Comparative Study of Chinese and Foreign Food Quality and Safety Standard System

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ABSTRACT

This paper analyzes the domestic agricultural quality and safety standards, and comparative analysis of the gap between domestic and foreign agricultural products quality and safety standards that exist in our proposed agricultural products processing enterprises should actively acquire international quality standard certification, and the use of international standards for good agricultural practices (GAP) to organize production. This is to improve the stability of the quality of agricultural products, to enhance the competitiveness of enterprises, as well as raise the level of agricultural enterprises in industrialized countries are essential, should be elevated to the national strategy.

KEYWORDS

Product quality, safety and quality, standards, international certification, process.

INTRODUCTION

At present, enterprises in many developed countries generally adopt the International Quality Management System (ISO) to manage their enterprises and continue to improve their product quality and standardization to enhance their core competitiveness. In some agricultural enterprises, international quality certification has also been obtained because of the need of international trade. For example, agricultural product processing enterprises and food production enterprises, who have already raised their guarantee of product quality to a strategic height in relation to the development of enterprises, attach great importance to products Continuous improvement of quality, in order to achieve continuous improvement of product quality. China is a traditional agricultural country, but many of the agro-processing enterprises are still not aware of their quality standards. They are not enthusiastic about obtaining product quality certification and organizing production according to standards and standards. This is of great importance to improving the stability and expansion of the quality of China's agricultural products Exports of agricultural products, have caused adverse effects.

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CHINA'S AGRICULTURAL PRODUCT QUALITY AND SAFETY STANDARDS SYSTEM STATUS QUOTE

As China's agricultural production changes from quantity to quality, agricultural enterprises pay more attention to quality and efficiency instead of quantity of production. With the continual improvement of people's material living standards, the role of standards in the development of agricultural product processing enterprises becomes more and more obvious. With the development of agriculture, the adjustment of production structure and the need of enterprises to develop international trade have also paid increasing attention to the quality and safety standards of agricultural products by agricultural producers, demanders and operators. After long-term development, China's agricultural product quality and safety standard system has been formed from the management system and operation mechanism, but there are still some areas that need to be improved and perfected.

China's agricultural product quality and safety standards system, the main problems

- (1) The subject of standard management is not clear. In the domestic agricultural product quality and safety management, it not only involves many aspects such as production conditions, means of production, production process, packaging and labeling, storage and transportation, sales and marketing, consumption and other aspects, but also involves many aspects such as standard setting, standard implementation, certification, supervision and law enforcement. The existing agricultural product management system has followed the strong administrative directives of agricultural standardization under the planned economy system in the past and the formulation and promulgation of agricultural product quality and safety standards are also distributed in over 10 departments. As a result of too many departments involved in the construction of agricultural product quality and safety standards system, the industry is too divided and the links are scattered, leading to the ambiguous scope and development direction of the system and the unclear definition of interdepartmental functions [7].
- (2) Standard integrity is poor. The system of quality and safety standards for agricultural products should be designed, drafted and implemented by the competent departments. However, the current standard system of agricultural products quality has not yet formed an organic whole, and there is a lack of unified coordination among the quality standards for various agricultural products. Therefore, it is difficult to form an organic whole. Some key technical standards concerning the limited amount of harmful substances in agricultural products are also very scarce.
- (3) Low level of support. Some agricultural products quality standards, origin of environmental standards, only the technical requirements of the index, but the lack of matching test methods. In the current pollution-free agricultural products is particularly evident in the published 200 more than pollution-free agricultural products industry standards, including more than 100 agricultural products, but with quality and safety, production and technical specifications of the three areas of origin environment matched There are only a few dozens of products and dozens of farm products lack matching standards. This is also a fundamental reason that it is difficult to expand the catalog of products with the unified mark certification across the country [8].

- (4) Is not targeted. Standard as a standardized enterprise production process and product quality to determine the technical basis should have a clear object of operation and control objectives. International standard-setting purposes, but also to meet the norms of production, or to meet the needs of market transactions, or to protect consumer safety and the need to protect the ecological environment. However, some domestic agricultural safety standards whether national standard or landmark are not clear in determining the target of service. Therefore, the standard is not pertinence, and the purpose of setting standards is also based on a single.
- (5) Less adaptable. The formulation of technical standards system should conform to the continuous development of economy, technology and society, or be revised and improved, eliminated or re-formulated. However, the system of quality and safety standards for agricultural products in China has remained unchanged for a long time. There is a serious lag in both the industrial division of labor and the standard-level classification. In the meantime, it is still difficult to formulate and amend many agricultural product standards. However, in developed countries, a technical standard is generally revised and improved once in three to five years.
- (6) Less risk assessment techniques. At present, the agricultural standard system in China, such as agricultural products, pesticide residues and pollutants in the hazard assessment has not yet formally used risk assessment techniques, risk assessment of basic data collection is also lower than that of developed countries, and even compared with some developing countries there are some This has led to a long time since the revision of China's standards is difficult to align with international standards, and agricultural products companies have also been affected in international trade[9].

Affect China's agricultural product quality and safety standards system to build the main obstacles

- (1) Standard revision of the main body is not clear. Due to the ambiguity of "standardization law" in the responsibilities of various departments, the problems of chaos and management dislocation exist in the revision and revision of agricultural products quality and safety standards, which have become one of the main obstacles that affect the effective operation of the quality and safety supervision system of agricultural products in our country. In view of the existence of four national standards system, that is, the current national agricultural product quality and safety standard architecture of the national standard, standard, landmark and enterprise standard 4 level [12]. Due to the ambiguity of the division of authority between the state, the industry and the local authorities in the compilation of agricultural standards, there are existing national standards, industry standards and local standards for the same type of products and uniform standardized objects, and even the technical contents of the three are duplicative Phenomenon, which led to the standard revision of the main body is not clear.
- (2) The lack of standard professional talents. Only 3 institutions engaged in agricultural standardization research (CASA, Zhejiang Academy of Agricultural Sciences, Yunnan Provincial Academy of Agricultural Sciences) specialized research institutions throughout the country can effectively carry out standardization research[6]. However, there is a lack of professionals in agricultural product risk assessment, agricultural standardization research and standardization promotion and education and training, and lack of qualified senior personnel who master a foreign

language and laws and regulations, which seriously restrict the formulation and revision of China's agricultural standard.

- (3) Lack of research funding. In the past, the state has not enough funds for the standardization of agriculture. This is an important factor that restricts the quality of agricultural products quality and safety standard system construction. It also makes it difficult to carry out the verification of agricultural standards at present, and the examination of the experts of most national standards only stays on the letter At the trial, there was no follow-up on the unification, coordination and convergence of standard technical contents, which led to the multi-questioning of some standards as soon as they were released, making it difficult to popularize and apply the standard.
- (4) The standard setting procedure is not standard. Despite the relevant standards for the formulation and review of the provisions, but for various reasons, in the actual operation is not in accordance with these provisions to implement. Many standard preparation teams are also lacking in representation. They did not carry out the necessary verification of the standards in the process of compiling the standards. Nor did the content of the standard formulation solicit the opinions of the masses extensively, and the standard review process also came into its own.

THE MAIN PROBLEMS IN THE PROCESS OF AGRICULTURAL STANDARDIZATION IN OUR COUNTRY

At present, the structure of agricultural standards in our country is irrational and local agricultural standards are not comprehensive enough. Some agricultural products with regional characteristics and advantages have not been able to compile a unified standard in time. The requirements for "green" agricultural products in developed countries are generally stringent. After China's accession to the WTO, China's agricultural products have entered the international market. However, the threshold for developed countries has not been lowered and the restrictive effect of non-tariff trade barriers has become more pronounced. Foreign countries have also examined the import of agricultural products from China Means are also improved, inspection frequency and items also increased, which objectively improved the quality of agricultural products in China [8]. Although long-term development has also yielded some achievements in the process of agricultural standardization in our country, there are still many problems that have plagued the rapid development of agricultural standardization in our country. The main problems lie in the following aspects.

(1) The agricultural standard system is not perfect. Agricultural standardization laws and regulations system, agricultural standardization popularization and implementation system, agricultural standardization monitoring and supervision system standardization, agricultural standardization of information and management of scientific and international standards there is a big gap. Due to the lack of agricultural product quality and safety standards, the basic standards and the corresponding technical procedures, the standard method is not perfect. Standards in the development process to take more into account the actual situation in the country and less consider the convergence with international standards, and the use of international standards to regulate the production of very few. The current standard system has been unable to meet the actual needs of China's agricultural production and economic development.

- (2) The standard level is low. In the current agricultural standards, the basic standard accounted for 4.9%, packaging, storage and transportation standards accounted for only 1.3%. In the taxonomy of the standards there is chaos and irrational phenomenon. The adoption rate of international agricultural standards is also very low. Only a part of the test standards adopt international standards, while most of the quality standards adopt only the international standards only for some of the indicators. The standards of the international standards are also low and the technical standards are not high. Its various technical requirements are lower than the international standard.
- (3) Age is too long. Among the four kinds of standards currently in existence, there is a widespread prevalence of standard age. Of the national agricultural standards, 690 have a standard age of 10 years or more, accounting for 37.7%; 670 in 5 to 10 years, accounting for 33.4% %. According to the industry standard, there are 740 items with a standard age of over 10 years, accounting for 35.8%. There are 750 items in 5 to 10 years, accounting for 36.2% (as shown in Figure 1) It is relatively old, so these standards must be revised in a timely manner. Only in this way will it not affect the development of the industry due to standard problems [9].
- (4) Standard room lack of unified planning. As the national standards, industry standards and related projects across the industry repeated, the technical requirements are not uniform. The formulation and implementation of the current standards are still in a state of natural dispersion, and the target is not targeted. As a result, the standards are not focused and the main basic standards lack integrity and supporting support, which cannot meet the actual needs of agricultural industrialization. Due to the inherent diversity and complexity of the agricultural industry, the cross-repetition of agricultural standards between some national standards and industry standards, especially related industries, and different technical requirements have seriously affected the implementation and management of standards.
- (5) The concept of standardization is not universal. Since local government agencies at all levels in China have not included the popularization and standardization of popularization into the work schedules of governments at all levels, many agricultural workers do not know much about professional knowledge about agricultural standardization. Therefore, the standardization of agricultural production according to agricultural standards cannot become a spontaneous behavior of peasants.

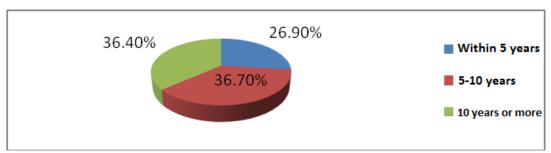


Figure 1. Country, industry standard of quality of agricultural products age chart.

DOMESTIC AND FOREIGN AGRICULTURAL PRODUCTS QUALITY AND SAFETY INSPECTION STANDARDS IN THE GAP

The current agricultural system in our country has established a quality and safety inspection system for agricultural products that is complemented by three ministries, provinces and counties and supplemented by each other, and routinely checked and quickly tested. However, compared with developed countries, no matter from the external conditions, or from the internal operating mechanism there is a big gap.

There is no special law to regulate, management and more scattered, resulting in a waste of resources

(1) Comparison of agricultural products laws and regulations. In developed countries, systematic work on quality and safety inspection and testing of agricultural products basically has special laws to regulate such as the United States "PACA" and the "Federal Meat Inspection Law." Even without special laws and regulations, the provisions of the relevant provisions of the law are also very detailed and operational [19].

Although there is not yet a complete and detailed law in China, it is described in some provisions of the Law on the Quality and Safety of Agricultural Products and other relevant laws. However, it is not specified in detail and its specific operability is poor, which makes it difficult to promote its implementation.

(2) Comparison of food regulatory agencies. Developed countries, the quality and safety of agricultural products sector is relatively concentrated, the division of labor is relatively clear, with the main agricultural sector. There are three departments in the United States: the Ministry of Agriculture, the Department of Human Health Services, and the National Environmental Protection Agency. Since the departments are mainly managed according to different varieties, from one department to another, from farm to table Supervision, clear division of labor between departments, the establishment of inspection and testing institutions highly specialized, resource allocation is reasonable [13].

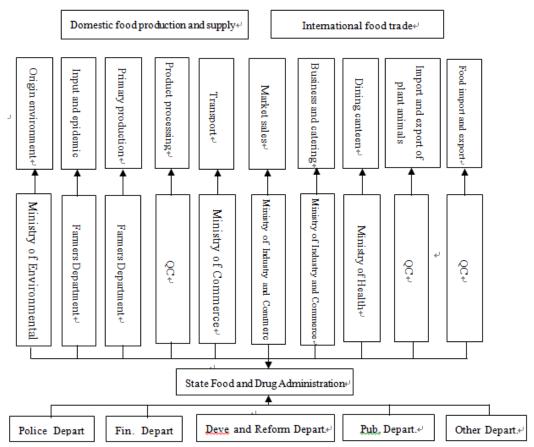


Figure 2. Institutions and functions of food safety regulatory agencies [1].

Poor hardware conditions, weak testing capabilities, lack of ability to verify the system and standardization

- (1) Comparison of hardware and software conditions. Most agricultural products quality and safety testing organizations in developed countries have high efficiency and technical authority, mainly in that they attach great importance to the ability of testing agencies, emphasis on hardware and software hardware and software construction, especially the two-capital construction test conditions And technical staff. Such as the United States testing agencies, especially the government set up the laboratory, usually well-equipped and well-equipped. Developed countries also generally attach importance to the strict recruitment and management of personnel, inspection and testing professionals have a higher technical quality and level. Under normal circumstances, the quality of personnel in the US federal laboratories is very high, and staff enjoy the treatment of civil servants [10].
- (2) Detection capacity comparison. Developed countries have formed a large-scale detection of agricultural institutions, high-precision and high-tech. These countries often improve their detection capabilities by increasing the degree of automation and by increasing the number of instruments and equipment. Test scale: Fresno in the California Department of Agriculture analysis of quality inspection agencies less than 50 employees, but there are nine gas chromatographs, not only the detection of these devices ability, but also to ensure the stability of its performance, Tens of thousands of samples from all over the country are tested every year [11]. High test accuracy: The

inspection accuracy of EU inspection agencies is also very high. For example, the test accuracy of chloramphenical reaches 10-11, which strengthens the export inspection of seafood products in China.

CONCLUSION

At present, some domestic manufacturing enterprises are actively using the ISO9000 series of international quality standards to standardize their quality management system to enhance product quality, such as the well-known and professional manufacturer of socket "bullet" in the country, after obtaining the international quality standard certification, According to ISO9000 series of international quality management standards, they set up a quality management system suitable for their own enterprise and manage the entire production process as follows: Raw material procurement, production, processing, storage and transportation are strictly in accordance with the standards of quality management system Operation, thus significantly improving product quality and enhance the competitiveness of enterprises, but also further enhance the market share of enterprises. At the second meeting of the 12th National People's Congress, held in Beijing in March this year, Premier Li Keqiang emphasized in his government work report: "With the strictest regulation and punishment, the most severe punishment and the most serious accountability, resolutely Control the contamination on the table, and effectively protect the tongue on the safety." Therefore, the state is now on the issue of food safety and quality attention is rising.

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REFERENCES

- 1. He Guoming. Agriculture and food processing areas: ISO9000 Practical Guide. Beijing: Chemical Industry Press, 2008.
- 2. Li Qingsheng. Implementation of quality and safety of agricultural products. Beijing: China Agricultural Press, 2008.
- 3. Jin Faizhong. Technical Specifications and Guidelines for Quality and Safety Management of Agricultural Products. Beijing: China Agricultural Science and Technology Press, 2008.
- WANG Ya-peng, WANG Wei-wei, WU Juan. Research on Coordination Mechanism of Grain Production, Circulation and Reserve in China - Based on Food Security. Beijing: Science Press, 2012.
- 5. Zhou Changchun, Sun Fengming. Introduction to the International Standard Quality Management. Beijing: Science Press, 2010.
- 6. Luo Bin. Domestic and foreign agricultural products quality and safety standards testing and certification system [M]. Beijing: China Agricultural Press, 2007.
- 7. Li Shan Tong, Liu Zhibiao. "China's economic and social development during the" 12th Five-Year "period a number of issues on the key issues of policy research. Beijing: Science Press, 2011.

- 8. Liu Zhen. China's food safety regulatory legal system research. Kaifeng: Henan University Master's thesis, 2013.
- 9. Zhang Xiuling. The causes and effects of agricultural residues in China. Wuxi: Ph.D. dissertation of Jiangnan University, 2013.
- 10. Li Lin.Research on food safety regulatory system reform. Shanghai: Shanghai Jiaotong University master's thesis, 2010.
- 11. Holley R A. Smarter inspection will improve food safety in Canada. 2010, 182(5):471-473.