

A Review Article

**IN VITRO SOMATIC EMBRYOGENESIS IN ANGIOSPERMS
WITH SPECIAL REFERENCE TO MONOCOTYLEDONS****K. Hirimburegama***Department of Botany,
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Introduction

In sexual reproduction of plants, a male and a female gamete fuse to form a single cell, the zygote, which develops into a new plant through an embryo. Formation of an embryo is known as "Embryogenesis" and formation of an embryo from a zygote is "Zygotic embryogenesis" (Esau, 1977). The resulting plant is a new individual arising from a single cell and has characters of both male and female plants. Another type of embryogenesis is possible by the induction of somatic (vegetative) cells. This is known as "Somatic embryogenesis" (or non-zygotic embryogenesis) and the embryos are known as "Somatic embryos" (or non-zygotic embryos). This may occur in nature (as seen in citrus family) or may be induced by *in vitro*. The latter is known as "*In vitro* somatic embryogenesis". This is reported in a wide variety of angiosperm species, both from reproductive tissues such as nucellus and synergid cells, and from true vegetative (somatic) tissues such as leaf margins (Veyret, 1974; Raghavan, 1976; Tisserat *et al*, 1979, Litz & Gray, 1992).

Somatic embryogenesis in general can be defined as "The development of embryos from somatic haploid or diploid cells, without fusion of gametes". Somatic embryogenesis has been reported in dicotyledons more than in monocotyledons despite the fact that the latter consist most of the world major food crops. This is also true for *in vitro* somatic embryogenesis. It is reported that many difficulties of *in vitro* culture in monocotyledons have hindered such studies (Williams and Maheswaran, 1986). However, *in vitro* somatic embryogenesis and plant regeneration have been reported in