

ABSTRACT

THE EFFECT OF APPLICATION OF SOME CONCENTRANTION OF *INDOLE-3 BUTYRIC ACID* (IBA) AND THE NUMBER OF NODES ON THE ROOTING OF MINI CUTTING OF CASSAVA (*Manihot esculenta* Crantz)

By

Henni Elfandari

Scarcity of stakes as planting materials causes the reduction of cassava yield. An alternative to solve the problem is to use mini stem cutting. This is to save planting material, so the number of stakes needed is fulfilled. A stake is considered to grow well if there is a regeneration both in shoot and root. Regeneration of shoot and root can occur if phytohormone system in the plant. However, sometimes the ratio of growth regulator in the plant is not enough, so that the external growth regulator is needed. Growth regulator whose function is to regenerate shoot and root is auxin. In this research IBA which includes in auxin was used. Beside growth regulator, another factor responsible in regenerating shoot and root is the number of nodes along a stake. The objectives of this research were to know the effect of application of some concentration of *indole-3 butyric acid* (IBA) and the number of nodes on the rooting of mini cutting of cassava (*Manihot esculenta* Crantz).

This research used completely randomized design (RAL) arranged in factorial (4x3). The first factor was IBA concentrations consisting of 4 levels; without IBA, IBA 500 ppm, IBA 1,000 ppm, and IBA 2,000 ppm. The second factor was the number of nodes in cutting consisting of 3 kinds; stem cutting with one node, stem cutting with two nodes, and stem cutting with three nodes. This research was conducted in experiment garden of Agriculture Faculty in University of Lampung in Bandar Lampung from March to April 2012. Data analysis included the amount of shoots, the length of shoot, amount of nodes, amount of leaves, amount of roots, and length of root.

The results showed that the IBA application with concentration of 2,000 ppm was the best concentration in supporting rooting in mini cassava stem cutting. In the treatment of amount of nodes in the stem cutting, it was found that three-node in

stem cutting produced better root growth than other stem cuttings. The combination of treatments of IBA with 2,000 ppm concentration and three-node in stem cutting produced the best mini stem cutting growth than other treatments.

Keywords: IBA, rooting of mini cutting, cassava