ABSTRACT

Sweet potato plants are cultivated plants that support food security and are included in the tuber group. with the increasing demand for sweet potatoes which continues to increase from year to year along with increasing population growth, these needs cannot be met due to limited cultivation techniques, these problems can be overcame by optimizing problematic land for sweet potato cultivation with the help of biochar and NPK fertilizer. The purpose of this study was to determine the effect of the use of biochar and NPK fertilizers on the growth and yield of sweet potato plants, the experimental garden and agroecotechnology laboratory of Malikussaleh Agricultural University, in August to November 2023 the study used a Factorial Randomized Block Design (RBD) with 3 replications, namely the use of biochar fertilizer with 3 levels, namely B0= 0 tons/ha (0g/plant), B1= 5 tons/ha (62,5g/plant), B2= 7 tons/ha (87,5g/plant), and the use fertilizer with 3 levels, namely N0= 0kg/ha (0g/plant), N1= 300 kg/ha (3,75 g/plant), N2= 400 kg/ha (5 g/plant). The results showed that the application of biochar had a significant effect on the number of branches, the number of tubers planted, and the weight of the tubers per tuber. Mean while the application of NPK fertilizer had a real influence on the length of the product, number of leaves, number of branches, and weight of tubers.there is an interaction between biochar and fertilizer on stem length.

Keywords: Tubers, Soil Conditioners, Inorganic Fertilizer