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Panicle characteristics of Japonica x Indica type rice according to planting density

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Abstract

Rice yields are determined by the number of spikes per unit area, the number of rice per grain, the rate of ripening, and the weight of brown rice gravel. Among these yield components, the most important factor that reflects the characteristics of rice is the number of rice per grain and the number of rice per grain. The characteristics of rice panicle are influenced by genetic factors rather than environmental factors and revealed that it had different genetic characteristics in each of Japonica, Indica and Japonica x Indica type. In general, the number of rice per grain is affected by number of secondary rachis branches and generated spikelets number of secondary rachis branches. This study conducted to investigate the characteristics of the grain according to the planting density of two varieties of Jap. x Ind. type. Number of primary rachis branches and number of primary rachis branches of Palbangmi variety were 9.9 ~ 10.6 and 53.4 ~ 58.5, respectively. Number of secondary rachis branches and number of secondary rachis branches were 25.8 ~ 29.6, 85.8 ~ 101.4, Number of tertiary rachis branch and number of tertiary rachis branches were 1.0 ~ 2.4 and 2.0 ~ 6.1, respectively. Number of primary rachis branches and number of primary rachis branches of Semimyeon variety were 8.6 ~ 9.5 and 43.1 ~ 47.8, respectively. Number of secondary rachis branches and number of secondary rachis branches were 21.0 ~ 24.9, 66.2 ~ 77.9, Number of tertiary rachis branch and number of tertiary rachis branches were 1.6 ~ 2.6 and 3.8 ~ 6.3, respectively. The ratio of the spikelets of primary, secondary and tertiary rachis branches of Palbangmi variety were 37.7 ~ 39.4, 58.0 ~ 60.5 and 1.2 ~ 3.1%, respectively, and those of Semimyeon were 40.1 ~ 42.6 55.0 ~ 56.4 and 2.5 ~ 3.4% respectively. Number of primary and secondary rachis branches of Palbangmi variety showed no difference among the planting density. However, generated spikelets number of secondary rachis branches and ripening rate were higher with lower planting density. The number of secondary rachis branches and generated spikelets number of secondary rachis branches per acre decreased as the planting density increased in the Semimyeon variety.

Keywords: rice, planting density, panicles, ripending

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