

ABSTRACT

Sweet corn (*Zea mays saccharata* Strut L.) is one of the food crops that is in great demand by people in Indonesia because it has a sweeter taste compared to regular corn. Low productivity of sweet corn can be caused by poor soil conditions. Improving soil conditions can be done by tillage and *biochar* application. This study aims to determine the effect of biochar application of corn cob waste on the growth and productivity of sweet corn plants and to determine the best variety. This research was conducted at the Experimental in Pulo Rungkom village, Dewantara District, North Aceh Regency and the Laboratory of the Faculty of Agriculture, Malikussaleh University from July to september 2024. This study used a two-factor group randomized design with three replications. The first factor is biochar consisting of 3 levels B0 (0 kg/plot), B1 (1,08 kg/plot), B3 (2,16 kg/plot). The second factor is corn plant variety consisting of 3 levels V1 (Bonanza F1), V2 (Super Sweet), V3 (Exsotic pertiwi). Therefore, there were 9 treatment combinations with 3 replications, resulting in 27 experimental units. The observed variables included plant height, number of leaves, stem diameter, cob weight, cob length, cob weight without cob, cob length without cob, cob diameter without cob and number of rows per cob. The results showed that the best application of corn cob biochar is at a dose of B2 (2,16 kg/bedeng) affects all observation variables, sweet corn plant varieties have an effect on the growth of sweet corn plants and there is no interaction between the treatment of corn cob biochar and sweet corn plant varieties.

Keywords: *corn cob biochar, Bonanza F1, Exsotic pertiwi, Super Sweet*