

Effect of Sulphet Sources on Liner Growth *Sclerotium Rolfsi*

G.L. Wakle

Department of Botany – R.M.I.G College, Jalna

Abstract:

Potato (Solanum tuberosum) is most Nutritive Food Crop is Cultivated all Over the world the crop get affected by various pests and diseases, Among these insects, aphids, viruses bacteria and fungi are major.

The tuber rot is affected by fungi *Sclerotium rolfsi* causes distraction and damage of Healthy potato and get economic loss to the farmers – for the Control of the diseases different Sulphate sources ie Ammonium sulphate, Copper sulfate, Ferrous sulfate, Magnesium sulphate, Magnese sulphate, Potassium sulphate, Zinc sulphate tested against *Sclerotium rolfsi*. Among these Magnesium sulphate and Ammonium sulphate inhibits the growth where as Ammonium sulphate were most inhibited the growth of *Sclerotium rolfsi*.

Keywords: Sulphate Sources, *Sclerotium rolfsi*, Liner growth.

Introduction –

Potato is important food crop. It contains high calories, rich in carbohydrates, quality protein, dietary fibers So its balance nutritive food. In Small quantities used in snacks and breakfast Preparations processed potato products such as chips and French fries and dehydrated potato for internal and Exports.

Agriculture exports as potato have significance in world economy and improve Indians National 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 countries have rank fourth in area and sixth in production (Nayar and Varma, 1992) Quality of potato protein is comparable to milk and eggs these fox superior to those present in cereals, Pulses and Vegetables. In highly populated areas of India potato is major food supplements (Singh, 1999, Praharajetal 2006)

Potato is important part of cotton industries for sizing the clothes. Paper Industries, Production of Alcohol, Adhesive, etc. (Chaddha, 1996) In view of above properties it has been a permanent solution of 21st centuries major problems like Hunger, Malnutrition's and unemployment (Khurana, 2006)

Various pests and diseases including Fungi affected to Potato. The tuber rot is caused by Fungi *scleratium rolfsi*, causes foulty handling during transportation and poor storage conditions. (Body,

1972 ;Smith at el , 1987 ; Khurana and Chandra, 1980 ; Soman, 2004)

The attempt has been taken to carried out the control of Tuber rot by application of different sulphate sources.

Materials And Methods -

The effect of different sulphate sources was tested using potato slice method (Solunke, 1989 ; Wakle and Kareppa, 2000) Potato slics of 75 mm diameter ware prepared. The slice were dipped in 0.25% Concentration of different sulphate sources.

A 5 mm mycelia disc of *scloretium rolfsi* was inoculated aseptically on slice The linar growth of *Scierrrtium rolfsi* were measured at 24 hours intervals. The plate non inoculated tissue acts as control. The result was presented as percent control efficacy. (PCE).

The different sulphate sources was used as Ammonium sulfate copper sulfate, Ferrous sulfate, Magnesium sulfate, Magnis sulfate, Potassium sulfate and Zinc sulfate, at 0.25%. The linear growth at different incubation period was measured in m.m

Result

The Magnesium sulfate and Ammonium sulfate inhibitis the growth of *Sclerotium rolfsi*, where as Zinc sulfate were found most inhibitory wa on growth. The other sulfate sources like copper sulfate, Magnesium sulfate Potassium sulfate, and ferrous sulfate inhibition on growth of *Sclerotium rolfcigrowth* as compared to control, as

shown in table. (Singh 1973, Desai 1994 ; Solunke 1996 and Goswami Islam 1999) similar result.

Table : Effect of sulphate Sources on Growth of *Sclerotium rolfsii*.

Sulphate Source 25%	Liner Growth (mm) Incubation Period in days							
	1	2	3	4	5	6	7	8
Ammonium sulphate	12.3	16.0	27.6	45.0	56.3	62.6	65.7	71.0
Copper sulfate	10.6	26.3	33.0	47.6	56.8	71.5	73.6	75.0
Ferrous sulfate	6.6	14.3	24.3	34.0	43.6	50.3	53.6	58.3
Magnesium sulfate	17.3	25.3	37.6	43.5	50.6	65.5	70.4	75.0
Magnesium sulphate	10.6	23.0	30.6	41.0	49.3	56.0	61.6	66.3
Potassium sulfate	11.3	27.6	34.5	40.6	45.3	55.9	66.0	75.0
Zinc sulfate	7.6	20.0	27.9	35.0	43.6	51.6	58.3	63.3
Control	15.3	23.6	33.3	45.6	53.3	60.3	68.6	75.0
S.E = +	0.5	0.6	0.3	0.4	0.5	0.5	0.7	0.7
CD – 0.01	2.5	3.0	1.9	2.2	2.9	3.4	3.6	3.8

5. Goswami, D and M.Islam (1999) Effect of Corban Sources and Different concentration on Growth and Sporulation of *Fusarium J.Mycol Pl.Pathol.* 29 (2) : 267.
6. Khurana paul S.M. (2002) IPM for sustainable potato Production. IPS Western Chapter. Nagpur.
7. Nayar, N.M. and S.C. Varma (1992) Potato research production utilization in India. *J Indian Potato Assoc.*19(3-4):104-116
8. Singh A (1973) Effect of vitamins, Corban and Nitrogen Sources on Growth of *Helminthosporium Solani* – *Indian Psychopath* 26(3) 510.
9. Shekhawat G.S (1999) Important Pests, Diseases and their management – Global Conf on potato 1999.
10. Singh R.B (1999) – Role of Potato in Sustaining Cropping system – Proceeding of Global Conf on Potato CPRI New Delhi – *J.I.Potato Assoc.*103.
11. Solunke B.S (1996) – Studies on Fungicide resistance in *Sclerotium rot* of potato. Ph.D. Thesis – Marathwada University Aurangabad.
12. Wakle G.L and B.M Kareppa (2000) Study on dry rot of Potato, Recent Aspects of Pl Pothol Proc Conf 70-73.

References:

1. Boy AWE – (1972) Potato storage diseases.
2. Review of plant pathology 51-297
3. Chadha K.L. 1994 Potato a feature food crop of India *J Indian Potato Assoc.*21(1-2) 7-20.
4. Desai Sushailendra , Y.L Nene and Reddy (1994) Race of *Fusarium Oxysporum* Causing wilt in Chick pea : Growth Variability – *Indian Journal of MYCL and Pl.Path.* 24(2) 120.