

## Recommendation of high quality rice cultivar adapted to rice-wheat double cropping system in Korean southern plain area

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### Abstract

We performed this experiment to select high quality rice adapted to wheat-rice double cropping system. We sowed barley and wheat in November 2, 2015. After harvesting barley and wheat, we transplanted high quality rice cultivars: 'Unkwang', 'Hopun', 'Haepum', 'Hyunoum' in June 17 and 24. We used 'sindongjin' rice as a control. As a result, 'Hyunpum' had a highest head rice yield regardless of transplanting date. Head rice yield of 'Hyunpum' was 488.1kg/10a when transplanted in June 17, and 453.6kg/10a when transplanted in June 24. The reason for this highest head rice yield was not percentage of head rice but milled rice yield. Milled rice yield of 'Hyunpum' was 526.5kg/10a when transplanted in June 17, and 490.0kg/10a when transplanted in June 24. Percentage of head rice had little differences between rice cultivars. Among yield components, only number of panicle per m<sup>2</sup> had an effect on the differences of yield between rice cultivars. The other yield components didn't have an effect on the differences of yield between rice cultivars. Compared to June 17, only 'Unkwang' had higher head rice percentage and head rice yield in June 24. Head rice percentage of 'Unkwang' changed from 67.3% to 85.0% and head rice yield changed from 324kg/10a to 393.8kg/10a when transplanting date delayed from June 17 to June 24. When transplanting date was delayed, heading date of 'Unkwang' was more delayed than other rice cultivars. By delay of heading date, mean temperature for 40days changed from 25.0 °C to 22.9°C which improved temperature condition during grain filling stage. This improved head rice percentage and head rice yield of 'Unkwang' transplanted in June 24. If transplanting date is more delayed than June 24, 'Unkwang' could have higher head rice percentage and head rice yield. Therefore, if you transplant rice before June 24 in rice-wheat double cropping system, 'Hyunpum' is recommended as adequate rice cultivar. But if you transplant rice after June 24, further research is needed to find out adequate rice cultivar.

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