## EFFECT OF SOME MEDICINAL PLANT EXTRACTS ON THE INFECTIVITY OF SPOTTED WILT VIRUS

## Shyam Govind Singh and Ashish Tejasvi

Department Of Botany, Agra College, Agra.-282001, India E-mail: tejasvi\_ashish@rediffmail.com

**Abstract:** The effect of four medicinal plants viz. *Allium sativum* L., *Allium cepa* L., *Datura stramonium* L. and *Ocimum tenuiflorum* L. extracts on the infectivity of the spotted wilt virus was observed in the farmer's field at village Barara, Distt. Agra. The antiviral activity was tested on indicator plant, *Chenopodium amaranticolor* (Chinopodiaceae). Plant extracts showed differential activity on indicator plant. The percentage inhibition of spotted wilt virus increased from 10.20% to 96.63% at different concentrations. 1000ppm concentration of garlic, onion, datura and ocimum aqueous extracts inhibited 91.60, 79.09, 92.96 and 96.63 percent inhibition of spotted wilt virus respectively. Hence, these medicinal plants may be used for controlling the infection of spotted wilt virus.

Keywords: Aqueous extract, Indicator Plant, Medicinal plants, Spotted wilt virus, Tomato

## REFERENCES

- Chitra, T.R.; Prakash, H.S.; Albretchsen, S.E.; Shetty, H.S. and Mathur, S.B. (2002) Indexing of leaf and seed samples of tomato and bell pepper for tobamoviruses. *Indian Phytopathol.*, **55**: 84-86.
- **Crowley, N.C.** (1955). The effect of seed extracts on the infectivity of plant viruses and its bearing on seed transmission. *Autr. J. Biol. Sci.*, **8**:56-67.
- **He, W.J. and Liu, W.Y.** (2004). Both N and C terminal regions are essential for *Cinnamonum* spp. A chain to deadenylate ribosomal RNA and supercoiled double stranded DNA. *Biochem. J.*, **377**: 17-73.
- **Kuntz, J.E. and Walker, J.C.** (1947). Virus inhibition by extract of spinach. *Phytopath*. **37**: 561.
- **Mandal, P. and Singh, B.** (2001). Inhibition of virus transmission by guava leaf extract. *Indian Phytopathol.*, **54**: 381-382.
- Manickam, K. and Rajappan, K. (1999). Field efficacy of plant extracts and chemicals against greengram leaf curl disease. *Ind. J. Virol.*, **15**: 35-37.
- **Mckeen, C.D.,** (1956). The inhibitory activity of extracts of *Capsicum frutescens* on plant

- virus infection. Canadian. J.Bot., **34**: 891-903.
- Madhusudham, K.N.; Nalini, M.S.; Prakash, H.S. and Shetty, H.S. (2005). Effect of inducers against tobamovirus infection in tomato and bell pepper. *Int.J.Bot.*, 1: 59-61.
- Martyn, E.V. (1968). Plant virus names. *Phytopath*, 9: 1-4.
- Nakagaki, Y. and Matsui, C. (1971). Effect of bean leaf detachment on susceptibility to tobacco mosaic virus infection. *Phytopath.*, **61**: 354-356.
- Narayanaswamy, P. and Ramaih, M. (1983). Effect of leaf extracts of millet crops on lesion production by groundnut ring mosaic strain of tomato spotted wilt virus. Proceedings of the national seminar on management of diseases of oilseed crops (CCI, Egypt, 3-8, September, pp. 15-17).
- Rosenkraz, E. and Hagedorn, D.J. (1964). Techniques for using *Chenopodium amaranticolor* as a local lesion test plant for Wisconsin pea streak virus. *Phytopath.*, **54**: 807.
- Valazhahan, R.; Narayanasmy.P.and Maniappan, V. (1994). Characterization of antiviral principles (AVP) inhibiting tomato spotted

- wilt virus (TSWV) infection. *Madras Agriucultural Journal*, **81**: 518-519.
- Verma, H.N. (1982). Inhibitors of plant viruses from higher plants. In Current Trends In Plant Virology (Eds. B.P. Singh and S.P. Raychaudhari) 151-159. Today and Tomorrows Printers and Publishers, New Delhi, India.
- Verma, H.N.; Chowdhury, B. and Rastogi, P. (1984). Antiviral activity in leaf extracts of different *Clerodendrum* L. species. *Zeit Pflanzenkraften Pflanzenschen.*, 91: 34-41.
- Verma, H.N.; Srivastava, S.; Varsha and Kumar, D. (1996). Induction of systemic resistance in plants against viruses by a basic protein from *Clerodendrum aculeatum* leaves. *Phytopath.*, **86**: 485-492.