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Rice Yield and Quality Characteristics by Harvest Day With Planting Density in Chungbuk Region

Yeseul Choi^{1*}, Jongwon Lee¹, Injae Kim¹, Woonha Hwang²

¹Crop Research Division, Chungbuk Agricultural Research and Extension Services

²Rural Development Administration National Institute of Crop Science

[Introduction]

In order to increase rice price competitiveness, it is essential to reduce production costs, and in order to solve the problem of labor shortage caused by the aging of rural areas, it is necessary to increase the viability of rice cultivation. Rare transplanting cultivation can reduce the number of plants per unit area, reducing the time required for seedling and transplanting. This study was conducted to confirm the yield and rice quality by harvest days and planting density.

[Materials and Methods]

This study was conducted at Chungcheongbuk-do Agricultural Research and Extension Services in 2021. Samgwang was used for the test variety, and the planting densities were 80, 60, 50 and 37hill per 3.3m², and machine transplanted on May 30th. Harvest days were 60 days, 63 days, and 66 days after heading. The amount of fertilization per 10a was N:P:K=9:4.5:5.7kg, and the nitrogen splitting ratio was divided by 50-20-30% of basal fertilization-topdressing at tillering stage-ear manuring, and other cultivation management followed the Rural Development Administration standard cultivation method. Rice yield and yield component were investigated according to the Rural Development Administration's research and analysis criteria. The rice quality were analyzed using Kett's RN-600 and Foss's Infratec.

[Results and Discussion]

The heading date was August 14 for 80 hills/3.3m², August 15 for 60hills/3.3m² and 50hills/3.3m², and August 16 for 37hills/3.3m². The average temperature during the ripening period was 23.8°C for 80hills/3.3m² and 23.5°C for 37hills/3.3m². Thousand grain weight decreased at 80hills/3.3m² and 37hills/3.3m² as the number of harvest days was delayed, and there was no difference according to the number of harvest days in 60hills/3.3m² and 50hills/3.3m². The yield of rice decreased as the number of harvest days was delayed, regardless of planting density, and the ripening rate also decreased. Protein content and amylose content did not differ according to the number of harvest days. The perfect grain ratio decreased at 80hills/3.3m² and 37hills/3.3m² as the number of harvest days was delayed, and increased as the number of harvest days was delayed for 60hills/3.3m² and 50hills/3.3m². As a result that 55 to 60days after heading would be appropriate for the harvest.

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*Corresponding author: E-mail, yeppi1114@korea.kr Tel. +82-43-220-5553