Research on Traceability Mechanism of Agricultural Products and Farmers’ Behavior

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Abstract: Under the restriction of traceability mechanism, farmers should not only protect their own interests, but also ensure food safety, and make clear their responsibilities and obligations. From the long-term development, the farmers need to provide the corresponding data to achieve information traceability according to the circulation agreement. So as to ensure the traceability of agricultural products information.

Key words: traceability mechanism of agricultural products; behavior of farmers

1. The importance and definition of agricultural products tracking and tracing

1.1. agricultural products tracking traceability definition

Quality guarantee system for storing and recording all kinds of information in product supply process -- tracing and tracing. The problems in the quality of products, raw materials, processing link problems can be found in time; timely product recall; effective implementation of punitive measures in order to improve the quality of the products. Tracking agricultural products at each stage of the market, tracking and tracing agricultural products can effectively control quality and recall products in time.

1.2. importance of establishing traceability system of agricultural products

For decades, people are increasingly concerned about the issue of food safety, especially after bird flu, mad cow disease, tonyred and melamine incident, the more determined the importance of agricultural products traceability.

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The effective way to control the quality and safety of agricultural products is tracing and tracing agricultural products information. Food safety management methods: QS certification, ISO9000 certification, etc., in reality and have some results. This is only in the process of supervision, but failed to achieve the supply chain links between the monitoring. While the information tracking can be traced, tracking supply chain product information, as long as the food safety problems occur; the source of food can be traced to the unqualified products timely recall. Reduce losses. At the same time, the responsibility is clear, avoid shirking responsibility. Therefore, the traceability system of agricultural products information is established, which ensures the quality and safety of new products.

2. Study on the traceability system of agricultural products

Many researches have been carried out by our scholars, aiming at the application of agricultural products traceability system. Such as: Zhou Yingheng put forward an important means of food quality, safety management - food information traceability system. Liu Yadan in the quality and safety control of aquatic products used in food traceability system, and put forward the current management, information technology system and each fish paste link tag, the cost is not only high, but also can not allow consumers to eat fish. Ceng Xianzheng enterprises in the implementation of ISO9000 standards, quality system certification process, put forward some products: identification and traceability to unqualified problems, and puts forward their solutions. Shen Guanglei tracked the beef production process, the production of beef, beef cattle are marked by "radio frequency identification and barcode technology; and use the network of their own design on the Internet in beef traceability system, traceability to network management system is realized in the quality and safety of beef. Du Guoming traceability system of agricultural product quality and safety, must be made by the legal regulation, the principle of imputation of agricultural products reasonably, strengthen the agricultural production operators burden to ensure the effective development and implementation of agricultural products traceability system.

3. Analysis of farmers' behavior in the circulation of agricultural products

In the process of agricultural industrialization, "farmer + enterprise" is the most common mode of agricultural products organization. Its characteristics are: farmers and enterprises signed the agreement of production and marketing, and have legal effects, determine the relationship between obligations and rights, farmers and enterprises produce and purchase agricultural products according to the agreement. The agreement plays an important role in the circulation mode of "farmers + enterprises" agricultural products. At present, after the occurrence of agricultural product safety
incidents, people pay more and more attention to quality assurance and responsibility traceability. And "farmer + enterprise" as the source of traceability system, its behavior affects the whole traceability process.

There are two forms of "peasant household + enterprise" pattern: one, medium and long term contracts; second, pure market contracts. The signing of these contracts reduces the risk of selling prices of agricultural products and reduces the transaction costs of the market. However, in the process of agricultural industrialization, the "peasant household + enterprise" is unstable with purely contractual management mode. Because the "farmer + enterprise" model, the inherent defects are difficult to control, greatly weakened the binding force of the contract, a large number of breach of contract phenomenon, the risk of farmers' agricultural products sales accelerated.

In the "farmer + enterprise" mode, the default tendency and breach behavior exist in the scattered farmers, and the default cost is lower than the default income is the root cause. On the whole, the analysis and comparison of the default income and the default cost determine whether the farmers and enterprises default. When the default income is lower than the default cost, both parties will perform. When the default cost is lower than the default income, both parties will want to breach the contract. For example, the price X is set to the farmer's agreement price with the enterprise, and the Z is set as the default cost, and Y is set as the selling price to the market, then some farmers will conduct the behavior analysis (such as table 1). When Y-X-Z>0, there is a big market price attraction, breach of contract has become the choice of farmers, the overall income of >0. If farmers choose to sell products to enterprises, the value of Z is usually very small because of less constraints on farmers, and at the same time, the constraints of farmers are less affected by the cost of breach of contract. Therefore, in order to avoid default, enterprises will provide some additional services to non defaulting farmers by increasing some invisible default costs.

X establishes the price that the enterprise buys from the contracted peasant household; Y sets the price purchased from the market; Z sets the default cost that is purchased from the market instead of the contracted farmer; and analyzes the behavior of the enterprise (as shown in Table 2). When Y+Z'>X, at this time very low market prices, that is to say, enterprises can buy cheap goods from the market, and cheaper than the purchase of contracted farmers, enterprises will choose default. In the actual operation process, the enterprise should not only be because of breach of contract, the cost of default (Z') punishment, but also have some adverse effects, such as: the influence of brand value and corporate reputation damage and other intangible cost of default, in fact, Z' will be far below the default cost.

From the analysis, it is not difficult to find that when farmers and enterprises
sign agreements, when the agreement price range is lower than the market price, farmers are tempted by interests, resulting in breach of contract, which hides the output of agricultural products and sells agricultural products to the market. When the farmer defaults, the enterprise will choose not to pursue it because the income is lower than the cost of agricultural products Investigation and resorting to law. When the price range of the agreement is higher than the market price, the enterprise will tend to reduce the loss and favor the breach of contract industry, and find the reason to lower the price and purchase the agricultural products from the market. When the enterprise defaults, some farmers will be silent, but also because revenue is much lower than the cost of resorting to law. Whether farmers default, or enterprise default, is under the agreed conditions, want to maximize their own interests rational behavior.

4. Concluding remarks
The circulation model of agricultural products with many advantages and various advantages. But the agricultural products circulation mode, have in common is: whether it is through the form of the contract; or through common form; and the two sides signed an agreement by way of participating in the circulation of agricultural products, are based on to the needs of both sides, and the agricultural products supply chain development to maintain sustained and stable.

From the long-term development cooperation, farmers and enterprises, will be the traceability system of agricultural products according to the requirements, passive or active, the agricultural products traceability, provide all kinds of information; and cooperation in the agreed manner, so that the whole supply chain of agricultural products to ensure the long-term stability and development

References


