

ABSTRACT

Pepper productivity in Jambi Province is lower when compared to other provinces in Indonesia. Therefore, it is necessary to increase the productivity of pepper in Jambi Province. Efforts to increase productivity can be done by using good seeds. One of the requirements for good seeds is that the nutrients needed are sufficient, while Jambi Province has the majority of soil, namely ultisols, so it is acidic and nutrient poor. Therefore there is a need for fertilization. The use of inorganic fertilizers if continuously and in large quantities will have a negative impact on the soil, including reducing soil organic matter levels, damaging soil structure and environmental pollution, so it needs to be balanced with organic fertilizers. Organic fertilizers are obtained from organic materials, one of which is organic waste, namely household waste which can be found in many residential areas. Household waste organic fertilizer can be processed as liquid organic fertilizer (POC). The aim of the study was to examine the interaction effect of household waste POC and pearl NPK on the growth of shrub pepper and to obtain the best concentration of household waste POC and pearl NPK for the growth of shrub pepper (*Piper nigrum* L.) in polybags. This research was conducted at the Teaching and Research Farm, Faculty of Agriculture, University of Jambi, Unja Mendalo Campus, Mendalo Indah Village, Jambi Outer City District, Muaro Jambi Regency from November 2022 to February 2023. The design used was a factorial Randomized Block Design (RBD) with 2 factors consisting of 3 treatment levels of POC factors, namely 10 mL/liter of water, 20 mL/liter of water, 30 mL/liter of water, and 3 levels of NPK treatment, namely 0.25 g, 0.5 g and 0.75 g. The data obtained was analyzed using ANOVA at the 5% level and to see the difference, a DMRT follow-up test was carried out at the 5% level. The results showed that there was no interaction between household waste POC and pearl NPK. The treatment of household waste POC and pearl NPK given in this study has not yet found the best combination. However, a single factor POC household waste 10 mL/liter of water and 0.25 g of NPK gave the best results. POC household waste 10 mL/liter of water showed the best results on the observed variables of new shoots, number of leaves, number of branches, dry weight of roots, dry weight and shoot dry weight.

Keyword: Pepper, Fertilization, Concentration, Organic Fertilizer