EFFICACY OF DIFFERENT FUNGICIDES ON PURPLE BLOTCH DISEASE (*Alternaria porri*) OF RED ONION (*Allium ascolonicum*)

BY

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ABSTRACT

The efficacy of two systemic (Benlate, Topsin) and five non systemic fungicides (Dithane M45, Antracol, Captan, Morut, Trimiltox) and the three compatible mixtures of selected fungicides (Topsin + Dithane M45 (T+D), Topsin + Antracol (T+A), Dithane M45 + Antracol (D+A)) were studied separately on the conidial germination, mycelial development of purple blotch disease (Alternaria porri) Eills: Neerd: in the laboratory and the findings were further tested in the field at Eastern university.

Topsin, Dithane M45, Antracol and Trimiltox incorporated at the concentration of above 120ppm to the media have significantly suppressed mycelial growth of A porri.

The fungicide mixtures have significantly reduced the mycelial growth of this fungus compared to their respective individual fungicidal effect. Moreover Topsin + Dithane mixture was the best among the mixtures tested in this study, and about 65% of mycelial growth reduction was observed in this treatment compared to control.

All the fungicides except Captan, Morut, Trimiltox and Antracol have significantly inhibited the germination of conidia at very low concentration (100ppm). Benlate completely suppressed the germination of conidia at a concentration of 1000ppm, where as the other fungicides permitted a certain number of conidia to germinate at this concentration.

The laboratory findings were further tested in the field against onion purple blotch. The mixture of T+D, Dithane M45 and Topsin were found to be the most effective fungicides to control onion purple blotch at recommended concentrations. Percentage reduction in disease varied from 61.77 to 97.06 percent in all treatments compared to control, and the maximum reduction was observed in T+D mixture.

Fungicides treatments increased the bulb yield 3 - 6 times by reducing disease incidences in the field. Mixture of T+D, Dithane M45, and Topsin sprays were given starting with the onset of disease had significantly reduced the disease incidences and thereby increase the bulb yield and bulb size in red onion.

Experiments in the laboratory and field indicated that the combination of T+D was the most effective mixture of fungicide to reduce purple blotch disease. Moreover this disease was very effectively suppressed and higher proportions of larger bulb yield in red onion under field condition was obtained by using this mixture at recommended concentration, applied three times with weekly interval commencing from 20 - 30 days after planting.

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