

## ***In vitro* Biological Control of *Marasmiellus* sp. The Causal of Stem Rot of Banana Grown in Jaffna Peninsula, Sri Lanka**

Thiruchchelvan. N., Thirukkumaran. G., Mikunthan. G.

Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna, Sri Lanka

### **Abstract**

Stem rot of banana caused by Basidiomycetes fungus, *Marasmiellus* sp. (Agaricales: Tricholomataceae) is new and confined to Valikamam division of Jaffna peninsula, Sri Lanka. Symptoms of stem rot were rotted patches on rhizome and pseudo stem, gradual wilting of leaves from lower area to upper part of plant canopy, stunted growth, abnormal leaves and bunches, toppling of crown and fruiting body adhere on pseudo stem. A banana field at Thirunelvely, recorded disease incidence as high as 44.44%. The disease severity was 96.3% in left out portion of pseudostem, which yielded bunch already, 62.63% in mature plants and 23.02% in suckers. An antagonistic fungus, *Trichoderma* spp. showed suppressive effect on *Marasmiellus* sp. grown on PDA by using dual culture technique. *Trichoderma harzianum* and *T. viride* inhibited 80.6% and 92% mycelia growth of *Marasmiellus* sp, respectively. Poison food method revealed that maximum inhibition was with *Azadirachta indica* (79.19%) and *Ocimum sanctum* (59.96%) than *Lantana camara*, *Zingiber officinale* and *Curcuma longa* under *in-vitro* conditions. This information will help to create awareness among extension workers and growers about *Marasmiellus* sp. causing stem rot disease on banana in Jaffna peninsula and also helpful to restrict its spread in newer areas through infected suckers and other means.