

카사바 액아배양 시 배지조성이 기내 식물체 발근에 미치는 영향

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Effect of Medium Composition on *in vitro* Plant Root Regeneration from Axillary Buds of Cassava (*Manihot esculenta* Crantz)

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The Cassava (*Manihot esculenta* Crantz) is one of the major food crops in the tropical or subtropical regions. Recently, clean planting materials of improved cassava cultivars are in high demand. Problems in the propagation of cassava are virus vulnerable and low rates of seed germination. Thus, the study was undertaken to develop an efficient *in vitro* mass propagation protocol of *Manihot esculenta* Crantz. So we tried to optimize protocols for mass production from axillary buds of Cassava. Young and actively growing stem segments were excised from adult plants of cassava. Samples were cut into a 3~4 cm nodal segments with axillary buds, and cultivated in the different medium supplemented with various plant growth regulators for 4 weeks. For shoot multiplication, axillary buds approximately 1 cm in length were taken from *in vitro* derived shoots and subcultured. After 4~6 weeks, the shoot generation rate showed 55.6%. The shoot number and its length was 1.0/explant and 2.3 cm in the most favorable medium composition. The auxin β -indolebutyric acid(IBA) 0~2.0 mg/L was proved to be effective on root development. Plantlets with fibrous roots easily generated tuberous roots *in vitro*. The tuberous roots were induced only when both kinetin and IBA were used in combination. after 8 weeks, the root generation rate showed 100%. The root number and its length was 17.2/explant and 2.2 cm in the most promising 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, root, *in vitro*, axillary

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