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Growth Characteristics of Tongil-Type Cultivars under Wet Direct Seeded Rice in Yeongnam Plain

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[Introduction]

Rice consumption continues to decrease, but the processed rice market continues to increase. Therefore, cultivation practice for reducing production cost of high yield rice is required to secure price competitiveness of raw material grains. Direct seeded rice cultivation is about 2~3% of the total rice cultivation area, but wet-hill seeding, direct seeding practice using drone are gradually increasing. The Tongil type rice has a different growth suitable temperature from japonica rice, and the setting of the growth period is different for transplanted rice and direct seeding, but the adaptability test of direct-seeded cultivation practice of Tongil type rice is very insufficient. Therefore, this test was conducted to review the growth characteristics of high yielding Tongil-type rice cultivars under wet direct seeded condition for establishing direct-seeding cultivation practices.

[Material and Methods]

This test was conducted in the paddy field of the Southern Area Crop Department in Miryang, Gyeongnam in 2022. 3 Tongil type rice cultivars, Saemimyoen, Hanareum 4, Mirchal were wet direct seeded in April 26th, May 2th, 9th and 16th. Seeding amounts was 5kg/10a, and amount of fertilization was 18, 9, and 11kg per 10a of nitrogen-phosphate-potassium, respectively. The no. of seedling, emergence rate, heading stage, lodging index were investigated in accordance with Agricultural Science and Technology Survey Standards of the Rural Development Administration.

[Result and Conclusion]

The emergence rate of all three cultivars showed a tendency to increase because the temperature rose as the seeding time was delayed. Emergence rate on April 25th, May 2th, 9th, 16th was 60, 63.8, 68.3, 73.1%, respectively, it increased by 6%, 14%, and 22%, respectively, compared to seeding on the April 25th. The days to emergence was shortened by the seeding time was delayed, the days to emergence on April 25th, May 2th, 9th, 16th was 21, 20, 18, 13, respectively. The number of seedling per m² on April 25th, May 2th, 9th, 16th was 110, 116, 125, 134, respectively, it was higher than the optimum number of 80 to 120/m². Heading date was almost the same as for seeding date on April 25th and May 2th., but when seeding on May 16th, heading date was delayed by 5 to 6days. Field lodging and lodging index were decreased as the seeding date was delayed. This is because the heading time of each cultivar was different for each seeding time, and thus the growth status of rice after heading was greatly affected.

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