## THE IMPACT OF CLIMATE VARIABILITY ON DEVELOPMENT OF FOLIAR DISEASES OF SESAMUM INDICUM L.

## B. Meena\*

Regional Research Station, Tamil Nadu Agricultural University, Vridhachalam – 606 001, Tamil Nadu

Received-13.06.2020, Revised-29.06.2020

**Abstract:** Leaf blight caused by *Alternaria sesami* and powdery mildew caused by *Erysiphe cichoracearum* are the major yield limiting factors in sesame. Environmental factors play an important role in development of foliar diseases of sesame. Three different dates of sowing was taken using the susceptible variety VRI-1 to study the influence of weather factors on the occurrence of foliar diseases of sesame. The weather parameters were recorded and correlated with the disease intensity. The results revealed that foliar disease severity was more in unprotected plots as compared to protected plots. The disease intensity was found to be increased with an increase in age of the plants. Correlation studies revealed that *Alternaria* leaf blight intensity was significantly negatively correlated with maximum and minimum temperature. There was a positive relationship observed between powdery mildew incidence and Relative humidity.

Keywords: Sesame, Foliar diseases, Weather factors, Correlation

## **REFERENCES**

Anonymous (1998). All India Co-ordinated Research Project on Sesame and Niger. Tech. Prog. and Guidelines for Implementation. Project Co-ordinating unit (sesame and niger) Jawaharlal Nehru Agricultural University, Jabalpur, M.P. (INDIA).

Cagirgan, M.I., Mbaye, N., Silme, R.S., Ouedraogo, N. and Topuz, H. (2013). The impact of climate variability on occurrence of sesame phyllody and symptomatology of the disease in a Mediterranean environment. Turkish Journal of Field crops. 18: 101-108.

**Cagirgan, M.I., Ozerden, S. and Ozbas, M.O.** (2009). Agronomic trait assessment and selection for number of capsules in determinate x indeterminate crosses of sesame. Turk J Agric For. 33: 231-241.

Chattopadhyay, C., Agarwal, R., Kumar, A., Bhar, L.M., Meena, P.D., Meena, R.L., Khan, S.A., Chattopadhyay, A.K., Awasthi, R.P., Singh, S.N., Chakravarthy, N.V.K., Kumar, A., Singh, R.B. and Bhunia, C.K. (2005). Epidemiology and forecasting of Alternaria blight of oilseed Brassica in India - a case study. Journal of Plant Diseases and Protection. 112: 351-365.

**Choudhary, C.S., Anjana Arun and Prasad, S.M.** (2015). Influence of dates on sowing and weather parameters incidence and development of *Alternaria* leaf spot of sesame. International Journal of Plant Protection. 8: 73-76.

**Deepthi, P., Shukla, C.S., Verma, K.P. and Siva Sankar Reddy, E.P.** (2014). Yield loss assessment and influence of temperature and relative humidity on charcoal rot development in sessame (*Sesamum indicum L.*). The Bioscan. 9: 193-195.

Enikuomehin, O.A., Aduwo, A.M., Olowe, V.I.O. and Popoola, A. (2010). Incidence and severity of foliar diseases of sesame (*Sesamum indicum* L.) intercropped with maize (*Zea mays* L.). Archives of Phytopathology and Plant Protection. 43: 972-986.

**Gud, M.A., Murumkar, D.R., Shinde, S.K. and Kadam, J.R.** (2014). Correlation of weather parameters with development of leaf spot of safflower caused by *Alternaria carthami*. 7<sup>th</sup> International Safflower Conference, Australia.

**Gupta, K.N.** (2016). Epidemiology and prediction model for foliar diseases of sesame. BIOINFOLET. 13: 439-440.

**Lagoda, J.P.L.** (2011). To our readers. Plant Breed Genet Newsl. 27: 1-2.

Maiti, S., Hegde, M.R. and Chattopadhyay, S.B. (1988). Handbook of Annual Oilseed Crops. Oxford and IBH Publ. Co. Pvt. Ltd., New Delhi.

**Patel, K. K. and Patel, A. J.** (1990). Meteorological correlation of charcoal rot of *Sesamum*. Indian J Mycol and Pl Pathol. 20: 64-65.

Pawar and Dhiraj Vipin (2017). Studies on sesamum leaf blight caused by *Alternaria sesami* (Kawamura) Mohanty and Behera. Ph.D. Thesis, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani.330p.

**Roos, J., Hopkins, R., Kvarnheden, A. and Dixelius, C.** (2011). The impact of global warming on plant diseases and insect vectors in Sweden. Eur J Plant Pathol. 129: 9-19.

Sabalpara, A. H., Tandel, D. H., Solanky, K. U., Mehta, B. P. and Naik, B. M. (2007). Influence of weather parameter on the incidence of leaf blight (*Macrophomina phaseolina*) of green gram. p. 366.

**Saharan, M.S. and Saharan, G.S.** (2004). Influence of weather factors on the incidence of *Alternaria* blight of cluster bean (*Cyamopsis tetragonoloba* (L.) Taub.) on varieties with different susceptibilities. Crop Protection. 23: 1223-1227.

**Sangeetha, C.G. and Siddaramaiah, A.L.** (2007). Epidemiological studies of white rust, downy mildew and *Alternaria* blight of Indian mustard (*Brassica juncea* (Linn.) Czern. and Coss.). African Journal of Agricultural Research. 2: 305-308.

\*Corresponding Author

**Silme, R.S. and Cagirgan, M.I.** (2010). Screening for resistance to fusarium wilt in induced mutants and world collection of sesame under intensive management. Turk J Field Crop. 15: 89-93.

**Tripathi, U.K., Singh, S.B. and Singh, P.N.** (1998). Management of *Alternaria* leaf spot of sesame by adjustment of sowing dates. Annals Plant Prot Sci. 6: 94-95.