

THE USE OF VARIOUS NPK FERTILIZER RATIOS AT VARIOUS STAGES OF MAIZE PLANT GROWTH (*Zea mays*)

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ABSTRACT

The compatibility between plant growth and ratio of nutrient adequacy in soil is very important in growth and production corn crops. This study aims to determine of various NPK fertilizer ratios on the stages of growth in corn plants. This research was conducted in September – January 2022 in Patemon Village, Pakusari. The experiment was designed with a non-factorial randomized group design (RAK) consisting of 9 treatments including: (N 48 kg/ha, P₂O₅ 48 kg/ha, K₂O 48 kg/ha), (N 77 kg/ha, P₂O₅ 68 kg/ha, K₂O 107 kg/ha), (N 66 kg/ha, P₂O₅ 68 kg/ha, K₂O 84.5 kg/ha), (N 77kg/ha, P₂O₅ 86 kg/ha, K₂O 107 kg/ha), (N 66 kg/ha, P₂O₅ 86 kg/ha, K₂O 84.5 kg/ha), (N 100 kg/ha, P₂O₅ 68 kg/ha, K₂O 108 kg/ha), (N 89 kg/ha, P₂O₅ 68 kg/ha, K₂O 85 kg/ha), (N 100kg/ha, P₂O₅ 86 kg/ha, K₂O 108 kg/ha) and (N 89 kg/ha, P₂O₅ 86 kg/ha, K₂O 85 kg/ha). Fertilization treatment N 77 kg/ha, P₂O₅ 68 kg/ha, K₂O 107 kg/ha had a significant effect on weight cobs with kelobot (289.67 g), weight cobs without kelobot (256.78 g), cob diameter (4.77 cm), cob length (20.17 cm), dry seed weight (195.89 g), but insignificant effect on vegetative phase observation variables. The results showed phosphorus and potassium nutrients had positive correlation in generative phase. This nutrients will affect production in photosynthesites distributed to cobs. So potential for dry flat yields was obtained in fertilization treatment N 77 kg / ha, P₂O₅ 68 kg / ha, K₂O 107 kg / ha of 13.99 tons / ha.

Keywords: *Dosage, Production, Inorganic Fertilizer*