

ABSTRACT

This study aimed to determine the effect of applying cow manure and liquid organic fertilizer (LOF) from banana corm on the growth of tomato plants (*Solanum lycopersicum*). The research was conducted at the Experimental Garden of Malikussaleh University, North Aceh Regency, in April 2025 using a factorial Randomized Block Design (RBD) with two treatment factors: the dose of cow manure (0 g, 40 g, and 80 g/polybag) and the concentration of banana corm LOF (0 ml, 250 ml, and 500 ml/polybag), each repeated three times. The observed parameters included plant height, stem diameter, leaf chlorophyll content, flowering age, number of fruits, fruit weight per plant, fruit diameter, root length, and yield in tons/ha. The results showed that cow manure had a highly significant effect on all growth and yield parameters, with the best dose being 80 g/polybag. Banana corm LOF also had a significant effect on most parameters, with the best dose being 500 ml/polybag. The interaction between the two has a significant effect on leaf chlorophyll content, where the P2B2 treatment combination (80 g of cow manure + 500 ml of banana pseudo-stem POC) yielded the highest results. Overall, this combination is able to enhance nutrient absorption efficiency, improve soil properties, and significantly increase vegetative growth and the yield of tomato plants.

Keywords: Fertilization, maintenance, Servo F1, tomato