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Yielding Traits Influenced by the Transplanting Density in Mid-Late Maturing Quality Rice 'Ilpeum' in the Southern Plain Area of Gyeongsangbuk-do

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[Introduction]

This study was carried out in 2019 to investigate the effect of the different transplanting density on panicle production and to analyze the relationship of panicle production with yield traits in the mid-late maturing quality rice cultivar 'Ilpeum' in the southern plain area of Gyeongsangbuk-Do.

[Materials and Methods]

The study was conducted at the paddy fields of Gyeongsangbuk-do Agricultural Research & Extension Services in Daegu, Korea. The rice variety, 'Ilpeum' grown for 17days in nursery beds were transplanted on Jun. 7. The planting distances were 30 × 14 cm, 30 × 18 cm, 30 × 22 cm, and 30 × 30 cm, respectively. The collated data included grain yield, panicle number per unit area, 1000-grain-weight and ripening rate. Amylose and protein content were measured in triplicate using Cervitex grain inspector.

[Results and Discussion]

Difference in yield components such as number of panicles per unit area, ratio of brown/rough rice, and 1000-grain weight were fairly small among different transplanting densities. But as transplanting density was decreased, number of spikelets per panicle increased. The rice yield transplanted in 30 × 18 cm was little higher than those of the three other densities, but no significant difference was found in relation to the influence of the transplanting densities. Difference in amylose and protein contents was fairly small among four densities. Head rice and grain ripening rate transplanted in 30 X 30 cm were 87.9% and 90.4%, which result in higher rice yield. The present study concludes that the rice yield could be possible with a plant density of 30 x 30 cm in the southern plain area of Gyeongsangbuk-Do.

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