Totipotency of Juice Vesicle in *Citrus* Fruit©

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The use of in vitro culture methods for *Citrus* has already had practical benefits for plant breeding and genetic studies. The development in the techniques of protoplast isolation and culture added further possibilities for the use of cell cultures. The establishment of embryogenic callus and plant regeneration from callus resulted in the success of protoplast fusion and regeneration of 'Oretachi'. Plantlets of *Citrus* have been regenerated in vitro directly or through callus from various tissues and organs, such as shoot tip, stem section, hypocotyl, node, ovule, and anther. We tried to induce callus and plantlets from juice vesicle of *Citrus* fruit. Immature *Citrus* fruits were collected from 10 days to 60 days after anthesis. Juice vesicles were excised and cultured on Murashige and Skoog's (MS) medium containing naphthalene acetic acid (NAA), kinetin, gibberellic acid, sucrose, and glucose in combination. Callus cells were readily induced from juice vesicles of *Citrus* fruit on MS medium supplemented with plant growth regulators. Adventitious embryos arose from the callus tissue on the medium containing 1 $mg \cdot L^{-1}$ NAA alone. The embryos grew to form plantlets on the medium containing 1 $mg \cdot L^{-1}$ GA. The system from juice vesicles to small plantlets was established in *Citrus* fruit.