

## ABSTRACT

Edamame soybean (*Glycine max* (L.) Merrill) is a type of plant that is consumed fresh and has high nutritional value. Edamame contains compounds that can reduce cholesterol levels and has a big potential market. The soybean production in Indonesia is still depends on imports, efforts are needed to increase soybean productivity through fertilization of inorganic and biofertilizers to improve plant growth and yield. This research aims to determine the effect of NPK fertilizer and biofertilizer on the growth and yield of edamame soybeans. This research was conducted at the Experimental Farm and Laboratory of the Faculty Agriculture, Universitas Malikussaleh from March to May 2025. The study used a two factor Randomized Group Design with three replications. The results showed that the single application of NPK fertilizer did not have a significant effect on growth and yield. Biofertilizer affects plant height 21, 28 and 35 days after planting, number of leaves 28 days after planting, stem diameter 28 and 35 days after planting, pod weight/plot and production with the best treatment H2 is 10 ml/l. There was an interaction of NPK fertilizer and biofertilizer that significantly affected the number of pods, number of seeds, pod weight and seed weight with the best combination in N2H2, which is NPK fertilizer 250 kg/ha and biofertilizer 10 ml/l.

**Keywords:** Anorganic fertilizer, provibio, ryoko 75 varieties