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In-Vitro Selection of Salt Tolerant Tomato Plant (*Lycopersicon Esculentum Mill*)

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ABSTRACT
The given study is based on identification of salt tolerance trait from the seeds of Tomato (*Lycopersicon esculentum Mill.*). Genetic diversity can be seen within a particular species. To identify a trait in a given variety is difficult to find out using morphological data. In the present study the hypocotyl were isolated and grown in increasing salt concentration of 0.5%, 1.0% and 1.5%. The tolerance observed may be due to genetic diversity or soma clonal variation within in the variety and thus can be selected for micropropagation, hybridization and other experiments.

Keywords:- In-vitro, somaclonal variation

I. INTRODUCTION

Tissue culture is the in vitro aseptic culture of cells, tissues, organs or whole plant under controlled nutritional and environmental conditions (Thorpe T, 2007) often to produce the clones of plants. The resultant clones are true-to type of the selected genotype. The controlled conditions provide the culture an environment conducive for their growth and multiplication. These conditions include proper supply of nutrients, pH medium, adequate temperature and proper gaseous and liquid environment. Plant tissue culture technology is being widely used for large scale plant multiplication.

Apart from their use as a tool of research, plant tissue culture techniques have in recent years, become of major industrial importance in the area of plant propagation, disease elimination, plant improvement and production of secondary metabolites. Small pieces of tissue (named explants) can be used to produce hundreds and thousands of plants in a continuous process. A single explant can be multiplied into several thousand plants in relatively short time period and space under controlled conditions, irrespective of the season and weather on a year round basis (Akin-Idowu et al,2009) . Endangered, threatened and rare species have successfully been grown and conserved by micropropagation because of high coefficient of multiplication and small demands on number of initial plants and space. In addition, plant tissue culture is considered to be the most efficient technology for crop improvement by the production of somaclonal and gametoclonal variants. The micropropagation technology has a vast potential to produce plants of superior quality, isolation of useful variants in well-adapted high yielding genotypes with better disease resistance and stress tolerance capacities