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A Comparison of Yield and Quality by Ecotype according to the Rice Transplantation Period in Central Plain and Eastern Coast in Gangwon

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[Introduction]

Due to recent climate change, the temperature in Korea has risen by 1.5°C over the past 100 years, twice the global average. Accordingly, as the cultivation period of rice increases, the possibility of changing the ecological type suitable for each region is raised. It is necessary to develop an appropriate transplantation period for stable, high-quality rice production by ecology type suitable for each region. Therefore, this study was conducted to find a suitable transplanting period for the central plains and eastern coast by comparing the yield and quality according to the transplanting date.

[Materials and Methods]

For the test varieties, early maturing ‘Odae’, middle maturing ‘Cheongpum’, and mid-late maturing ‘Samgwang’ were used for each ecotypes. The location was carried out in three areas: Chuncheon, Cheorwon, and Gangneung, which are the central plains and eastern coast. This study was conducted for two years in 2020 and 2021. As for the transplanting period for each region, Transplanting was carried out 5 times from May 20 to June 30 in Chuncheon and from May 10 to June 20 in Cheorwon and Gangneung at 10-day intervals. After harvesting, the yield and the head rice ratio of brown rice were comparatively analyzed.

[Results and Discussion]

In all regions and ecotypes, yields tend to decrease as the transplanting season is delayed. In Chuncheon, the earlier the transplanting period, the better the yield and the head rice ratio of brown rice in early maturing variety. For middle and mid-late maturing varieties are appropriate around June 10. In Gangneung, it is best to transplant the middle maturing variety around May 20. Lastly, in case of early maturing variety in Cheorwon, too early transplantation should be avoided as the rice yield and head rice ratio of brown rice will decrease. In case of middle and mid-late maturing varieties, better results were obtained the faster the transplanting was done. The results of this study are thought to be helpful in setting the transplantation period according to the ecological type of the central plain and eastern coast in Gangwon.

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