

## **ANTHER AND ISOLATED MICROSPORE CULTURE IN THE FRUIT TREE SPECIES *PRUNUS AVIUM* L.**

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Woody plants are generally characterized by a high degree of heterozygosity, an extremely long reproductive cycle and sometimes strong self-incompatibility. The generation of inbred lines via back-crossing series does therefore not constitute a practical means to facilitate plant breeding. As a consequence, the establishment of haploid technology would be of particular advantage in such species.

*In vitro* anther or isolated microspore culture are usually the most effective and widely used approaches to produce haploids and doubled haploids. Anther culture is also an efficient tool to produce highly embryogenic somatic callus (Germanà, 2003).

Studies regarding anthers and isolated microspore cultures of two genotypes of *Prunus avium* L. (cvs. Van and Celeste) are reported.

In anther culture experiments, flower buds from each genotype were collected from the field and pretreated at 4°C. Then they were surface sterilized, rinsed three times with sterile distilled water and anthers were isolated and placed on solid media (about 30 to 40 anthers per Petri dish). Experiments with different genotypes and different media have been carried out in several years.

In isolated microspore cultures, different starvation and temperature treatments were tested to induce androgenetic development. FDA and DAPI staining were applied to characterise the cultures regarding viability and nuclear or cell division, respectively. Under appropriate conditions, initiation of androgenesis, indicated by the formation of multinucleated pollen grains in the isolated microspore cultures and by the production of haploid calli in anther cultures, was obtained.

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