

## **Maize productivity as affected by plant density and nitrogen fertilizer**

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The effect of two plant density (i.e., 20000 and 24000 plant/fed.) and four levels of nitrogen (i.e., 60, 90, 120 and 140 kg/fed.) on yield and yield components of maize (*Zea mays* L.) was investigated in 2013 and 2014 seasons. The experimental arrangement was split plot in a randomized complete block design with three replicates. Plant densities were main factor, while sub-main factor was nitrogen levels. Results indicated that the effect of plant density on plant height, number of grains/row, grain yield and biological yield was significant. But, on ear length, number of rows/ear, 100-grain weight and harvest index was insignificant. Effect of nitrogen fertilizer on plant height, ear length, number of grains/row, grain yield and biological yield was significant. But, on number of rows per ear, 100-grain weight and harvest index was insignificant. Interaction effect of plant density and nitrogen fertilizer on all studied traits was significant. Plant density treatments of 24000 plant/fed. ( $D_2$ ) produced highest grain yield of 3396.56 kg/fed. Among nitrogen levels, the highest grain yield of 4219.83 kg/fed. was obtained by 140 kg/fed., ( $N_4$ ). The  $D_2N_4$  (24000 plant/fed. along with 140 kg/fed.) interaction resulted in the highest grain yield of 4305.00 kg/fed. Simple correlation coefficient showed that, grain yield with yield components had a positive and significant correlation under effect of the studied treatments.