

**THE ADDITION OF ORGANIC MATERIALS IN SOME TILLAGE
SYSTEMS TO INCREASE THE PRODUCTION OF
CORN (*Zea mays L.*) ON LATOSOL SOIL**

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ABSTRACT

Corn production in Bondowoso Regency is relatively low because the soil type in the area is classified as latosol. This soil has a low content of organic matter and N, P and K elements. Therefore, it is necessary to add organic material and optimal tillage management to improve soil quality. The aim of this research is to analyze the effect of a combination of organic material treatment and tillage on corn production in latosol soil. This research was carried out from August to November 2023 in Patemon Village, Pakem District, Bondowoso Regency. This research was designed using randomized block design (RBD) which consists of two factors and four replications. The first factor is tillage which consists of a minimum tillage of 20 cm; minimum tillage 30 cm; and perfect soil cultivation. The second factor is the type of organic material which consists of no organic material; banana stem compost; and rice straw compost. The research results showed that organic straw compost treatment showed best result plant height (221.02 cm), stem diameter (2.82 cm), cob weight (456.16 g), cob weight without husk (363.23 g), dry shell weight (247.88 g), and weight of 100 seeds (46.96 g). This is because rice straw compost organic material is able to increase soil organic C so that its ability to bind nutrients is very high and directly affects nutrient availability in the root zone.

Keywords: *minimum tillage, compost, C-organic*