TESTING OF EFFICACY OF SOME SELECTED SYSTEMIC, PROTECTIVE AND MIXTURE OF FUNGICIDES AGAINST FUSARIUM SOLANI CAUSING WILT IN JOJOBA PLANT (SIMMONDSIA CHINENSIS)

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The vascular wilt causing pathogenic fungi was isolated from jojoba plant and it was identified as FUSARIUM solani (Brayford,D). Efficacy of systemic (Benlate, Topsin), protective (Antracol, Captan, Morut, Trimiltox, Dithane M45) and mixtures (Topsin+Trimiltox, Antracol+Topsin, Topsin+Dithane M45, Antracol+Trimiltox, Antracol+Dithane M45, Trimiltox+Dithane M45 1ml of each fungicide in the mixture) were evaluated against this pathogen in in vitro and in vitro methods.

In vitro studies revealed, one systemic (Benlate), two protective (Antracol,Trimiltox) and one mixture of systemic and protective (Topsin+Trimiltox) fungicides significantly ($p<0.05$) suppressed the growth of mycelium compared with control. However no significant difference was observed in the efficacy within these fungicides. Induced growth of mycelium was observed in the mixture of Trimiltox+Dithane M45, which was significantly ($p<0.05$) higher than control. The combinations of fungicides either have stimulatory or suppressive effect on growth of this pathogen.

Same treatments were imposed on to the one year old jojoba plant in greenhouse and the percentage of death was calculated in each.

Higher protective values:
[Protective value(%)=1-(A/B)100 (A-represents the percentage of disease on treated plants, B-represents that on untreated plants)] were observed on the following treatments; Benlate, Antracol, Captan, Dithane M45 and Antracol+Topsin. Among fungicides tested Benlate and Antracol had shown higher efficacy and protective value in in vivo and in vitro studies.

References: 1. Yamado, Y., Oishi, T., Mukai, K. & Kato, T.(1986) Protective activities against Fusarium diseases of Phenyl phosphinicacids and related compounds. J.pesticide Sci. 11,p.627.