RESEARCH ARTICLE

EFFECT OF PHOSPHORUS AND MOLYBDENUM ON YIELD AND NUTRIENT UPTAKE BY CHICKPEA UNDER RAINFED CONDITIONS OF MADHYA PRADESH

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Abstract: A field experiment was carried out to assess the growth, yield and chemical traits of chickpea cv. JG-11. The experiment was laid out in Randomized Block Design with three replications for chickpea crop consisted of 16 treatments i.e. four levels of phosphorus (0, 40, 60 and 80 kg ha^{-1}) and four levels of molybdenum (0, 0.5 1.0 and 1.5 kg ha^{-1}). The results revealed that application of phosphorus and molybdenum had a significant influence on plant growth, yield and nutrient uptake by chickpea. Grain and straw yield increased significantly up to 60 kg P_2O_5 ha^{-1} and giving 61.2 & 17.2 % and 42.5 & 7.3% higher over control and 40 kg P_2O_5 $ha^{-1,}$ respectively. Under different doses of molybdenum, maximum grain (1633.2 kg ha^{-1}) and straw (1956.5 kg ha^{-1}) yield was observed with 1.5 kg molybdenum which was significantly higher over control and 0.5 kg Mo ha^{-1} and was at par with 1.0 kg Mo ha^{-1} treatment. Significant increase in nitrogen, phosphorus and molybdenum uptake in grain and straw was observed with the application of phosphorus and molybdenum over the control.

Keywords: Chickpea, Growth, Molybdenum, Nutrient uptake, Phosphorus, Yield

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