

CALLUS REGENERATION OF *EUPHORBIA FUSIFORMIS* A RARE MEDICINAL HERB

Devaraju Srinivas

Department of Botany, Telangana University, Dichpally, Nizamabad-503322

Email. devarajusrinu@gmail.com

ABSTRACT

Euphorbia fusiformis Buch.-Ham. Ex D. Don a rare medicinal herb, belongs to Euphorbiaceae family. It is an important medicinal plant. *Euphorbia* species have been used in the traditional medicine for treatment of cancers, tumors and warts. It is well known that they contain irritant and tumor-promoting constituents. Quite a number of species are used in folk medicine as drugs and raw materials for pharmaceutical industries. As first step in many tissue culture experiments, it is necessary to induce callus from the primary explant, Callus is produced in response to injury. Callus was defined as tissue constituted by differentiated cells, which develop in response to a chemical or physical lesion, under determinate hormonal conditions. It can be obtained from a tissue fragment and only some of the callus cells exhibit the totipotency, *i.e.* the ability to differentiate into tissues, organs and even embryos, being able to regenerate whole plant. The aim of this study is to develop a protocol for callus regeneration from Leaf and Hypocotyl explants of *Euphorbia fusiformis*. Callus regeneration ability of different explants such as cotyledonary and leaf was investigated by using varying concentrations of different auxins individually. The results are shown in the explants such as hypocotyls and leaf, cultured on MS medium supplemented with different concentrations (0.5- 2.0mg/L) of auxin *i.e.* 2,4-D, IAA and NAA individually exhibited initiation of callus after 25 days of incubation while it took 15-20 days in leaf explants. Callus proliferation was initiated shoot buds were observed.

Key words: *Euphorbia fusiformis*, a rare medicinal herb, hypocotyl explant, auxin.