

ABSTRACT

PERFORMANCE TEST OF TEP UNILA TYPE RICE STRAW CHOPPER

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Fertilizer is a strategic mean of agricultural production for agricultural producers in improving productivity and quality of agricultural commodities. In order to increase production, farmers use chemical fertilizers as a source of nutrients for plants, on the other hand the use of chemical fertilizers continuously may adversely affect soil quality. Alternative solutions to chemical fertilizers are derived from rice straw compost. Compost is the result of decomposition of organic material by microorganisms.

Processing straw into organic fertilizer cannot be separated from the processing technology from preparing the raw material to the process of decomposition. Size of raw materials is one of the factors that influence the decomposition process, the smaller size of straw materials will make the decomposition process going faster and faster, and it is because of the additional area material surface which attacked by microorganisms. The reduction of straw size can be done by using rice straw chopper. This research aims to test the performance of a chopper straw material.

Engine performance test results of the census enumeration straw shows best done on the treatment of wet straw with moisture content of 76% and the engine speed of 2000 rpm. Based on these treatments, the percentage of weight gained is 53.7%, 30.1%, and 16%, respectively for the size <3 cm, 3-5 cm, and >5 cm. The best machine work capacity was obtained at the enumeration wet straw with moisture content of 76% and engine speed of 2000 rpm. Under such treatment, the machine work capacity is obtained 272.7 kg/hour with fuel consumption of 0.65 liters/hour.