

Effect of Medium Composition on *in vitro* Propagation and Plantlet Regeneration from Nodal Explants of Cassava (*Manihot esculenta* Crantz)

Young Hee Kwon*, Joung Kwan Lee, Hee Kyu Kim,
Kyung Ok Kim and Jae Seong Park

Horticultural Research Division, Chungcheongbuk-do Agricultural Research and Extension Services

The Cassava (*Manihot esculenta* Crantz) is a perennial woody shrub cultivated mainly in the tropics for its starchy tuberous roots. It belongs to the family Euphorbiaceae which also includes rubber (*Hevea brasiliensis*) and castor bean (*Ricinus communis*). Among tropical crops, rice, sugarcane, maize and cassava are the most important sources of calories for human consumption. Problems in the propagation of cassava are virus diseases and low rates of seed germination. Thus, a study was undertaken to develop an efficient *in vitro* mass propagation protocol of *Manihot esculenta* Crantz. Young and actively growing stem segments were excised from adult plants of cassava. Samples were cut into a 3~4 cm nodal segments with single node after sterilization, and cultivated in the different medium supplemented with various plant growth regulators for 4 weeks. For shoot multiplication, single-node stem segments, approximately 1 cm in length, were taken from *in vitro* derived shoots and subcultured. After 4~6 weeks, the shoot generation rate was 55.6%, the shoot number and its length were 1.0/explant and 2.3 cm in the most favorable medium composition. Our experiments confirmed that *in vitro* growth and multiplication of plantlets could depend on its reaction to the different medium composition, and this micropropagation techniques could be a useful system for healthy and vigorous plant production.

Key words: Cassava, *Manihot esculenta* Crantz, *In vitro*, Nodal explants

*(Corresponding author) E-mail: tomato94@korea.kr, Tel: +82-43-220-5652