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Influence of Different Levels of Nitrogen and Potassium on Yield and Its Correlated Traits In Rice

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Abstract

Ratooning means regrowing of rice plant after harvesting of first product which is specific physiologic characteristic of rice plant. It is an effective method for increasing of efficiency of production along with less investment and also lack of necessity for increasing of the field of rice plant. Ratooning more over, affects on the optimal usage of agricultural field. In order to achieve this goal, the use of important and effective fertilizer elements will be useful. In order to investigate of the effects of different level of nitrogen and potassium on ratooning of rice, an experiment was conducted in Guilan Province (Amlash) during 2003. The experiment was carried out using factorial in a complete randomized block design with eight treatments and three replications. Treatments were included 0, 50, 100 and 150 kg N/ha from source urea and 0 and 100 kg K/ha from source chloral of potassium (KCL). In this experiment grain yield, yield components, harvest index, biological yield and straw dry weight were investigated. According to results effect of nitrogen was significant on grain yield, percentage of filled, grain number panicle in m² and harvest index (HI) at 1% and on 1000 grain weight and biological yield at 5%. Effect of potassium was significant on biological yield, percentage of filled grain and number of panicle in m² at 5%. Interaction between nitrogen and potassium was significant on, grain yield at 1% and on number of panicle in m², biological yield and harvest index (HI) at 5%. In conclusion, it can be said that the effect of fertilizer on ratoon yield is significant and positive in comparison to lack of usage of it.

Keywords: Ratoon, Nitrogen, Potassium, Yield, Rice

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