Efficacy of selected plant extracts of the Batticaloa region on mycelial growth of selected plant pathogenic fungi

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Several pressures have accelerated the search for novel fungicides, which are environmentally safe, more selective and efficacious. Thus, the use of botanicals with fungicidal properties in Integrated Disease Management programmes is fast gaining prominence. Considering this aspect, an *in vitro* study was carried out to test the efficacy of five plant extracts of the Batticaloa region on mycelial growth of four fungal species viz *Rhizoctonia solani*, *Cochlibolus* spp, *Aspergillus niger* and *Aspergillus flavus*.

Water extracts and organic solvent extracts of *Allium sativum, Allium cepa* bulbs and *Lantana camara*, *Eucalyptus* spp and *Aloe vera* leaves were tested for possible antifungal properties. Water extracts were prepared by macerating 1.5 g of plant material in 15 mL water and organic solvent extract was prepared by macerating 1.5 g of plant material in 15 ml organic solution of chloroform: methonol: acetone in 2:1:1 ratio. Percent inhibition by these extracts on the test fungi was tested using Poison food technique. Each treatment were replicated three times and arranged in a Completely Randomized Design. Control treatments contained sterilized distilled water and ethanol instead of water and solvent extracts.

Water extracts of *A. sativum* gave high inhibition of mycelial growth of *R. solani* (93.92%) and effectively inhibited the mycelial growth of *A. niger* (78.23%) and *A. flavus* (74.13%) while water extracts of *A. cepa* effectively inhibited mycelial growth of *A. niger* (70.34%) and *A. flavus* (69.93%) and water extract of *L. camara* effectively inhibited *A. niger* (65.01%). Organic solvent extract of *Eucalyptus* and *L. camara* effectively inhibited the mycelial growth of *R. solani* (73.94% and 77.94% respectively) and *Cochlibolus* sp (85.73% and 75.59% respectively).

The results of this study indicate that water-soluble compounds in *A.sativum*, *A.cepa* and organic solvent soluble compounds in *Eucalyptus* and *L. camara* can be exploited as botanical fungicides in the use of integrated disease management programmes.

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