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SUMMARY OF DOCTORAL THESIS

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題目 Title: **A Study on the Future Developing Directions of Korean Native Cattle Industry Based on Analysis of Profitability and Agricultural Information Impact Mechanism**
収益性分析及び農業情報波及効果メカニズム分析に基づいた今後の韓牛産業発展方策に関する研究

Under WTO system, Korean agriculture faced a serious crisis. In case of Korean native cattle industry, the farming scale has been enlarged but still small-scaled. The production costs of Korean native cattle beef are still higher than the imported one. Given the growing interest in food safety, there has been a possibility of heavy decline in the beef price caused by the severe epidemic diseases. In this situation, the uneasiness of the farmers raising Korean native cattle had been weighted. In this study, the analyses such as profitability, agricultural information impact mechanism, the supporting policies, and so on were carried out in order to discuss the alternative proposals for further development of Korean native cattle industry.

According to the results of profitability analysis, Korean native cattle farming had still profitability, but its foundation was very unstable. If the revenues decrease as much as 15% or more, there was no profitability in farming fewer than 50 heads. If the beef and raw meat market opens more completely or if the BSE or other severe epidemic diseases break out within a country, those would affect Korean native cattle industry directly or indirectly and then the Korean livestock industry would be faced with a serious crisis. It is necessary to reform the industrial structure of Korean native cattle industry but it is a long slow process.

In consideration of long term period necessary to reconstruct the raising foundation, stabilization of the raising foundation is very important to maintain the industry. It would be helpful to improve the profitability by reducing the production costs. Especially, the costs of purchasing calves, feed, and farming equipment, which represent more than 85% in total production costs, must be cut down. The fixed cost must be reduced with the use of unused cattle sheds or the cattle shed rental service fitted to the rural conditions.

On the other hand, the importance of the role of information has recently grown and information technology has rapidly expanded to various fields of industry throughout Korea. As a leading country in the information-oriented fields, the strengthening the competitiveness of Korean native cattle industry through a practical use of agricultural information is an important strategy although it is indirect measure.

According to the results of DEMATEL, PCA, and AHP methods, the strengthening of agricultural information services did not affect Korean native cattle farming or prevailing conditions, whereas the change in elements involved in the cattle farming or its conditions easily improved information services. And, it was found that agricultural information services have an influence on one another and that only improving industrial technology and material information service has a relatively strong impact on various elements.

Although agricultural information spread by computers and the information superhighway has been improved and many kinds of information services have been offered by the Korean government and public agencies, its application is still insufficient. The reasons for those could be found in the stages of agricultural information provision and the policies.

Therefore, more effective policies for agricultural information are necessary for improving its effectiveness. The information should be provided more user-friendly and be provided through easier approachable channels in order to be obtained easily by the farmers. It would be more efficient to use the publication, telephone or fax, local newspapers, and local broadcasting. Especially, it is important that the policy would be focused on the improvement of agricultural information service which could strongly affect Korean native cattle farming or prevailing conditions. Not only the construction and preparation of an information network but also the education of farmers is necessary to improve the importance of the information elements as cause elements for affecting the cattle farming. At the same time, in consideration of domestic and foreign conditions which info-communication using computer have been expanded, the necessity for the spread of computer and information devices or construction of network system should not be overlooked.

The consumers have displayed more interested in meat quality, freshness, and safety than in the quantity or prices. In such situations, it is necessary to try not only to cut down the production costs of Korean native cattle but also to improve the meat quality and its sanitary conditions in order to strengthen the competitiveness. Technological development and generalization for cost-saving and environment-friendly livestock farming is also necessary to maintain the livestock industry. The emphasis is on the prevention of illegal distributions and epidemics in livestock animals' safety and quality competitiveness. An exhaustive quarantine inspection is also necessary in order to prevent an inflow of foreign diseases. Given the growing the consumers' interest in food safety, it is necessary to try to expand the feed cultivating foundation.

Finally, the creation of the farmers' self-development foundation and efficient information supply and management system is necessary. Furthermore, using the reasonable management methods, benchmark, and so on, the farmers should rationalize their farms. A bundle breeding of fattening and breeding could be a helpful measure to rationalize Korean native cattle industry. Actually, bundle breeding was popular with livestock farmers in the Non-san area.

I hope that some proposals as the abovementioned are helpful in strengthening the competitiveness of Korean native cattle farming extending over a long period of time.