

## EVALUATION OF CERTAIN FUNGICIDES AND BIOPESTICIDES AGAINST STEM ROT OF MUSTARD CAUSED BY *SCLEROTINIA SCLEROTIUM*

P.C. Singh<sup>1\*</sup>, Ramesh Singh<sup>2</sup>, P.P.Tripathi<sup>3</sup>, A.K. Singh<sup>4</sup> A.K. Yadav<sup>5</sup> and Brijesh Kumar<sup>6</sup>

<sup>1, 2 & 5</sup>Department of Plant Pathology, T. D. P. G. College Jaunpur-222002

<sup>3</sup>Krishi Vigyan Kendra, East Kameng, Arunachal Pradesh -790102

<sup>4</sup>Krishi Vigyan Kendra, Tirap, Arunachal Pradesh-792129

<sup>6</sup>Department of Plant Pathology, S. D. J. P. G. College Chandeshwar, Azamgarh-276128

Email: [pemchandsingh@gmail.com](mailto:pemchandsingh@gmail.com)

Received-03.06.2019, Revised-25.06.2019

**Abstract:** Stem rot of mustard is the most important and serious disease in all over India. It is mainly caused by *Sclerotinia sclerotium*. The pathogen was tested with six fungicides and two bio-pesticides. The fungicides mainly Propineb, Mencozeb, Sulphur, Thiomethile, Copper oxychloride and Carbendazim and bio-pesticides were Garlic oil and Ginger Oil. All the tested fungicides and bio-pesticides were reducing the growth of pathogen *In-Vitro* condition except control. Among the tested fungicides Propineb and Mencozeb were found most effective fungicides inhibit the growth of the pathogen is 100%. Sulphur and Thiomethile which were showed 71.47% and 70.45% inhibition over control respectively. Whereas Copper oxychloride and Carbendazim was least effective showed 41.17% and 47.05% inhibition over control. *In-Vitro* condition Propineb and Mencozeb was most effective fungicides which were showed minimum disease incidence and maximum yield in both the year of 2017-18 and 2018-19. The minimum disease incidence 9.46 and corresponding yield 23.09 was recorded in 2017-18. Next best order of superiority fungicide were Sulphur, Thiomethile, Copper oxychloride and Carbendazim, which were showed average disease incidence 9.92 to 15.03 and yield from 20.52 to 13.50 q/ ha grain yield. Among the bio-pesticides Garlic oil and Ginger Oil were least effective. Chemical which was showed maximum disease incidence 56.84 and minimum corresponding yield 11.50 q/ha in the year of 2018-2019.

**Keywords:** Fungicides, Carbendazim, Bio-pesticides, Stem rot, Mustard

### REFERENCES

- Schmitz, H.** (1930). Suggested toximetric method for wood preservation. *Induces. Fengin Chemistry (Fed)* 4: 361-363.
- Bliss, C.I.** (1934). The methods of Probits science. 79-83.
- Boland, G.J.** (1976). Stability analysis for evaluation the influence of environment on chemical and biological control of white mould of *Sclerotinia sclerotium* of bean. *Biological Control* 9. 7-11
- Kumar, P., Rathi, A.S., Kumar, M. and Singh, D.** (2014). Cultural, morphological, pathogenic and genetic variability among isolate of *Sclerotinia sclerotium* infecting Indian mustard. 2<sup>nd</sup> National Brassicace Conference on Brassicu for addressing edible oil and nutritional security, PP 73 – 74.
- Saharan, G.S., Mehta, N. and Sangwan, M. S.** (2005). Disease of oil seed crop. Indus publication Co. New Delhi PP- 643.
- Shekhawat, K., Rathor, S.S., Premi, O. P., Kundpal, B. K. and Chauhan, J.S.** (2012). Advance in agronomic management of Indian Mustard (*Brassica Juncea* L) an overview. *Inter, J. Agron.P.P.*-14
- Singh, Ramesh, Singh, S. B. and Ram, Palat** (2003). Management of *Sclerotinia* stem rot of Ajowin through fungicides and bio-pesticides. *Ann. Pl. Protect. Sci.* 11(1):121.
- Singh, Ramesh, Singh, P.C., Singh, Narendra and Alka** (2008). Management of *Sclerotinia* blight of Brinjal through fungicides and bio-pesticides. *International J. of Pl. Protect* 1(2):97-98.

\*Corresponding Author