

**Increase in Growth and Production of Local Madura Corn Through
Modification of Planting Patterns and Addition of Element P**

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ABSTRACT

The Jajar legowo planting system is an innovation that can optimize the production of corn, especially some local corn varieties of Madura which have low productivity. The combination of several Jajar legowo spacing with several doses of P fertilizer is expected to optimize the productivity of local Madura corn. The research was carried out for 3 months from August to November 2021 at the Jember State Polytechnic. Burdeg local variety corn was grown in the experiment using factorial randomized block design (RBD) within two factors, namely spacing and dose of SP-36 fertilizer. Spacing treatment consisted of 20cm x 70cm (control), 20cm x 30cm x 70cm, and 20cm x 30cm x 100cm. Treatment doses of SP-36 fertilizer consisted of 100kg/Ha, 200kg/Ha and 300kg/Ha. The treatment dose of SP-36 fertilizer gave a significant difference in the parameters of the diameter of the ear and the length of the cob where the dose of 300kg/Ha showed the highest results on both parameters (cob diameter 4.3 cm and cob length 13.73 cm). In addition, the parameters of wet cob weight per sample and dry kernell weight per sample showed significant differences in the SP-36 fertilizer treatment where a dose of 300kg/Ha gave the highest yield (134.6 g and 78.4 g subsequently). The spacing treatment showed significant differences in the cob length parameters where the spacing of 20cm x 70cm showed the highest yield (13.7 cm) compared to the two Jajar legowos 20cm x 30cm x 70cm (12.4 cm) and 20cm x 30cm x 100 cm (12.62 cm). In addition, the planting distance showed a very significant difference in the two parameters, where the spacing of 20cm x 30cm x 70cm showed the highest yield on the wet cob weight parameter per plot (3.58 kg), while the spacing of 20cm x 30cm x 100cm gave the highest yield on the parameter of dry shell weight per plot (2.44 kg). In general, the study showed that the parameters of plant height, number of leaves and stem diameter were not significantly different for the two factors.

Keywords: *Fertilizer Dosage, Planting Distance, Planting System.*