APPLICATION OF MOLASSES AND THREE ORGANIC MATTERS TO INCREASE GROWTH AND PRODUCTION OF CORN PLANT (Zea Mays L.*)*

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ABSTRACT

Latosol soil is often found in corn fields in Bondowoso Regency, where the soil is less fertile. The addition of organic matter can improve soil fertility and therefore can be an alternative solution. This research aims to examine the effect of applying sugar cane molasses and organic materials in the form of cow manure, chicken manure, and goat manure on the growth and production of corn plants. This research was carried out in Patemon Village, Pakem District, Bondowoso Regency in August-November 2023. The research method used a Randomized Block Design with two factors and was repeated four times. The first factor is the concentration of molasses which consists of three levels: 5%, 10%, and 15%. The second factor is the type of organic material consisting of cow manure, chicken manure, and goat manure. The dosage for each type of organic material used is 15 tons/ha. This study showed no significant difference in the concentration of molasses. In the organic material treatment, chicken manure gave the best results in terms of number of leaves (14.64 leaves), weight of unpeeled cobs (488,43 g), and weight of peeled cobs (396.00g). In terms of plant height, stem diameter, ear diameter, ear length, kernel weight, and weight of 100 seeds, both chicken manure and cow manure showed better results than goat manure. The higher carbon content in chicken manure seems to improve soil properties which eventually increases nutrient uptake and better moisture retention compared to the other two materials.

Keywords: *animal manure, compost, red soil, sugar, Pertiwi 3*