

In vitro regeneration of *Cucumis sativus* cv. MTi2 by using shoot apical meristem as explant

ABSTRACT

Cucumber variety MTi2 is one of the famous cucumber variety in Malaysia that consumed by local people. Therefore it is important to maintain the good supply of this favorable variety and to conserve the species to ensure its continuance in the future. Besides, the conventional means of propagation commonly yield non uniform plants that may reduce the crop quality. This might be a huge problem for large scale multiplication industries and for conservation purpose of the species. As an alternative, in vitro regeneration was carried out to optimize the protocol in obtaining uniform plantlet through culturing shoot apical meristem (SAM) of cucumber. Therefore the SAM culture was optimized in this study to generate identical plantlet. The effect of plant growth regulators (PGR) in in vitro regeneration was also studied through application of 10 treatments of full strength MS media supplemented with different concentration and combination of PGR, with MS media served as control treatment. The result showed that meristem tissue of cucumber can be regenerated into whole plant through in vitro micropropagation. The combination treatment of 0.01 mgL^{-1} IAA and 0.1 mgL^{-1} KIN produced highest percentage survival of plantlets which was 88%.

Keyword: Tissue culture; Cucumber; Shoot apical meristem; PGR