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Infectivity and host pathogen interaction study of Chickpea chlorotic dwarf virus L strain isolated from cotton

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Cotton leaf curl disease in the Indian subcontinent is associated with several distinct begomoviruses that interact with a disease-specific DNA satellite named Cotton leaf curl Multan betasatellite (CLCuMB). However, we have recently reported the distinct strain (L) of leafhopper transmitted chickpea chlorotic dwarf virus, CpCDV-L (genus Mastrevirus, family Geminiviridae) from cotton plants affected by leaf curl disease in a small number of plants. The question as to whether CpCDV-L contributes to the development of disease symptoms such as leaf curling and enations remain to be answered. Standard methods were used to produce partial direct and tandem repeat constructs of CpCDV-L for *Agrobacterium*-mediated inoculation in the binary vector pBIN19. The role of CpCDV-L in the induction of typical disease symptoms was studied by *Agrobacterium*-mediated inoculation of the partial

repeat construct to *Nicotiana benthamiana*. CpCDV-L induced downward leaf curling leading to cup shape in *N. benthamiana*. The complete tandem dimeric construct of the virus was also found to be highly infectious to chickpea, and induced severe stunting of the plant, leaf smalling, drying, and the eventual death of the plant. This strain could be future possible threat to cotton crop in Pakistan.

Speaker Biography

Muhammad Saleem Haider has completed his PhD at the age of 32 years from University of London, Imperial College of Science, Technology and Medicine, London (United Kingdom) and Post Doctorate from the University of Toronto, Canada. He is the director of the Institute of Agricultural Sciences, University of the Punjab, Lahore-Pakistan. He has published more than 100 papers in reputed journals and has been serving as an editorial board member of well reputed journals. Currently, also holding the office of the President, Pakistan Phytopathological Society.

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