

## ABSTRAK

Shallots are one of the horticultural commodities that are widely consumed by humans as a mixture of cooking spices after chili. Onion production in Indonesia is still relatively low and needs to be increased considering that consumer demand from time to time continues to increase in line with population growth and increased purchasing power. Low production is partly influenced by low soil fertility. Efforts to increase shallot production can be made by applying fertilizers that are appropriate and balanced. The purpose of this study was to analyze the efficiency of NPK fertilizer dosage due to the application of cow manure and the interaction between the two on shallot plants. The research was conducted in the experimental garden of the faculty of Agriculture, Malikussaleh University, from August 2023 to November 2023. Using a factorial Randomized Group Design (RAK) with 3 replications, namely the use of inorganic fertilizers (NPK) with 3 levels, namely N1= 200 Kg/ha (20g/plant), N2= 250 Kg/ha (25g/plant), N3= 300 Kg/ha (30g/plant), and the use of cow manure with 3 levels, namely S1= 10 tons/ha (1Kg/plant), S2= 12 tons/ha (1,2 Kg/plant), S3= 15 tons/ha (1,5 Kg/plant). The results showed that the application of NPK fertilizer had a significant effect on plant height and on the weight of tubers per plant. The provision of cow manure has a significant effect on the parameters of the number of tillers, wet weight of tubers and tuber production. There is an interaction between NPK fertilizer and cow manure on plant height, number of leaves, number of tillers, wet weight of tubers, dry weight of tubers, number of tubers per plant, weight tubers per plant, and tubers production. From the results of the analysis, it has not resulted that the use of cow manure has not been able to make NPK fertilizer efficient.

Keywords : organic fertilizer, inorganic fertilizer, farming