

ABSTRACT

Sweet corn (*Zea mays saccharata* Sturt.) is an important agricultural commodity with high economic value and increasing market demand. However, sweet corn productivity is often constrained by low soil fertility and improper fertilizer application. Therefore, the application of rice husk biochar combined with NPK fertilizer is expected to improve soil fertility and increase crop productivity. This study aimed to determine the effect of rice husk biochar and NPK Mutiara fertilizer on the growth and yield of sweet corn. The research was conducted at the Experimental Field and Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University. The experiment employed a non-factorial Randomized Block Design (RBD) consisting of five treatments with three replications. The treatments were A0 (control), A1 (2.88 kg rice husk biochar + 29 g NPK), A2 (4.32 kg rice husk biochar + 58 g NPK), A3 (5.76 kg rice husk biochar + 86 g NPK), and A4 (7.20 kg rice husk biochar + 115 g NPK). The results showed that the combination of rice husk biochar and NPK fertilizer significantly affected plant height, stem diameter, number of leaves, leaf chlorophyll content, cobs weight per plot, cobs diameter, soluble solids content, and yield per hectare. The best treatment was obtained with the application of 7.20 kg rice husk biochar combined with 115 g NPK Mutiara fertilizer (A4). However, the treatments had no significant effect on leaf area, stomatal characteristics, flowering age, number of kernel rows per cob, and number of kernels per row.

Keywords: growth, NPK Mutiara fertilizer, rice husk biochar, sweet corn, yield.