

ABSTRACT

Inceptisol is an infertile soil, due to its acid pH (4.6-5.5), low to medium organic matter content, and easily leached surface layer. So that efforts need to be made to maximize nutrients in the soil and increase plant growth and yield, one of which is by fertilizing. This research aimed to examine the effect of N,P,K fertilizer formula and cow urine on the growth of shallot plants as well as on the content of C-organic, nitrogen, phosphorus, and potassium in Inceptisol in Reuleut. This research was conducted at the Experimental Garden of Malikussaleh University used polybags from July to September 2024. This research used non-factorial Randomized Block Design. The factors tested were fertilizer formulations of N,P,K and cow urine consisting of three replication and there were 5 treatments, namely K0 (control), K1 = 5% (50 ml fertilizer formulation + 950 ml of distilled water), K2 = 10% (100 ml fertilizer formulation + 900 ml of distilled water), K3 = 15% (150 ml fertilizer formulation + 850 ml of distilled water), K4 = 20% (200 ml fertilizer formulation + 800 ml of distilled water) and each treatment had 5 polybag units so there were 75 units of experimental units. The results showed that the K2 = 10% treatment (10 ml formulated fertilizer + 100 ml distilled water) was able to improve the chemical properties of inceptisol, namely C-organic 1.04 to 3.75. N-total 0.13% to 0.58%. P-total 13.12% to 22.15%. Also, K-total from 8.01% to 21.50%. The treatment of formulated fertilizer (5 ml of formulated fertilizer + 100 ml of distilled water) affected the growth of shallot plants. This can be seen in the variable height of shallot plants aged 28 and 42 DAP. While in the variable number of leaves aged 28-42 DAP and the number of tillers aged 28-42 DAP

Keywords: fertilizer, nutrition, soil properties, shallot, organic matter.