

## **Effects of Different Seeding Methods on Growth and Yield of Wheat in Miryang**

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### **[Introduction]**

Wheat is one of the three major crops in the world, along with corn and rice. Consumption of bakery products and cookies using wheat has been steadily. The quality of Korean wheat cultivar is evaluated to be low because the production scale per farm is smaller than that of imported wheat, and it is because of dispersed farmland, small size of cultivation management, early harvest due to rice transplant. At present, Korean wheat cultivar has been developed various harvesting methods for labor-saving and high yielding in order to strengthen price competitiveness with imported wheat, but any cultivation method suitable for regional characteristics of the soil has been established.

### **[Materials and Methods]**

Wheat varieties, Keumkang and Jokyung were used, and sown in Nov. 2<sup>nd</sup> 2017 at a paddy field in Miryang region. Standard fertilizer level was 91-74-39 kg (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O)/ha. The seeding methods consisted of 4 plots; broadcast seeding-rotary (200kg/ha), no-tillage broad ridge seeding (160kg/ha, planting distance 1.5m x 1.2m), broad ridge seeding after tillage (160kg/ha, planting distance 1.5m x 1.2m) and drill seeding (130kg/ha, planting distance 0.3m). The field experiment design was randomized complete block with three replicates and area of plots was 5 m<sup>2</sup>(width 1m X length 5m).

### **[Results and Discussions]**

This study was carried out to determine the effect of different seeding methods on wheat yield. Wheat varieties, Keumkang and Jokyung were used, and sown in Nov. 2<sup>nd</sup> 2017 at a paddy field in Miryang region. Standard fertilizer level was 91-74-39 kg (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O)/ha. The seeding methods consisted of 4 plots. According to the sowing method, when drill seeding with Jokyung, the heading was delayed by one day. When no-tillage broad ridge seeding and broad ridge seeding after tillage with Keumkang, the heading was two days earlier. The maturity was almost the same. Highest number of spikes per m<sup>2</sup> showed in Keumkang (736) by drill seeding. The tendency was similar to that of the 1,000-seed weight and grain weight (g/L), but they were heaviest in the no-tillage broad ridge seeding and lowest in the drill seeding. Dry matter yield of Jokyung by seeding methods of wheat revealed that there was an increase in orders; broad ridge seeding after tillage (484kg/10a) > broadcast seeding-rotary (463kg/10a) > no-tillage broad ridge seeding (423kg/10a) > drill seeding (313kg/10a). The yields of Keumkang were higher in the order of broadcast seeding-rotary (468kg/10a), followed by broad ridge seeding after tillage (402kg/10a), no-tillage broad ridge seeding (361kg/10a) and drill seeding (360kg/10a).

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