

**APPLICATION Vesicular Arbuscular Mycorrhiza (VAM) AND
P FERTILIZER TO INCREASE PRODUCTION OF
COWPEA (*Vigna unguiculata*)**

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ABSTRACT

Cowpea has a high production potential that can meet the needs of food and industry. The application of Vesicular Arbuscular Mycorrhiza (MVA) and P fertilizer is one of the efforts to increase the production of cowpea plants. This study aims to determine about interaction of the application of Arbuscular Vesicular Mycorrhizae (MVA) with P fertilizer on cowpea production. The research was conducted for four months, from July 2022 to October 2022, at the Jember State Polytechnic, Sembersari District, Jember Regency, East Java Province. This study used a factorial randomized block design (RBD) with two factors, Vesicular Arbuscular Mycorrhiza (VAM) and SP-36 used 12 treatment combinations and three replications. The MVA dose factor consisted of 3 levels, namely 0 gram/plant, 5 gram/plant, and 10 gram/plant. And SP-36 dose factor consists of 4 levels, namely 0 kg/ha, 50 kg/ha, 100 kg/ha, and 150 kg/ha. The results showed that the interaction between application of VAM 10 grams/plant and P fertilizer 150 kg/hectare was significantly different on the weight of dry stover roots is 32,36 gram, the number of pods per sample is 17,37 pieces, the fresh weight of pods per sample is 59,36 gram, the dry weight of pods per plot is 402,40 gram, and the weight of dry seeds per sample is 48,47 gram. The recommended dosage is MVA 5 grams/plant with P fertilizer 150 kg/ha (M2P4), because it can increase the dry weight of the root stover, the dry weight of the root shoots, and the weight of the dry seed pods per sample.

Keywords: Cowpea, Vesicular Arbuscular Mycorrhiza (VAM), Fertilizer P