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# *IN VITRO* PROPAGATION STRATEGIES FOR THE MEDICINAL HERB, *RUELLIA TUBEROSA* L. (ACANTHACEAE)

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**ABSTRACT**

An efficient *in vitro* plant regeneration protocol was established by using immature leaf let - derived callus of *Ruellia tuberosa* L., through tissue culture technology. Leaf explants inoculated on MS medium supplemented with TDZ (1.5 $mgL^{-1}$) and NAA (0.2 $mgL^{-1}$) were produced high frequency of callus (87%). Greater shoot formation (86%) was obtained in the MS medium containing IBA (2.0 $mgL^{-1}$) and TDZ (0.3 $mgL^{-1}$). The elongated shoots subcultured on half strength MS medium supplemented with IBA (2.0 $mgL^{-1}$) and Kn (0.4 $mgL^{-1}$) produced high frequency of roots (77% shoots initiated roots). Rooted plantlets were hardened and successfully established in soil. The field established plants were morphologically normal and fertile.

**Keywords: *Ruellia tuberose,* Acanthaceae, *In Vitro* Propagation**

## INTRODUCTION

*In vitro* propagation methods have proved successful for rapid production with minimal plant material. The technology has been successfully utilized for the conservation of plant species, in addition it offers a powerful tool for germplasm conservation and the mass multiplication of threatened plant species **[1]**. *Ruellia tuberose* belongs to the family, Acanthaceae is an adventives perennial weed native to West Indies naturalized in India, Indonesia and Sri Lanka. In folk medicine, this plant has been used as diuretic, antidiabetic, antipyretic, analgesic, antihypertensive, thirst quenching and antidotal agent **[2, 3]**. The plant is also used to treat urinary problems, to reduce the cholesterol level