

## Evaluation of Wheat Sowing and Fertilizer Application Methods in Wheat Weeds Management

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**Abstract :** In order to investigate the effects of sowing methods, nitrogen and phosphorus application methods in wheat weeds management, an experiment was performed as split plot, based on randomized completely block design with three replications at Research Farm, Faculty of Agriculture, Ferdowsi University of Mashhad, in 2010. Treatments included, wheat sowing methods (single-row with 30 cm distance and twine row on 50 cm width ridges) as main plots and nitrogen and phosphorus application methods (Broadcast and Band) as sub plots. In this experiment, phosphorus and nitrogen sources for fertilization were super phosphate triple (150 kg ha<sup>-1</sup>) applied before wheat sowing and incorporated with soil and urea (200 kg ha<sup>-1</sup>) respectively, applied in 2 phases (pre-plant 50%) and near wheat shooting (50%). Results showed that the effect of fertilizers application methods and wheat sowing methods were significant ( $p \leq 0.01$ ) on wheat yield increasing and reducing weed-wheat competition. Wheat twine row sowing method, reduced weeds biomass for 25% compared wheat single-row sowing method and increased wheat seed yield and biomass for 60% and 30% respectively. Phosphorus and nitrogen band application reduced weeds biomass for 46% and 53% respectively and increased wheat seed yield for 22% and 33% compared to their broadcast application. The effects of wheat sowing method plus phosphorus and nitrogen application methods interactions, showed that the fertilizers band application and wheat twine-row sowing method were the best methods in wheat yield improvement and reducing wheat-weeds interaction. These results shows that modifying of fertilization methods and wheat sowing method can have important role in fertilizers use efficiency and improving of weeds managements.

**Keywords :** competition, wheat yield, fertilizer management, biomass

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