

생장조절제 처리에 따른 과수화상병 저항성 사과대목의 기내 식물체 유도

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Induction on *in vitro* Plant Regeneration the Apple Rootstocks of Fire Blight Resistance by Plant Growth Regulators

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Apple (*Malus domestica* Borkh.; Rosaceae) is an important fruit crop grown mainly in temperate regions of the world. Tissue culture *in vitro* is a biotechnological technique that has been used to genetically improve cultivars (scions) and rootstocks. This could be important in the production of genetically uniform scions and rootstocks for commercial apple production. In nurseries, apple plants are produced by grafting scions onto rootstocks. The Cornell-Geneva (Geneva® series) breeding program has bred several dwarf rootstocks that are resistant to diseases and pests and are also cold hardy. This study was conducted to determine the optimal medium strength to improve sprouting shoot rate of apical meristem of the apple rootstocks of fire blight resistance. The apple rootstocks apical meristem at size (0.2 mm to 0.3 mm) with axillary buds were cultured on the MS(Murashige & Skoog) medium supplemented with plant growth regulators. The sprouting ratio and growth characteristics was evaluated after eight weeks *in vitro* culture. The highest rate of bud differentiation and shoot formation were 23.8% and 55.6%, respectively. After 6 weeks, shoots were regenerated from apical meristem, and their growth characteristics was significantly varied on the respective basal medium with different plant growth regulators. Our studies showed that the apple rootstocks the apple rootstocks of fire blight resistance plantlets could be successfully produced from apical meristem differentiated out of young twigs via organogenic regeneration.

Key words: Fire blight, apple rootstocks, meristem, regeneration

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