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Induction of embryogenesis in Datura metel anthers

Guha and Mahesway first induced haploids in *Datura Innoxia* in 1964. The uninucleate stage of microspore development and a stress factor in the culture medium are crucial for haploid induction. The objective of this study is to determine the ability of locally occurring *Datura matel* to produce haploids through embryogenesis of isolated microspores and anthers.

Flower buds of *Datura matel* were surface sterilized and anthers excised under aseptic conditions and cultured in Petri dishes in Nitsch medium with 10^{-7} M kinetin. One anther was removed for cytology. Microspores were cultured by releasing them from the anthers using a fine needle. The cultures were either incubated at 34 ^{o}C for 2 days or cultured at 26 ^{o}C under darkness. All the cultures were transferred to light (16 h) after 4 weeks of dark culture. Embryos were transferred to a regeneration medium (Nitsch 1969) supplemented with 0.1 mg/ L of NAA and 1 mg/ L of BA.

Flower buds (5.5 – 7.5 cm) were in the uninucleate stage of pollen development. Incubation at 34 ^{o}C for 2 days produced embryos. Microspore cultures failed to undergo cell division. The responsive anthers dehisced and shed their microspores into the medium where cell divisions were visible inside the exine. By the 4 th week unorganized cell masses and globular structures were intensified. Embryos were observed after 6 weeks and man6y embryos were polycolyledenous (more than tow cotyledons). The embryos in the regeneration medium remained white (albinos).

Microspores of *Datura matel* can be induced to undergo embryogenesis. Embryogenesis occurred only within the anther and from microspores shed from anthers into the culture medium. Isolated microspores failed to undergo cell division. The embryos did not develop chlorophyll pigmentation.