

**ORGANOGENESIS AND SOMATIC EMBRYOGENESIS INDUCED
IN PETAL CULTURES OF *SEDUM* SPECIES**

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Plant regeneration was studied in petal cultures of three *Sedum* species: *S. aizoon*, *S. spectabile* and *S. gracile*. The course of morphogenesis was examined by light and electron microscopy. Histological examination revealed that morphogenesis took place as direct organogenesis, indirect organogenesis or somatic embryogenesis, depending on the species and the concentrations of growth regulators in the medium. Initial petals and explants from cultures were studied to determine the origin of organogenesis. Petal histology showed that all cells at the time of culture initiation were differentiated. Epidermal and parenchymatous cells were highly vacuolated and the parenchyma contained chloroplasts with starch grains. TEM revealed that cell dedifferentiation occurred in culture under the influence of BAP and IBA. In petal culture the first cell division started subepidermally on day 2 of culture initiation. Epidermal cells underwent regular anticlinal divisions on day 3 of culture initiation, as confirmed by histology and SEM. Direct formation of adventitious buds in petals was observed in meristematic cells dedifferentiated from the epidermis and parenchyma. In indirect organogenesis, callus tissue resulted from division of dedifferentiated parenchyma cells. Somatic embryos were formed directly from subepidermal parenchymatous cells.

Key words: *Sedum*, adventitious buds, somatic embryos, callus, petal culture, light and electron microscopy.