

Effect of Cuttings Sources and Concentration of Synthetic Plant Growth Regulators on The Success of Long Pepper (*Piper retrofractum* Vahl.)

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ABSTRACT

Cabya (*Piper retrofractum* Vahl.) or better known as long pepper, is a medicinal plant belonging to the Piperaceae family that has the potential to be developed in Indonesia. Generally, Java chili is propagated vegetatively through cuttings. One of the obstacles to the development of this plant is the level of productivity which is still very low. Using cuttings sources and synthetic growth regulators (PGR) is one of the efforts to increase the success of plant cuttings growth. This study aims to determine the effect of the source of the cutting material and the concentration of synthetic PGR on the success rate of cuttings growth of Javanese chili. The study used a completely randomized design (CRD) with two factors. The first factor is the source of the cutting material, which consists of 3 levels, namely shoot, middle, and bottom, and the second factor is the concentration of synthetic growth regulators consisting of 4 levels, namely 0 ml/L, 1 ml/L, 2 ml/L, and 3 ml/L. The results showed that there was an interaction between the source of the cutting material and the concentration of synthetic growth regulators on the variables of the percentage of live cuttings, the percentage of cuttings growing, shoot length, number of shoots, number of leaves, stem diameter, and root length. The combination of shoot cuttings source and synthetic PGR concentration of 2 ml/L was the best result for the successful growth of long pepper cuttings, with 91.17% of live cuttings and 88.19% of growing cuttings.

Keywords: atonic, auxin, growth regulator, medical plant, soil tendrils