THE EFFECT OF KINDS AND GROWTH REGULATOR CONCENTRATION ON SUCCESFULL OF *Morus shima* PROPAGATION BY TISSUE CULTURE

by :
AHMAD ROKHIM
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ABSTRACT

M. shima is one of mulberry variety come from Japan with a number of a good characteristics, namely high in leaves production and nutritive value, and being favored by silk worm. Plant propagation of *M. shima* however still have many problems, one of the problem is mother trees being limited in amount. Propagation of this plant by tissue culture therefore is needed. This experiment was aimed to know the better method of tissue culture in every stage such as callus induction, shoot induction, root induction, and to find out the best growth regulator concentration on every stage.

Sources explant come from axillary shoot of *M. shima*, and *Murashige* and *Skoog* (MS) as growth medium. This research divide into tree steps and used *Completely Randomized Design* (CRD). First step is callus induction by 6 different IBA concentration, there were 4, 6, 8, 10, 12 and 14 ppm. Second step is shoot induction by combined of NAA 1 ppm and BAP 1, 2, 3, and 4 ppm. The last step is root induction and the treatment using combination NAA 1 ppm and IBA 1 and 2 ppm. Replication every stage are ten times.

The result showed that in callus induction the treatment produced very significant response to the callus diameter. Callus diameter formed bigger size by increasing of the IBA concentration. The biggest callus diameter average produced by the treatment of 14 ppm IBA concentration, there were 13,8 mm and smallest callus diameter average produced from concentration of IBA 4 ppm. Shoot induction in this research can not produced yet. Root induction produced significant on number of root and no significant on long of roots. Combination of NAA 1 ppm and IBA 2 ppm can produce bigger number of roots greatly, there were 49,9 roots and long average 1,2 cm. Combination treatment of NAA 1 ppm and IBA 1 ppm can produce roots average number 38 roots and long average 0,97 cm.