

**Morphological and histological studies on Somatic embryogenesis
of cashew (*Anacardium occidentale* L.)**



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ABSTRACT

Histological and morphological studies on cashew (*Anacardium occidentale* L.) were carried out for the induction of somatic embryos in excised cotyledon explants. To determine the optimal concentration of BAP for the induction of somatic embryos, sterilized cotyledon segments (10mm length ×10mm width) were cultured on MS medium containing various concentrations of BAP (0-10 mg/L). It was noticed that the medium without BAP exhibited profuse root organogenesis. Results indicated that MS media containing 8 mg/ L and 10 mg/L BAP were the most optimal concentration for somatic embryogenesis among the tested concentrations. Cytological studies confirmed the development of parenchymal, meristematic and embryogenic cells and also embryoid formation. Subsequently somatic embryos were noted.

Further, study was done to find out the most suitable plant part cultured in BAP (10 mg/L). Seedlings were raised under the laboratory conditions and at the fourth week, they were uprooted and sterilized. The various types of plant parts namely, shoot tip, first leaves, petiole, stems obtained from both tip and basal portions and hypocotyls. The sterilized segments of plant parts were separately cultured in 10 mg/L BAP. The results showed that after four weeks of culture, stem obtained from basal portion respond more, white globular embryoids like structures were noted on the surface of stem segments. Hypocotyl segments, ruptured and adventitious buds emerged from there.

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