Improvement of Vegetative Sweet Potato (Ipomoea Batatas) Beta-2 Variety Seed Production Through the Application of Nitrogen Fertilizer and Straw Mulch.. *Supervisor*: Maria Azizah, S.P.,M.Si.

Ahmad Robiul Syawaluddin
Seed Production Engineering Study Program
Department of Agricultural Production

ABSTRACT

The sweet potato commodity is a food crop commodity that has the potential to replace rice plants because it offers more benefits than rice and has easier cultivation compared to rice plants. The current issue with sweet potato commodities is the availability of high-quality and sufficient quantities of sweet potato cuttings, requiring an innovation in the production process of sweet potato seeds. This study aims to determine the effect of urea fertilizer and straw mulch on the growth of sweet potatoes and the production of sweet potato cuttings. The research was conducted in Sumber Ketimpa Hamlet, Tegal Besar Village, Kaliwates District, Jember Regency from June to August 2024, using two factors, namely Urea and Straw Mulch, each with three levels of Urea (50 kg/ha, 75 kg/ha, 100 kg/ha) and Straw Mulch application (0, 2 tons/ha, 3 tons/ha), with three replications. The observation data were analyzed using the 5% DMRT follow-up test method if the results showed significant differences. The results of this study indicate that the addition of urea fertilizer and the application of straw mulch had a significant effect on the production of sweet potato cuttings. The P2M2 treatment showed no significant difference with P1M2 and P2M1, with cutting production of 88, 86, and 84, respectively. The P2M2 treatment was significantly different from P2M3, P1M3, P3M2, P3M1, and P1M1. The straw mulch treatment in this study had a significant effect on the production of sweet potato cuttings, as straw mulch functions as a water retainer in the soil, helping to maintain water supply to the plants. The interaction between straw mulch and nitrogen fertilizer had a significant effect on the parameter of node count, where the P2M2 treatment showed no significant difference with P1M3 but was significantly different from P3M1, P2M3, and P1M1.

Keywords*: Nitrogen, rice straw mulch, Sweet Potato, vegetative seed*