

## ABSTRACT

Oil palm (*Elaeis guineensis* Jacq.) is a commodity widely used in commercial agriculture and utilized in various industries. Oil palm seedling propagation in the pre-nursery phase is a critical factor determining seedling quality. This study aims to investigate the growth response of oil palm seedlings in the pre-nursery phase to the application of horse urine POC and urea fertilizer. The study was conducted in the village of Reuleut Timu and the Laboratory of the Faculty of Agriculture at Universitas Malikussaleh from December 2024 to March 2025. This study used a Randomized Block Design (RBD) with two factors tested. The first factor was horse urine liquid organic fertilizer, consisting of three levels: B0 (0 ml/L horse urine), B1 (300 ml/L horse urine), and B2 (400 ml/L horse urine). The second factor was urea fertilizer, consisting of three levels: P0 (0 g/polybag), P1 (3 g/polybag), and P2 (4 g/polybag). The results of the study indicate that the application of horse urine liquid organic fertilizer significantly affects plant height at 45, 60, and 75 days after planting (DAP), as well as root length at 90 days after planting (DAP). The highest values were obtained with the application of 300 ml/L of horse urine liquid organic fertilizer. Urea fertilizer treatment influenced plant height at 90 days after planting and stem diameter at 30, 60, and 75 days after planting, as well as the number of leaves at 75 days after planting. The highest value was obtained with a urea fertilizer dose of 3 grams/polybag. There was no interaction between horse urine liquid organic fertilizer and urea fertilizer treatments on oil palm seedling growth during the pre-nursery phase.

Keywords: Dosage, Fertilizer, Inorganic, Media, Nursery, Organic.