, QYH and Pulike) are in the lead by virtue of product and channel advantages

Chapter Four Analysis of Industrial Chain of China's Animal Vaccine Industry

4.1 R&D link

4.1.1 Main research institutions of China's animal vaccine industry

China's animal vaccines research for a long time has been mainly carried out in Harbin Veterinary Research Institute, Lanzhou Veterinary Research Institute, China Institute of Veterinary Drug Control, China Animal Health and Epidemiology Center (former Qingdao Animal Quarantine Institute, Ministry of Agriculture (MOA), Institute of Special Animal and Plant Sciences of CASS, and some universities (Huazhong Agricultural University, Yangzhou University, Nanjing Agricultural University and Henan Agricultural University), and some provincial veterinary research institutes (like that of Jiangsu, Shanghai, Beijing and Shanghai, etc).

As production enterprises enhance R&D strength and pay increasing importance to R&D of new products, the main body of Chinese animal vaccine R&D has gradually been transformed to enterprises from R&D institution. Yebio built first national key laboratory "National Key Laboratory of Animal GMO Vaccine", and successfully developed PCV2 GMO vaccine; Pulike established the National Veterinary Drug Engineering Technology Research Center, the state-level enterprise technology center and the national&local joint engineering laboratory of infectious animal disease diagnostic reagents and vaccine development and continuously strengthen product innovation capacity; Wuhan Chopper has built technology center and successfully developed PCV2 GMO vaccine. In addition, some domestic enterprises strengthen cooperative R&D with colleges and universities as well as scientific research institutions through participation, such as NANNONG HI-TECH CO.,LTD., Nanjing Tianbang Bio-industry Co., Ltd., Yangzhou Uni-bio Pharmaceutical Co., Ltd., Yangzhou Vac Biological Engineering Co., Ltd. and others. According to statistical data of new products in

recent two years, Chinese animal vaccine enterprises' vaccine products through independent R&D or joint R&D roughly account for 40% of total vaccine products.

4.1.2 Technology research and development mode of China's animal vaccine industry

Technology research and development methods of China's animal vaccine industry can be divided into following three types. Data show that 69 animal vaccine enterprises choose to cooperate with research and development units, this R&D method is joint R&D which is the most favored one among these three methods.

1. Enterprises have their own R&D base and R&D team. Besides its own capital, the investment also relies on government financial allocation and various government special funds. Above enterprises generally are domestic leading enterprises (such as CAHIC, Yebio, Weike, etc.)

2. Enterprises cooperate with scientific research institutions subordinated to the MOA or colleges and universities to jointly research and develop products. The R&D investment includes special fund of scientific research institutions and enterprises' support, and the R&D achievements are shared by institutions and enterprises, and generally is transferred to enterprises with compensation for production and promotion.

3. Joint R&D between enterprises. With one enterprise as main development unit, R&D investment is beared by all enterprises who together declare achievements in scientific research.

Chapter Five Analysis of Main Animal Vaccine Enterprises in China

5.1 CAHIC

5.1.1 Company profile

Founded in 1998, CAHIC is an important member of China National Agricultural Development Group Co., Ltd. which is a central agricultural enterprise directly under the management of SASAC. With animal nutrition & health products as core business, CAHIC's four main businesses include veterinary biological products, veterinary chemical drugs, feed and trade. CAHIC is a large scale animal health products and animal nutrition enterprise integrating R&D, production, marketing and service.

In 1999, CAHIC was listed on the Shanghai Stock Exchange, and has become the largest animal health products manufacturer and a leading feed additives enterprise in domestic.

In animal vaccine aspect, CAHIC is a manufacturer designated by the MOA to produce vaccine products of major animal diseases such as H5N1, FMD, HPRRS, CSF, etc., and has made prominent contribution to the prevention of major animal diseases like H5N1, CSF, etc. The company has four international advanced GMP production bases that are Lanzhou Biological Pharmaceutical Factory, Jiangxi Biological Pharmaceutical Factory, Chengdu Pharmaceutical Factory and Baoshan Biological Pharmaceutical Factory, and has equity participation in QHY Biotech Co., Ltd. With annual production capacity of 35 billion doses poultry vaccine, its sales volume ranked first in domestic for many years.

5.1.2 Vaccine product mix

The company's animal vaccine products feature wide varieties and stable quality, involving hogs, poultry and cattle & sheep, and are divided into government tender vaccine and commercial vaccine. Among that, government tender vaccine includes H5N1 vaccine, FMD vaccine, HPRRS vaccine and CSF vaccine, while commercial vaccine product line is complete relatively, including PCV2 vaccine, PRV vaccine, FMD vaccine, CSF vaccine, ND

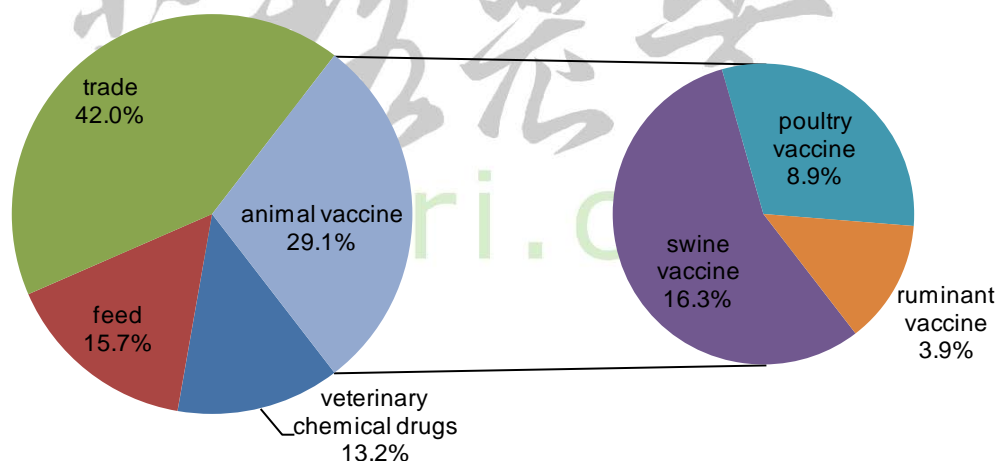
vaccine, MD vaccine, IBD vaccine and other regular animal vaccines.

As for new products, recently, the company has obtained six new veterinary drug certificates including HPRRS + CSF (TJM-F92 Strain + C Strain), H1N1 (TJ Strain), PGEV + PEDV (HB08 Strain + ZJ08 Strain), M.Hyo (DJ-166 Strain), ND + IBD (La Sota Strain + HQ Strain) and ND + IB + IBD (La Sota Strain + M41 Strain + HQ Strain) and further enriched the product line and strengthened the company's core competitiveness.

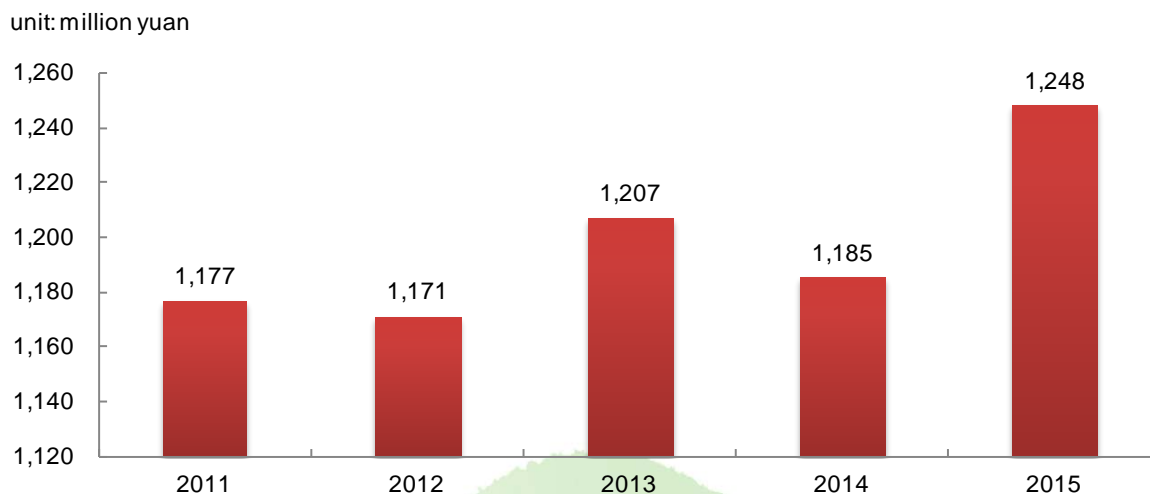
5.1.3 Animal vaccine sales revenue

In 2015, the company's sales revenue of animal vaccine was CNY1.248 billion, increasing 5.33% year on year and accounting for 29.62% of the company's total revenue. Of that, swine vaccine, poultry vaccine and ruminant vaccine respectively accounted for 56.01%, 30.71% and 13.29%. During the period from 2011 to 2015, the company's sales value of animal vaccine realized a compound growth rate of 1.48%.

Fig5.1, CAHIC main business income structure, 2015



Data Source: annual report of listed company, BOABC

Fig5.2, Animal vaccine income of CAHIC, 2011-2015

Data Source: annual report of listed company

5.1.4 Forecast on performance growth in the next five years

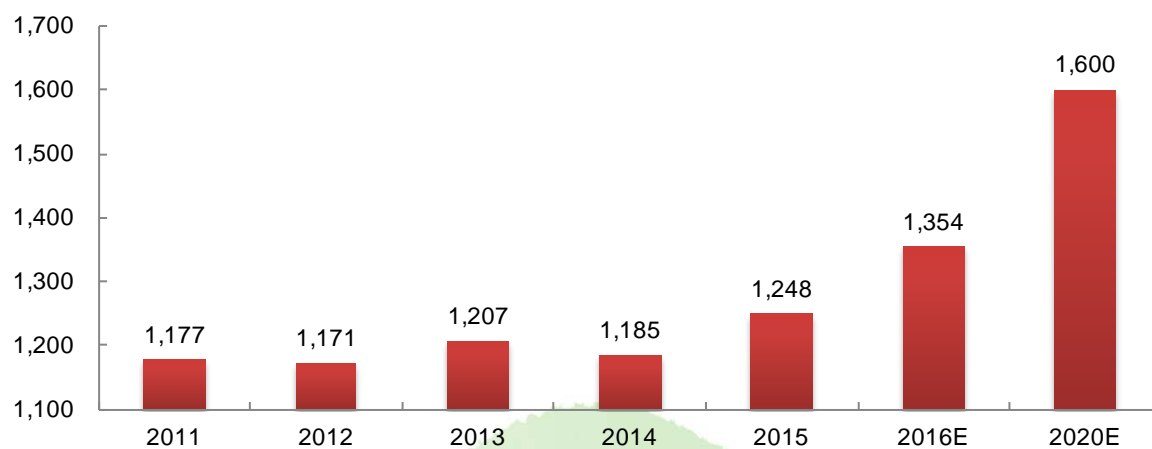
BOABC thinks that the company has sufficient long-term development momentum despite facing the risk of business decline of tender vaccine, several competitive new products enter into rapid promotion period. It's estimated that the company's sales value of animal vaccine will be about CNY1.60 billion by 2020, reaching a compound growth rate of 4.26% in the next five years. Reasons are as follows:

1. Commercial vaccine business enters into rapid development period, its product strength and marketing services both are significantly improved. CSF vaccine, PRRS vaccine, high-end FMD commercial vaccine, diarrhea combined vaccine, M.Hyo inactivated vaccine and other new products all are competitive, so the company is hopeful to achieve performance breakthrough.

2. The company's short-term tender vaccine business faces the risk of decrease. In 2017, the state starts to suspend compulsory immunization policy and tendering procurement for CSF vaccine and PRRS vaccine, about CNY200 million related income of the company may be influenced.

Fig5.3, Forecast on animal vaccine income of CAHIC, 2016-2020

unit: million yuan



Data Source: annual report of listed company, BOABC



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