

Grain machinery production in China

An analysis of the present situation & potential areas for future development

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The grain machinery manufacturing industry is not only an important part of its closely related processing industry, it is also a key link in the industrial chain. Through more than 40 years of reform, opening up and further development, the international first-class industry gap is gradually narrowing, with some Chinese technology even reaching the world's leading level. This progress has been widely credited as being the result of China's cooperation with foreign grain producers.

Therefore, in order to promote the healthy development of the nation's grain machinery enterprises, implementing an export focused or 'going out' national strategy is not the only way of triggering growth.

It could also be argued that a strategy that promotes an increase in the capacity of the grain machinery production industry via a 'belt and road' philosophy, could also have a beneficial effect.

The current situation

Since the 1970s, China's grain machinery enterprise has increased in areas of processing such as flour, milling, oil, feed – with the development of products which include full production lines, as well as technology relating to introduction, digestion and absorption.

These same companies have also gradually mastered the key technology of grain machinery design and manufacturing, such as how to form complete industrial systems, effectively upgrade technology and how to integrate organisational systems.

These same enterprises also attach great importance to the upgrading of existing products, whilst they have also accumulated certain technical experience, due to the use of laser cutting and CNC machine tools and other advanced equipment.

This has allowed them to greatly improve the manufacturing standards of food machinery, narrow the technological gap at

home and abroad, and reach the world's leading level in some areas.

In recent years, China's grain machinery industry has developed rapidly, especially since the 12th Five-Year Plan. The domestic grain machinery industry has reached the world's leading level in structural optimisation design, intelligent manufacturing, cloud image acquisition and analysis and other technical fields, laying a solid foundation for Chinese grain machinery enterprises to 'go global.'

Under the conditions of opening up, the advantages of Chinese enterprises' development comes from three aspects: first, cheap and abundant labour force. The second is the huge market and related to the establishment of after-sales service marketing network, with the third being the organisational role of the government.

Rapid development & significantly improved standards

Domestic grain machinery enterprises have made a series of innovative achievements in grain processing (hulling, milling, feed, colour sorting, etc), testing instruments, storage facilities, robots, complete sets of equipment, system engineering design and so on, and the design and manufacturing level of grain machinery is constantly improving.

For example, China's Jiesun (colour machine), Famsun (feed engineering), Myondage (grease machinery), Tianrui (food safety testing instrument) have reached or close to the international advanced level, but compared with Buhler, Satake, Ocrim and other world famous food machinery enterprises, there is still a gap in comprehensive technical strength.

Grain machinery enterprises such as Taihe (industrial robots, colour sorting machine), Qili and Yongxiang (rice huller, rice milling machine, polishing machine), Pingle and CoFCO Engineering (flour machinery), Gold Grain, Taixing Xiqiao and Jintai Roller have also developed rapidly and are in the forefront of the industry in China

Actively exploring overseas markets

Based on their own technological advantages, Chinese grain machinery enterprises expand overseas markets by investing in factories, setting up agencies or using direct sales and other modes, and actively respond to the country's major initiative of 'One Belt and One Road.'

Famsun sells its products and services overseas in 120 countries and regions, accounting for about 78 percent of its sales in 'One Belt and One Road' countries. It has invested about US\$30 million dollars to build an industrial park in Myanmar, and jointly develops markets in South America, India, independent countries and regional associations through cooperation with multinational companies such as Cargill.

Taihe in Southeast Asia, Central Asia, Russia, South Africa, South America and other countries and regions gradually established a relatively complete sales network, based on India, Brazil, the vast colour sorting application market and enterprise overseas work for many years of valuable experience, Pingle Group products export to more than 40 countries and regions, In September 2015, 2000 sets of 'Zambia Small Solar Complete Corn Project' with a value of 150 million yuan was signed.

Jiexun, Tianrui, Qi carp products have also established a wide marketing network in the world, through the establishment of offices in foreign countries, technical service stations marketing products.

High levels of automation

Famsun is committed to building a green and healthy industrial chain from garden to dining table, providing 'turnkey' one-stop

and complete services of consulting, design, civil construction, manufacturing, logistics, installation and commissioning, after-sales service and subsequent upgrade. This company has received orders from multinational companies such as Cargill.

Mytech, Pinle, Qili, Yongxiang and CoFco Engineering also provide the 'turnkey' project for grain (oil) machinery and equipment, and Tianrui Instrument provides food testing solutions.

With the progress of modern information technology such as Internet of things and cloud computing, while focusing on the development of automation equipment, food machinery manufacturing enterprises have strengthened the application of intelligent control, sensors and other advanced technologies, so as to effectively improve the level of automation and intelligence of products.

For example, Jiexun R&D and production of the 'cloud' colour sorting machine, integrated eagle eye technology, cloud image acquisition analysis and processing technology, Internet of things application technology and a key cloud intelligent operation and a number of other high-tech solutions.

Scientific & technological innovation

Technological innovation and progress are the 'engine' and 'catalyst' of enterprise development. Domestic grain machinery enterprises attach great importance to the important role of scientific and technological innovation in enterprise development, attach great importance to enterprise R&D investment and an R&D team construction, and constantly increase R&D investment to achieve core technology breakthroughs and technological breakthroughs.

Famsun uses five percent of its sales revenue as research and development funds every year. It has applied for more than 1000 patents, including 150 invention patents and nine international patents, and 12 achievements have been rated as international leading.

Amongst them, the project 'Creation and Industrialisation of Large intelligent feed Processing Equipment' won the second prize of National Science and Technology Progress in 2017. Tianrui invested about 10% of its sales revenue in research and development in 2017.

In 2017, TALHe R&D expenses increased by 20.5% compared with the previous year, accounting for 7.4% of sales revenue. It is because of the continuous investment in scientific and technological innovation and the stable development of the R&D team.

This means that companies like CoFco Engineering, Famsun, Jixun, Taihe, Maiander, Qi Li, Yongxiang and other domestic grain machinery enterprises can develop rapidly, whilst also maintaining a competitive advantage in the market in the future.

A distinctive talent management system

At present, the development of grain machinery industry is restricted by talents, the overall design level is low is a common phenomenon, really have a high degree of researchers.

Therefore, the food machinery industry should vigorously introduce innovative talents, attract high-end talents to join, and train engineers with real design innovation ability. The enterprise 'go out' not only needs the excellent product quality, but also needs the support of talent team.

This means that the talents needed for 'going global' not only need to have certain overseas work experience and relevant professional knowledge and skills, but also need to fully understand the relevant laws, policies and cultural customs of the target country, and have an international vision of interdisciplinary talents.

In order to achieve this, Famsun has established research institutes in the United States, Denmark and Germany to employ foreign R&D personnel, build an international talent team and lay a solid foundation for innovation and development.

At the same time, it cooperates with domestic universities to hold regular training courses for developing countries every year, teaching knowledge of grain reserve, feed processing, livestock and poultry breeding, food processing and so on.

In order to motivate and retain core talents, Famsun, Taihe and Tianrui have adopted equity incentives and other measures to make their core talents form a community of interests with the enterprise, so as to achieve the long-term goal of enterprise development.

At the same time, it has cooperated extensively with The University of Science and Technology of China, Hefei University of Technology, Jiangnan University, Henan University of Technology and other units to constantly stimulate innovation ability and improve the transformation level of scientific research achievements through the combination of industry-university-research-application.

Brand building & promotion

Brand building is the core problem to improve corporate image and competitiveness. With the acceleration of internationalisation, the market economic order is becoming increasingly standardised, the concept of intellectual property rights is deeply rooted in the people's mind, and brand culture has received more attention from enterprises.

Famsun pays attention to protecting its own brand in the process

of overseas market development. Domestic enterprises such as Jixun and Taihe have also encountered problems of intellectual property rights in the process of overseas sales, although they have taken corresponding measures in brand protection, effectively enhancing the public's recognition of Chinese industry brands. CoFco group has moved into Zhangjiakou, Maosheng and other enterprises, expecting to achieve a great leap forward.

At present, China has basically achieved self-sufficiency in the equipment needed to produce high-quality flour, and already has brand-name products worthy of customers' trust. The period of dependence on imported equipment will gradually become history.

Creating higher value for customers

Product specialisation is also an important reason for the rapid development of grain machinery enterprises going out. Jiexun, Taihe and other business areas are more concentrated, the focus of business being in the research and development and production of colour picker.

Famsun focuses on system engineering construction and pursues professional business philosophy, not involved in real estate and other industries. Qili and Yongxiang focus on core products such as rice huller, rice milling machine and polishing machine, and improve the professional level of product production by strengthening and refining.

With the intensification of the competition in the grain machinery market and the progress of science and technology, the gap between the functional benefits of products of different enterprises is gradually narrowing.

Therefore, in order to survive, develop and win market leadership, enterprises must constantly change their marketing strategies and service modes to cater to market changes. They should provide customers with more services than product functions, strive to cultivate their relationship with consumers, and help customers choose products, provide information and provide good services.

At the same time, efforts to reduce costs, with excellent product quality and reasonable and fair price to guide customers, maintain customers' trust in us, from which extends the 'create value for customers' artistic conception.

Technology closely integrated with the market

For the grain machinery products of enterprises, the technical level is its competitiveness, and the market effect is the cohesion to attract customers. Technology out of the market, just like fish out of water, can only be a dead end; And the market without the support of technology, like a mirage, will face a fleeting danger.

Therefore, in order to further expand the market and make the enterprise invincible, it is necessary to gather superior strength and carry out forward-looking research and development centering on the demand of China and the global market

In summary, grain machinery industry to achieve healthy and stable development, first of all, must be clear about their own mission and their own goals, and choose suitable for their own enterprise development mode.

Secondly, each enterprise will have its own advantages and opportunities for development, which will be translated into correct strategic decisions and practices, so as to suppress weaknesses and promote strengths and continuously improve core competitiveness.

Finally, high-quality performance comes from efficient internal operation and management of an enterprise. Only by taking actions quickly can we successfully develop in the complex and changing competitive market.