Improvement of Corn Growth and Production through Leaf Defoliation and Application of Phosphorus Fertilizer in Close Cropping System
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ABSTRACT

The high demand for corn encourages various agricultural innovations such as close cropping systems, improving P elements, and the efficiency of photosynthesis through defoliation to increase corn production. The study aims to examine the effect of defoliation and P fertilizer application on growth and production of Madura 3 corn variety which grown in close cropping system. This study used a randomized block design (RBD) consisting of two factors with three replications. The first factor was defoliation on the lower leaves with three levels: non-defoliation, 50% defoliation, and 100% defoliation. The second factor was the dosage of SP-36 fertilizer with four levels including 100 Kg/ha, 150 Kg/ha, 200 Kg/ha, and 250 Kg/ha. The parameter observed was stem diameter, root weight, cob fresh weight, cob dry weight, dry seed weight, and 100 seed weight. The results showed that there was a significant interaction between the defoliation factor and the dose of SP-36 on cob diameter, where the highest number of diameter (4,75 cm) was found in the combination of non-defoliation and SP-36 150 Kg/ha. Individually, the SP-36 dose of 250 kg/ha significantly showed the highest results on most observed except dry seed weight and 100 seed weight. Overall the non-defoliation of an SP-36 of 250 Kg/ha showed the best result on corn growth and production.

Keywords: defoliation, dosage, corn, madura 3, sp-36