

**Effect of Various POC and NP Fertilizer Ratio on Growth and Yield of
Maize (*Zea mays* L.)**

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ABSTRACT

Corn plants need adequate nutrition to grow and produce optimally, so fertilization is one of the determining factors. The application of synthetic fertilizers and added POC is expected to increase corn production. This study aims to examine the effect of POC and N:P ratio on the growth and yield of maize. The experiment was arranged using a factorial randomized block design with two factors namely Liquid Organic Fertilizer (POC) and NP Nutrient Ratio. The POC treatment consisted of 3 levels, namely POC A, B, and C, while the NP nutrient ratio treatment consisted of 3 levels, namely SP-36 + urea (36 P₂O₅ kg/ha + 23 CO(NH₂)₂), SP-36 + urea (54 P₂O₅ kg/ha + 46 CO(NH₂)₂ kg/ha), and SP-36 + urea (72 P₂O₅ kg/ha + 69 CO(NH₂)₂ kg/ha) The results showed that the POC C treatment combination and NP nutrient ratios (72 P₂O₅ kg/ha + 69 CO(NH₂)₂ kg/ha) significantly differed from ear diameter (46.48 mm) and cob length (17.68 cm), but did not show any interaction with other variables. The more nutrients available in the soil will spur the growth and development of corn plants until the generative phase becomes better as evidenced by the high cob weight per sample which is 162 g.

Keywords: Growth optimization, Liquid Organic Fertilizer, Nitrogen - Phosphorus Ratio