Econometrical Analysis of the Relationship between Characteristics and Planted Shares of Rice Varieties

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1. Introduction

In our country, adoption of market principles have so far been advanced in rice circulation system aiming to adjust supply-and-demand balance, or to correspondence to consumers' preference of excellent quality of rice. Consequently, how to entrench locally-produced-rice in the market is anticipated to be more important assignment for producer rather than how to increase yield.

In order to entrench locally-produced-rice in the market, it is necessary to choose a variety with the characteristics that can adapt to consumers' needs. Therefore, many arguments have so far been made about what the characteristics a variety with should be chosen based on consumers' needs in recent years. However, these arguments remain in the qualitative thing and experimental research on how producers are actually taking each characteristic into consideration in variety selection has hardly been done in our country. Then, in this paper, based on consumer needs in recent years, especially putting focus on yield, quality and resistance to disease-and-insect-damage among variety characteristics, I verify about how producer are actually taking each characteristic into consideration in variety selection, and clarify the present condition and the subject of variety selection.

2. Method

In this paper, I estimated relationship between variety characteristics and planted-share using the prefectures panel data from 1990 to 2003. By making an analysis of the relationship between variety characteristics and planted-share, it becomes to be possible to get a clue to see in how each characteristics would be took into consideration by producers.

There is a possibility that how to consider the characteristics differ from one area to another. So, dividing the whole prefectures into six areas, I carried out estimation not only about whole prefectures but also about each area, and verify each estimation results simultaneously.

3. Result and discussion

From the estimation results, although yield is positively associated planted-share when seeing whole prefectures, some area with the opposite results is also accepted. In this paper, I adopt appearance-quality and taste for quality index. Regarding appearance-quality, there are not only areas where positive relationship with planted-share was obtained but also areas where the opposite result was obtained. Regarding taste, although there is much area where statistically significant result is not obtained, it is checked that taste is positively correlated with planted-share as a significant result. Moreover, resistance to blast, which I adopted as index for resistance to disease-and-insect-damage, is negatively correlated with planted-share.

4. Conclusion

From the estimation results, in variety selection, following three things are considered as possibility. First, it is impossible to say that producers necessarily think that yield and appearance-quality are important. Second, producers think that taste is important. Third, producers don't think that resistance to blast is important. It has been said qualitatively that consumers' intention has shifted to quality from quantity and they prefer taste among quality, so about yield and quality, it may be able to say that the correspondence to such consumer needs is reflected in variety selection. However, as long as the estimation result of blast resistance is seen, it is impossible to say that variety selection corresponding to comparatively new consumers' needs called a healthy intention is performed.