



RICE

Current status of rice consumption in China and outlook of rice cooking industry

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In 2019, China produced 210 million tonnes of paddy (accounting for 28.9% of global production) and consumed 194 million tonnes (81.6% of which is for staple food). For about a thousand years, China has been eating rice as a staple food, and today, about two-thirds of the entire population (1.4 billion) are eating rice as staple food. As the standard of living improves in line with social and economic development, the need for rice consumption has shifted from an emphasis on quantity to taste, convenience, and health benefits. Particularly in urban areas, traditional home-cooked rice and home-made lunchbox practices have been gradually decreasing. Instead, the use of ready-made rice dishes or lunch at workplace are increasing.

From the end of the 1990s to the beginning of the 21st century, the Chinese rice cooking industry entered a period of growth along with the rapid increase of the fast food and school lunch industries. In recent years, factory-cooked rice usage spread to various industries and even a production line for an astonishing 100,000 meals a day has been built. Commercial factory-cooked rice is now used in company cafeterias, lunches at hospitals and schools, catering services, bento boxes at convenience stores, and Chinese fast food dishes. The economic scale of the factory-cooked rice is said to reach approximately 300 million yuan a year.

However, many company cafeterias and restaurants still cook rice using steam cooking equipment in their shops, so not only is the efficiency of cooking low, but also the texture of the cooked rice is poor, and the quality unstable. Since the rice cooking industry is a part of the rice industry chain, it is influenced by upstream cultivation, dry storage, rice milling, and downstream distribution and consumption. The rice cooking industry in China seems to experience the following problems:

- The production, storage, and distribution of rice depends on government policies, and the cost of polished rice as a raw material for cooking rice is high
- The quality of raw materials for polished rice is unstable. For example, the moisture content of raw paddy is kept low and dried in order to reduce the degradation of quality due to long-term storage and, as a result, there is much polished rice produced with a moisture content of 13 percent or less. Excessive polishing, through seeking too much gloss in the final product, has also become a common issue
- The quality of cooked rice is unstable, and it is necessary to establish a quality control method to standardise this
- In order to ensure food safety and security, it is necessary to establish an information traceability system from raw materials.

Satake Machinery (Suzhou) Co., Ltd., a subsidiary established by Satake in Suzhou, China in 1998 has not only been



manufacturing rice processing facilities for the Chinese market, but has also been providing profit improvement solutions for improving the quality of rice products and reducing production costs, based on the concept 'From the field to the table'. Through the provision of various technologies, Satake helps solve problems faced by the Chinese rice cooking industry, such as:

- Offering a paddy rice growth diagnosis system for the purpose of controlling and sorting the protein content of rice in cultivation
- An optimum drying control system for preventing the occurrence of excessive drying of unhulled rice and cracking of the body
- A rice polishing system that can be automatically controlled to an appropriate degree of polishing
- A GABA rice processing system with enhanced health functionality and a pressurised IH rice cooking system that can optimally cook rice for multiple purposes
- Inspection equipment that can be used for quality control such as appearance quality, taste quality, and safety quality in production processing.

Since the pressurised IH rice cooking system from Satake performs pressurised rice cooking at 1.2 atmospheric pressure (atm) and 106°C, and the inside of the pot is uniformly gelatinised, the texture of the rice is good, and there is little change in quality with time after rice cooking. Satake's rice-cooking system has reached an operating rate of over 80 percent, and the rice produced is used in boxed lunches and rice balls sold at convenience stores. Satake's rice cooking system for food factories is used for in-flight meals at major airlines. To control the quality of the rice, Satake's "Food Taste Appraisal Group" is also available in addition to the rice cooking system.

Outlook for the rice-cooking industry

Approximately two-thirds of the 1.4 billion people in China eat two meals a day on average, and the amount of rice consumed outside the home is increasing, along with changes in eating

Editorial has been
extracted from the
publication





and drinking habits. Together, with the promotion of staple food industrialisation by the government, rice cooking by food factories in a central kitchen system is expected to increase more and more in the future. As living standards improve, the need for consumption of cooked rice for safety, security, good taste, and health will become more and more integral, which will offer good opportunities for technological innovation and development in the Chinese rice cooking industry.

Examples of such innovations we may desire short-term include:

- Rinse-free rice processing and blending technology for raw

material polished rice, helping to stabilise and improve the quality of cooked rice

- IH rice cooking systems that can be used to cook rice in one pot, promoting a comfortable work environment
- Use of rice quality measuring devices (Rice cooking taste meters, hardness stickiness meters, etc) that are indispensable to control the quality of cooked rice.

Satake contributes to the development of the rice cooking industry in China by making use of the know-how it has accumulated throughout the entire post-harvest process.

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