In vitro propagation of *Vachellia caven (ex Acacia caven)*

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Introduction

Vachellia caven (ex Acacia caven, espinillo, roman cassie) Mol. is native to Argentina, Bolivia, Chile, Paraguay, and Uruguay. The tree has ornamental, industrial and medicinal uses. The flowers are used as food for bees in the production of honey. It is very important for erosion control. Since the decade of the 90s we have worked in the in vitro tissue culture of this species with the aim of propagating, conserving and producing in nursery.

Objective

The objective of this work was to adjust the in vitro propagation of *Vachellia caven* via somatic embryogenesis and microcuttings

Materials and methods

Cotyledon from mature seeds were used as explants. The seeds were treated with 98% sulfuric acid for two hours and washed with water (10min.). Then disinfected with 70% ethanol (5 minutes) and 20% sodium hypochlorite (30 minutes), they were 3 rinses with distilled water under laminar flow hood and then were left for 7 days in sterile water to allow softening the seed coat and obtain the cotyledons. The explants were grown in MS medium containing combinations of TDZ or BAP (1–2 mg/l), IAA (0.25–2 mg/l) and a mixture of amino acids. Microcuttings were rooting in vitro in MS half strength medium with different concentrations of sucrose.

Results

Immature cotyledons-MS with BAP/TDZ and IAA/2,4-D or without PGRs

Pro-embryogenic callus-

Embryogenic callus

Somatic embryos-Globular stage-MS+BAP 0.1 ppm+ 2.4D 1 ppm

Somatic embryos were sub cultured PGR-MS medium free or with 0,5 ppm de AG3

Emblings. Germination and conversion into whole plants was low (30%).

Microcuttings - MS/2 + sucrose (40-90 gr/L)

Microcuttings with shoots- MS/2 + sucrose

Rooting-MS/2 + 70-90 gr/L sucrose

Whole true type plants

Conclusions

- Somatic embryogenesis from cotyledons and in vitro rooting of microcuttings were adjusted. SE conversion was low. In vitro rooting was influenced by sucrose concentration