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Induction of haploid *Lotus* plants by means of anther culture

A preliminary study has been carried out (Niizeki and Grant, 1971) and is being continued by Mr. I. M. MacDonald for his M.Sc. thesis. Fifteen species of *Lotus*, 32 cultivars of Birdsfoot Trefoil (*L. corniculatus*), and 7 interspecific hybrids, are being screened for their capabilities of *in vitro* androgenesis. Ethrel, an ethylene-releasing chemical, is being tried to trigger mitotic divisions in pollen. Field experiments were carried out to determine the appropriate levels to use. Ethrel reduced seed set of *L. corniculatus* cvs. Empire and Viking at concentrations above 50 ppm. Based on these data, a concentration of 50 ppm Ethrel is being tried and has been added to the medium for a number of cultures. Two somatic cell lines have been established from callus derived from roots of *L. corniculatus* cultured *in vitro*. Gamborg's PRL-B5 medium has been selected as the most suitable for *Lotus* anther culture. Root and shoot development in *Lotus* can now be experimentally induced by transfer to the appropriate culture medium.