## IN VITRO STUDIES ON EFFICACY OF VARIOUS BOTANICAL AGAINST COLLAR ROT OF TOMATO CAUSED BY SCLEROTIUM ROLFSII SACC. IN MANIPUR

## Dinesh. K, Bireswar Sinha, A. Thoyajakshi Bai\*, Ph. Sobita Devi

Department of Plant Pathology, College of agriculture,

Central Agricultural University, Imphal-795004

\*Department of Plant Pathology, college of horticulture,

Dr. YSR Horticultural University, Anantarajupeta-516105

Email: dineshkarnati11@gmail.com

Received-10.10.2018, Revised-28.10.2018

**Abstract:** Sclerotium rolfsii is a soil inhabitant, non-target, polyphagous, and a ubiquitous facultative parasite. Its geographic distribution, profuse mycelial growth, persistent sclerotia and large number of hosts attacked by it indicate that, economic losses are substantial every year due to infection. The present study was carried out to understand about the *in vitro* efficacy of various locally available plant extracts against collar rot pathogen. Three commonly available plant extracts were selected and three concentrations of each was evaluated. Percent inhibition was observed and recorded, it was ranged from 16 to 100% among various extracts under study. Cent percent inhibition had shown by *ocimum* at 5 and 10 % and onion at 10% as the best, whereas *Parthenium* at 2.5% had shown the least inhibition of 16.6%.

Keywords: Sclerotium rolfsii, Tomato, Trichoderma

## **REFERENCES**

**Aycock, R.** (1966). Stem rot and other diseases caused by *Sclerotium rolfsii*. *North Carolina Agricultural Experimental Station Technical Bulletin*, 174: 202.

**Babu, J., Muzafar, A.D. and Vinod, K.** (2008). Bioefficacy Of plant extracts to control Fusarium solani F.sp. melongenae incitant of brinjal wilt. Global Journal of Biotechnology and Biochemistry 3 (2), 56-59.

**Darvin, G.** (2013). Effect of plant extracts on radial growth of *Sclerotium rolfsii* sacc causing collar rot of groundnut. *International Journal of Applied Biology and Pharmaceutical Technology*, 4(4).

**Derbalah, A.S., El—Mahrouk, M.S. and El-Sayed, A.B.** (2011). Efficacy and safety of some plant extracts against tomato early blight disease caused by Alternaria solani plant pathology journal 10, 115-121.

**Dinesh, K., Sinha, B., Devi, P.S., Bui, R., Salam, R. and Savani, A.** (2018). In vitro Studies on Efficacy of Agro-Chemicals against Collar Rot of Tomato Caused by Sclerotium rolfsii Saccin

Manipur, India. *Int. J. Curr. Microbiol. App. Sci*, 7(5), pp.2503-2508.

**Garren, K.H.** (1961). Control of *Sclerotium rolfsii* through cultural practices. *Phytopathology*, 51: 120-124

Giovanucci, I.L., Ashcerio, A., Rimm, E.B., Stampfer, M.M., Colditz, G.A. and Willett, W.C. (1995). Intake of carotenoids and retinol in relation to risk of prostate Cancer. *Journal of National Institute* 87, 767.

**Islam, M.T. and Faruq, A.N.** (2012). Effect of some medicinal plant extracts on damping-off disease of winter vegetable. *World Applied Sciences Journal*, 17(11): 1498-1503.

**Jones, J.B.** (1999). 'Tomato Plant Culture, CRC Press LIC. Boca Raton, FL pp I -3

**Nene, Y.L. and Thapliyal, P.N.** (1973). Fungicide in Plant Diseases Control (Edi) Oxford and IBH publishing Co. Pvt. Ltd., New Delhi, pp. 325.

**Okereke, V.C. and Wokocha, R.C.** (2007). *In vitro* growth of four isolates of *Sclerotium rolfsii* in the humid tropics. *African Journal of Biotechnology* 6(16), 1879-1881.

\*Corresponding Author

**Prasad, S.L., Sujatha, M.K., Naresh, N. and Rao, S.C.** (2012). Variability in *Sclerotium rolfsii* associated with collar rot of sunflower. *Indian Phytopathology*, 65(2): 161-165.

**Punja, Z.K.** (1986). Progression of root rots on processing carrots due to Sclemtium rolfsii and the relationship of incidence to inoculum density *Canadian Journal of Plant Pathology* 8, 297-304.

**Rolfs, P.H.** (1892). Tomato blight: some hints. *Bulletin of Florida Agricltural Experimental Station*, p.18.

**Saccardo, P.A.** (1911). Notae Mycologicae. *Annales Mycologici*, 9: 249-257.

**Shaw, F.J.P. and Ajrekar, S.L.** (1915). The genus *Rhizoctonia* in India Memoirs, Department of Agricultural in Indian. *Botanical Series*, 7: 177-194.

**Somda, I., Leth, V. and Sereme, P.** (2007). Evaluation of lemongrass, eucalyptus and Neem aqueous extracts for controlling seed-borne pathogen of sorghum grown in Burkina Faso. *World Journal of Agricultural Sciences* 3 (2), 218-223.

**Suleiman, M.N., Emua, S.A. and Taiga, A.** (2008). Effect of aqueous leaf extracts on a Spot fungus (Fusarium spp.) isolated from cowpea. *American-Eurasian Journal of sustainable agriculture* 2(3), 261-263.

**Vincent, J.M.** (1927). Distortion of fungal hyphae in presence of certain inhibitors, *Nature*, 159:850.