ABSTRACT

Cauliflower (*Brassica oleracea* var. Botrytis L.) belongs to the vegetable plants of the Cruiciferae family. The use of inorganic fertilizers as agrochemicals can increase plant productivity and the effects are quickly recognized, however the continued use of inorganic fertilizers reduces soil fertility. Therefore, the use of a combination of inorganic and organic fertilizers is necessary to improve soil properties and facilitate the availability of nutrients for plants. The aim of this research is to determine the effect of NPK fertilizer and goat manure and to determine the interaction between the two on the growth and production of cauliflower. This research was carried out at the Agroecotechnology Experimental Garden of Malikussaleh University, Gampong Reuleut Timur, Muara Batu District, North Aceh Regency and the Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University. This research will be carried out from (August to September) 2023. This research uses a factorial Randomized Block Design (RBD) method with two treatment factors, namely NPK fertilizer and goat manure. The first factor consists of M0 = NPK Fertilizer 0 g/ polybag, M1 = NPK Fertilizer 4,24 g/ polybag, M2 = NPK Fertilizer 6,36 g/ polybag. The second factor is K0 = 0 g goat manure/polybag, K1 = 200 g goat manure/polybag, K2 = 250 g goat manure/polybag. The results of the research showed that NPK fertilization had a significant effect on the variables of plant height, number of leaves, amount of chlorophyll, flower circumference, flower weight per plant, flower weight per plot. Provision of goat manure had no significant effect on the variables of plant height, number of leaves, amount of chlorophyll, flower circumference, flower weight per plant, flower weight per plot. There was no interaction between NPK fertilization and goat manure on the growth and production of cauliflower plants.

Keywords: cauliflower, goat manure, NPK