



RESEARCH ARTICLE

Management of tikka disease of groundnut by using different botanicals and bioagents

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ABSTRACT

Experiments were carried out for studying the efficiency of leaf extracts of different botanicals and culture filtrates of bioagents for control of tikka disease of groundnut. The use of leaf extracts of different botanicals and bioagents was found to be effective. The kernel extract (5 % conc.) of *Azadirachta indica* was found to be superior for control of tikka disease (PDI 16.98%) amongst the treatments followed by *Eucalyptus* sp. (PDI 21.02 %) and *Trichoderma viride* (culture filtrate 5 %) (PDI 22.93 %). The PDI of control was found to be maximum as 37.63 Per cent. Also an increased pod yield (1.4 kg per plot) was found with leaf kernel extract of *Azadirachta indica*.

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INTRODUCTION

Among all oilseed crops, groundnut (*Arachis hypogaea* L.) is one of the principal oilseed crops of world. The groundnut is affected by various diseases like early leaf spot, late leaf spot, rust, crown rot or seeding blight, stem rot and collar rot. Among the important fungal diseases, leaf spot caused by *Phaeosariopsis personata* (Blerk. and Curt.), van Arx (late leaf spot) and *Cercospora arachidicola* Hori (early leaf spot) are the most serious diseases causing premature defoliation. The yield losses due to disease ranged from 10 per cent to 50 per cent (Ghuge *et al.*, 1981).

Several fungi, bacteria and botanicals were reported to have broad spectrum antifungal activity and promising disease control in several crops under green house and field conditions. With increase in awareness among consumers about toxic hazards of chemicals to crop, consumers and environmental due to phytotoxic residual toxicity and pollution, the importance of botanical products in plant disease control has been emphasized. Considering the importance of groundnut crop and losses caused by leaf spots

present study was undertaken with an objective to find out efficiency of plant extract of different indigenous medicinal plants and bioagents against Tikka disease of groundnut.

MATERIALS AND METHODS

Preparation of sample :

The present research was conducted in Maharashtra, Department of Plant Pathology, College of Agriculture, Nagpur. The seeds used for conducting research were procured from local agricultural farm. Bioagents viz., *Trichoderma viride*, *T.harzianum*, *Pseudomonas* sp. *Verticillium lecanii* and botanical viz., *Azadirachta indica*, *Eucalyptus* sp. and *Datura metel* were procured from the Department of plant Pathology.

Mass multiplication of bioagents :

For mass multiplication, Potato dextrose broth and Nutrient broth were prepared in 250 ml flasks, each containing 150 ml broth. The flask were inoculated with *Trichoderma viride*, *T. harzianum*, *Pseudomonas* sp. and *Verticillium lecanii* separately and incubated for 7 days at 28 ± 2°C.