

TRANSFORMING THE BACKYARD FARMING UNIT TO THE INDUSTRIAL PRODUCTION UNIT: THE «KANGDA MODEL»

YAN Y.K.* , LI S.D., ZHANG P.

Qingdao Kangda Foodstuff Co., LTD, No. 317 Binhai Avenue Jiaonan 266400, Qingdao, China

*Corresponding author: yanyk@vip.sina.com

ABSTRACT

China is the largest rabbit raising country in the world. Rabbit production account for 42% of that of the world. Most production is represented by small-scale backyard farms. Compared with the European industrial farming pattern (all-in, all-out), its production efficiency and economic benefits are 27.4% to 45.5% lower. In rural China, the raising of rabbits has become a major activity for many farmers. Under this circumstance, the raising patterns or model should be changed. The industrial farming system is the best choice for farmers to improve their production efficiency and economic benefits. But it is difficult for farmers to realize the benefits of industrial-scale farming. The best avenue is for farmers to form or constitute cooperatives, and contractually cooperate with large rabbit meat processing companies. Qingdao Kangda Foodstuffs Co., Ltd., is the largest rabbit meat processing company in China. It has several large breeding farms, feed factories, and rabbit production farms. However, production from Kangda's own farms is not enough, and we need more rabbits from small-scale rabbit farms. Qingdao Kangda offers a protective price to cooperative farmer groups and resupplies breeding stock, supplies the feed, the artificial insemination service, technology training, etc. Farmers supply the market meat rabbits to the processing company through a cooperative structure. This is a win-win position. This kind of approach or solution is called the 'Kangda Model'. Furthermore, this model helps farmers to adopt the industrial farming, all-in, all-out system. Farmers can also sell back their infertility breeders through the cooperative unit to reduce production costs. The Kangda model - a corporation involving rabbit meat processing companies and rabbit grower cooperatives - could change the profit pattern of China's rabbit meat industry in the near future.

Key words: Industrial farming, rabbit farming, cooperative, Kangda model.

INTRODUCTION

In the last 5 years from 2006 to 2010, rabbit meat production in China has increased by 28.15%. It is the fastest growing meat business in the country. In addition, the rabbit industry has developed very rapid. The main reason is the drive from meat processing companies. Companies have tried many different development models according to local economic conditions. In recent years, Qingdao Kangda Foodstuffs Co., Ltd., created the "Kangda Model". It is the whole rabbit production chain, also called vertical integration, that has gradually matured in recent years. Qingdao Kangda Foodstuffs Co., Ltd., has its own breeding companies, multiplication grower farms, artificial insemination center, feed company, processing factory, rabbit fur processing factory, guarantee company, etc. In addition, 30% of the rabbit meat processed is exported to the European Union, Americas, Russia, etc. And 70% of the rabbit meat is sold in the domestic market. The "Kangda Model" can be described as rabbit production and processing company + self-owned, field farm + cooperatives + a guarantee company.

More specifically, the rabbit processing company signs a purchase order with cooperatives according to the market demand. In turn, the cooperatives distribute the order to members. The rabbit processing company provides the breeders, feed, veterinary medicines and vaccines, technical services, etc., for free. The cooperatives collect and transports the rabbits to the processing company. The guarantee company provides the financial service for cooperative members. We set the lowest protective price according to the present production costs. The real price fluctuates according to the market. We ensure

that it is higher than the lowest protective price to ensure a good profit for cooperative members. This business approach decreases the economic risks for each rabbit grower.

The main purpose of this paper is to introduce the multiple, win-win situation for the whole rabbit industry chain and to promote the meat rabbit industry's development.

MATERIALS AND METHODS

Rabbit processing enterprises

In China, the rabbit processing companies are the key players of the industry. This means that it can drive the development of the industry. Most of these companies have export businesses, while other processing companies mainly targeted in domestic market. The Chinese rabbit industry tends to be categorized with other traditional animal husbandry systems. The social division of labor is not refined and the industrial chain of development or integration is not perfect. The companies have developed the industrial chain system according to local conditions. For example, Qingdao Kangda Foodstuffs Co., Ltd., gradually built a slaughter house, feed factory, breeding company, breeder farms, artificial insemination center, and a guarantee company. The above units belonged to different companies in the poultry and pork industries. The social divisions will resolve this problem. The rabbit processing company should eventually make the industrial chain system more perfected. At the same time, it needs to invest more capital and labor into marketing activities.

Self-owned and cooperative field farms

Self-owned and cooperative field farms are critical to the export company's success. One advantage of this merge is that it ensures the food safety traceability of rabbit meat. The management and regulation of the cooperative field farms involves an all-in all-out system. It is a good feature to the cooperative members.

Cooperatives

Exports are not the main business of the China rabbit processing companies. The great demand in China's domestic market has promoted the rapid total development of the industry. Rabbit meat production has increased by 28.15% in the last 5 years, annually at 5.63%. It is the fastest growing sector in all meat consumption (Table 1). In view of the concerns for food security by consumers, the traceability in the domestic market is also needed. The cooperatives are the appropriate organization unit to ensure effective traceability. The processing company works closely with all its cooperatives.

Table 1: Meat production data in China from 2006 to 2010 (thousand of tons).

Item	2006	2007	2008	2009	2010	Growth rate in 5 years
Pork	51,970.00	42,878.00	46,205.00	48,905.00	50,712.00	-2.42%
Beef	7,500.00	6,134.00	6,132.00	6,358.00	6,531.00	-12.92%
Mutton	4,700.00	3,826.00	3,803.00	3,894.00	3,989.00	-15.13%
Poultry	15,090.00	14,476.00	15,336.00	15,953.00	16,561.00	9.75%
Rabbit	540.00	602.00	587.00	636.00	692.00	28.15%

Source: Yan (2011).

It ensures both a stable rabbit supply and good traceability. It reduces the economic risk to both the processing plant and of farmers due to adverse market fluctuations. Cooperatives mostly consist of backyard farms. It accepts rabbit production orders. We establish the protective price by negotiating between processors and cooperatives. Real prices fluctuate according to the market. The cooperatives

distribute the orders to members' farms. The company provides farmers with breeders, feed, vaccines and other veterinary medicines, artificial insemination, and other services.

Guarantee company

Members of the cooperatives are financed from banks and need the service from a “guarantee company”. It is based by a joint venture of government, financial institutions, and the company. It mainly supports the union of small farms into cooperatives and provides a guarantee service. The government and bank have the loan interest as a preferential policy for the cooperative members.

Meat production statistics

China is the world's largest rabbit raising country. Rabbit production accounts for about 42% of total world production. Most rabbits are produced on small-scale, backyard farms. However, the production efficiency of and the economic benefits to backyard farms are considered to be much lower than the industrial system (all-in, all-out) as practiced in the European Union (Tables 2 and 3).

Table 2: Rabbit raising performance index from France and Australia.

Performance Indicator	France	Australia
Number of kits born per litter	10.4	9.0
Number of kits born alive per litter	9.9	8.0
Number of kits weaned per litter	8.4	5.0
Growth rate of grower rabbits	46 g/day	35 g/day
Mortality of grower rabbits*	7%	10%
Age at first mating	19.5 weeks	20 weeks
Annual turnover of breeding does	120%	100%
Gross margin per doe per year	\$153	\$174

*In the absence of periodic disease outbreaks, such as enterocolitis in France and calicivirus in Australia.
Source: Modified from Eady (2008).

Table 3: Production and management situation of different scale slaughter houses.

Scale (breeding does)	Total survival rate (%)	Annual rabbit production (per doe)	Total raising cost (RMB/doe)
Less than 100	75-88	30-35	20-25
100~500	70-78	28-32	21-26

Source: Zilin (2011).

RESULTS AND DISCUSSION

In China, the price is about 16 RMB per kg. The live weight of a fattened rabbit is 2.5 kg, on average. The price of one rabbit is about 40 RMB. The total cost is from 20 to 25 RMB per rabbit. The gross margin per rabbit is from 15 to 20 RMB. For the rabbit farm with 100 breeding does, each doe produces about 35 fattening rabbits. The gross margin of each doe is from 525 to 700 RMB. With an exchange rate of RMB to USD being 6.3:1, this relates to a gross margin range of 83.3 to 111.1 USD. Compared to France with a gross margin of 153 USD, our figure is 27.4 to 45.5% lower.

In rural China, the raising of rabbits has become a major activity of farmers. However, it needs the reform initiative to develop into a more sophisticated rabbit raising system. The industrial system (all-in, all-out) can improve the production efficiency and economic benefits. Cooperatives are the very organization to realize this transformation. The “Kangda Model” consists of “Rabbit enterprises + self-owned, field farm + cooperatives + a guarantee company”.

Over the last 3 years of development experience in China, the “Kangda Model” has promoted the transformation from a backyard into an industrial production system. It can improve the farmers’ profitability. This system relates to a doe that can produce 3 to 5 more rabbits per year (between a total of 38 to 40 rabbits). The gross profit of each doe can increase between 45 and 60 RMB (7.14 to 9.52 USD). This level can be even higher, depending on the levels of management and technology.

The “Kangda Model” consists of: Rabbit enterprises + self-owned, field farm + cooperatives + a guarantee company) should be further promoted in China and in developing countries. It can help farmers to transform from a backyard unit to an all-in, all-out industrial rabbit unit. This enterprise type provides quality breeding stock, a steady feed supply, disease control measures, a commercial rabbit market, artificial insemination technology, training, etc. This model increases farmers’ benefits. The most important aspect is that it has the protective price to avoid great economic losses to farmers due to the fluctuations in the market. This enterprise type also has a stable rabbit market and food safety traceability channels. It also improves the market competitiveness. In the cooperative arrangement between enterprises and cooperatives, the guarantee company provides financing warranty services. It reduces farmers’ loan costs.

CONCLUSIONS

Overall, Kanga appeals to more farmers to become better organized by establishing cooperatives. Cooperatives and enterprises can negotiate and sign contracts to fix protective prices. A guarantee company can also help to finance a cooperative. In a cooperative, enterprise farmers and a guarantee company can realize a multiple, win-win situation. The main economic advantage is that operational risks are minimized.

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