

ABSTRACT

Sorghum (*Sorghum bicolor* L.) has important potential as a source of food and feed. The Directorate of Cereal Cultivation that the productivity of sorghum in the last five years had only increased slightly from 6.114 tonnes to 7.695 tonnes. In fact, according to some statistical data, sorghum are starting to become scarce in the field. It's hoped that the provision of biochar and NPK fertilizer can increase sorghum productivity. This research was carried out at the experimental Garden and Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University. This research was conducted for 4 months starting from May 2023 to September 2023. This research used a factorial Randomized Block Design (RBD) with three replications. The first factor is biochar which consist of B0 (0 kg/plot), B1 (3.45 kg/plot) and B2 (6.9 kg/plot). The second factor is NPK fertilizer treatment which consists of N0 (0 g/plant), N1 (5.6 g/plant) and N2 (8.4 g/plant). The results of the research showed that giving biochar had a very significant to significant effection on the variables of plant height, stem diameter, number of leaves and leaf area. The NPK fertilizer treatment had a very significant to significant effect on the variables of plant height, stem diameter, number of leaves, leaf are and ton production per Ha. The best provision of biochar for the growth and production of sorghum plants was found in B2 (6.9 kg/plot). The best NPK fertilizer for the growth and production of sorghum plants is N2 (8.4 g/plant). There is an interaction between the application of biochar and NPK fertilizer on the variables of plant height, stem diameter and number of leaves.

Keywords : Sorghum, Biochar, NPK, Suri 3