ABSTRACT

Shallots are a horticultural commodity that has high value, but its demand cannot be met on the market. The way to overcome this problem is by utilizing land that is less than optimal. Inceptisol is one of the fields that is less than optimal, because it has the problem of acidic soil pH. Efforts are being made to improve the acidity of the inceptisol soil by fertilizing using organic fertilizers such as cow urine and inorganic fertilizers to meet the needs of macro nutrients in the soil. This research aims to determine the effect of applying formulated fertilizer on soil pH, shallot nutrient uptake and shallot bulb production. This research was conducted at the Universitas Malikussaleh Experimental Land from July to September 2024. This research used a single factor randomized block design method consisting of 5 levels and 3 replications. The variables observed were soil pH, plant uptake of nitrogen, phosphorus and potassium and production of shallot bulbs. The results of this research show that the initial Inceptisol Reulet soil had a pH value of (5.79), after treatment it was able to increase the pH when applying K3 formulated fertilizer (150 ml formulated fertilizer + 850 ml aquadest) to 7.37. In the K2 treatment (100 ml formulated fertilizer + 900 ml aquadest) it can increase N uptake by 2.44%, P uptake by 0.32% and K uptake by 1.90%. The formulated fertilizer treatment affected all shallot production variables. Formulated fertilizer with K2 treatment (100 ml formulated fertilizer + 900 ml aquadest) was able to increase the wet weight of tubers by 52.10 grams, the dry weight of tubers by 45.32 grams, the number of tubers by 12.00 and the tuber weight by 11.30 tons/ hectare

Keywords : Soil acidity, Soil fertility, Sub-optimal land