ABSTRACT

Shallot (*Allium ascalonicum* L.) is an important horticultural commodity widely used as a cooking ingredient. Increasing demand for shallots each year has not been matched by adequate production, mainly due to improper fertilization and low soil fertility. Improving soil fertility through appropriate fertilization is therefore crucial. This study aimed to evaluate the effect of ZA fertilizer and goat manure bokashi on the growth and yield of shallots. The research was conducted from May to July 2025 in Uteun Geulinggang Village, Dewantara District, North Aceh Regency, and at the Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University. A two-factor randomized block design (RBD) with three replications was applied. The first factor was ZA fertilizer at three levels: Z0 (0 g/plot), Z1 (30 g/plot), and Z2 (40 g/plot). The second factor was goat manure bokashi at three levels: B0 (0 kg/plot), B1 (2 kg/plot), and B2 (3 kg/plot). The results showed that ZA fertilizer significantly influenced the number of tubers per clump, root length, dry weight, percentage of tuber weight loss, and yield potential, with the best treatment at Z2 (40 g/plot). Goat manure bokashi significantly affected plant height, number of leaves, number of tillers, tuber diameter, root growth, fresh and dry weight, tuber weight loss, and yield potential, with the best treatment at B2 (3 kg/plot). Significant interactions were observed between ZA and bokashi on tiller number, tuber number, tuber diameter, root length, and tuber weight loss. The best combination treatment was ZA 40 g/plot with bokashi 3 kg/plot.

Keywords: fertilization, nitrogen, productivity, sulphur, soil.