IN VITRO PLANT REGENERATION OF CAPER (CAPPARIS SPINOSA L.)

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Caper (Capparis spinosa L.), a plant native to the Mediterranean Basin, is an extremely drought resistant plant. It is cultivated to harvest the unopened flowers or young fruits and used in many traditional dishes. Owing to these features, this shrub has become a valuable and specialized crop of great economic importance in the Mediterranean area both for local market and for export over the last decades.

Till now, propagation is mainly carried out by seeds, that generates high genetic flow, or by vegetative multiplication with several rooting problems.

In this work, a new technique to regenerate plants starting from flower explant is reported. In vitro plant regeneration was attempted using stigma, anthers and unfertilized ovules of unopened flowers collected from plants growing in the field. Plant regeneration was achieved from unfertilized ovules on MS medium supplemented with 3% sucrose and 13mM 6-benzylaminopurine (BAP). New individuals obtained from unfertilized ovules were used as source material for micropropagation and multiple shoots were obtained on MS medium supplemented with BAP and indole 3-butyric acid (IBA). Explants obtained in micropropagation step were used for rooting step under several hormones conditions. The best results were obtained when the explants were incubated in presence of 10mM IBA for six days in the dark and then transferred in hormone free medium and in the light.

New plants were vigorous, of good quality and presented phenotypic characters similar to mother plants.

To detect the genetic fidelity of regenerated plants, flow cytometric analysis and two different DNA-based techniques (ISSR and RAPD) were used.