EFFICACY OF TRACE ELEMENTS ON GROWTH OF *SCLEROTIUNROLFSI* CAUSING TUBER ROT

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ABSTRACT

Potato (Solanum tuberosum) is mot nutritive food crop is cultivated all over the world. The crop gets affected by various pests and diseases among these insects, aphids, viruses, bacteria and fungi are major.

The tuber rot is affected by *Sclerotiumrolfsi* causes destruction and damage of healthy potato and economic loss to the farmers. For the management of disease different trace elements sources like ammonium molybdate, boric acid, copper acetate, copper sulphate, ferrous sulphate, zinc chloride and manganese chloride.

From the above trace element sources boric acid and zinc chloride show more inhiation on growth of *Sclerotiumrolfsi* ferrous sulphate copper acetate copper sulphate, show intermediate inhibition nod manse chloride show highest inhabitation and found effective for the control of tuber rot caused by *Sclerotiumrolfsi.*

INTRODUCTION

Potato (Solanum tuberosum) is important food crop. It contains high in calories, rich in carbohydrates, quality protein and good quality of dietary fibers. In small quantity used in preparation of snacks and breakfasts. Processed potato products such as chips and French fries and dehydrated potato for exports.

Agricultural exports have significance in world economy, Potato is one of the leading food crops and occupies fourth position after wheat, rice and maize crops. India is one of the major potato growing country have rank fourth in and rank sixth in production.(Nayar and Varma,1992). Quality of Protein is comparable to milk and eggs, are superior to those present in cereals, pulses and vegetables.in highly populated areas its major food supplements. (Sings,1999).

Potato is important part of cotton industry for sizing the clothes. Paper industries, Production of Alcohol, Adhesive. Etc. (Chaddha,1996) In views of above properties it has been a permanent solution of 21st centuries major problems like Hunger, Malnutrition's and unemployment (Khurana 2002).

Various pests and diseases including fungi affected to potato. The tuber rot is caused by Fungi Sclerotium rolfsi, causes faulty handling during transportation and poor storage conditions. (Body,1972; Smith at el, 1987; Soman,2004).

So, this economically important crop gets affected by various pests and diseases among these fungal pathogens are major ones. The tuber rot is caused by fungi *Sclerotiumrolfsi.* Causes faulty handling during transportation and poor storage condition (Body ,1972; Smith et al,1987) The attempt has been taken to carry out the control of tuber rot by application of different trace element sources.

MATERAIL AND METHODS

The efficacy of trace elements was tested using potato slice method (Wakle and Kareppa,2000). Potato slices of 75mm diameter thickness were prepared. The slice was dipped in 100 to 800 micromilligrams per milli liters concentration of trace elements Solution. The slice was dipped in different concentration of trace element for five munite. (Wakle and Kareppa 2000)

A 5mm mycelia disc of Sclerotium rolfsi was incubated aseptically on each slice. The linear growth of sclerotium rolfsi were measured at 24hrs interval. The plate without inoculated tissue acts was control. The result was presented as percent control efficacy. (PCE)

The plate containing potato slice were incubated at room temperature in laboratory. During incubation period, the liner growth of Sclerotium rolfsi was measured in mm. at 24 houres interval for 8 days. The results were recorded and expressed in table.

RESULT

Different trace element sources like ammonium molybdate, boric acid, copper acetate, copper sulphate, ferrous sulphate, zinc chloride and manganese chloride at 0.25% concertation the linear growth of Sclerotium rolfsi was measured in mm. The trace element sources such as boric acid and zinc chloride shows more inhibition of growth of Sclerotium rolfsi from the above trace element sources boric acid and zinc chloride show more inhibition on growth of *Sclerotiumrolfsi* ferrous sulphate copper acetate copper sulphate, show intermediate inhibition and manganese chloride show highest inhibitions and found effective for the control of tuber rot caused by *Sclerotiumrolfsi.*

EFFICACY OF DIFFERENT TRACE ELEMETS ON GROWTH OF *Sclerotiumrolfsi*.

TRACE ELEMENTS	LINEAR GROWTH IN MM							
	Incubation period in days							
	1	2	3	4	5	6	7	8
Ammonium molybdite	8.66	14.33	18.00	24.33	24.66	33.33	39.66	42.00
Boric acid	6.33	10.66	13.33	18.66	21.00	26.33	30.00	33.33
Copper acetate	7.66	11.00	16.33	21.00	26.33	30.66	36.66	41.66
Copper sulphate	6.00	13.66	19.00	24.33	29.00	34.66	38.00	41.33
Ferrous sulphate	9.33	12.66	19.66	23.66	29.00	33.33	36.66	43.66
Manganese chloride	7.66	15.33	21.33	28.00	35.66	45.00	48.66	56.33
Zinc chloride	6.33	9.00	14.00	19.66	23.66	28.33	35.00	39.00
Control	15.33	23.66	33.33	45.66	53.33	60.33	68.66	75.00
S.E.=+-	0.24	0.36	0.57	0.73	0.91	1.14	1.30	1.73

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