

Somatic Embryogenesis and Shoot Regeneration of *Daucus carota* L. *In Vitro*

A. Ernawati, M.C. Andayani, B. Satiawihardja

Abstract

A preliminary study on somatic embryogenesis and shoot regeneration of *Daucus carota* L. was conducted. This study was done to develop alternative methods to supply carrot seeds and to support *in vitro* breeding of carrot.

A MS medium containing 0.5 ppm 2,4-D was used to induce callus formation. The explants were cotyledon, hypocotyl, stem and leaf of aseptic seedlings. The callus derived from hypocotyl regenerated shoots and somatic embryos when transferred to an MS medium containing kinetin 1 ppm. The callus derived from all kinds of explants regenerated shoots and somatic embryos when transferred to an MS medium containing 5 ppm kinetin and to one containing a combination of 5 ppm kinetin with 1 ppm IAA. The regenerated shoots and somatic embryos were developed to plantlets in the MS medium without any growth regulator.