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Enhancement of morphogenetic potential to obtain elite varieties of *Sauropus androgynus* (L.) Merr. through somatic embryogenesis

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S. androgynus is a member of Euphorbiaceae, popularized as multivitamin plant and consumed as green leafy vegetable due to its rich nutritional profile including proteins, vitamins, minerals, essential amino acids, etc. The plant is cautioned for excessive consumption due to the presence of papaverine alkaloid which, at higher concentration leads to bronchiolitis obliterans. In the present study morphogenetic potential of shoot tip, leaf and nodal explants of *Sauropus androgynus* was investigated to develop and enhance the reliable plant regeneration protocol via somatic embryogenesis. Somatic embryos were derived directly and from the embryogenic callus derived from shoot tip, node and leaf cultures on Phillips and Collins (L₂) medium supplemented with NAA at various concentrations ranging from 5.3 µM/l-26.85 µM/l within two months of inoculation. Thus obtained embryos were sub cultured to modified L₂ media supplemented with increased vitamin level for further growth. Somatic embryos with well-developed cotyledons were transferred to normal and modified L2 basal medium for conversion. The plantlets thus obtained were subjected to brief acclimatization before transferring them to land. About 95% of survival was recorded. Optimized techniques of various explant cultures on Phillips and Collins media with various growth regulators has supplemented the conventional propagation methods in commercial production resulting in availability of improved *Sauropus* through somatic embryogenesis. The development of regeneration systems for *S. androgynus* has opened possibilities for developing genotypes with novel characters including low quantity papaverine content which has facilitated conventional improvement programs there by providing a valuable resource to the food and pharmaceutical industry. Based on this research, plant tissue culture techniques show promise for economical and convenient application in *Sauropus androgynus* breeding.

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