

Geminivirus coat protein gene replacement changes tripartite interaction between virus vector and host**Sana Khalid**

University of the Punjab, Pakistan

Agriculture is of immense importance all over the world whereas, viruses always have sound effect on the growth of plants, besides interacts with host defense mechanism, leads to the alteration of crop physiology. The geminivirus coat protein (Cp) is multifunctional and is involved in systemic infection, virion formation and insect transmission but it is not required for viral DNA replication. Furthermore, the role of Cp in systemic infection depends on the specific geminivirus-host combination. However, in some host plant species, Cp of some whitefly-transmitted bipartite begomoviruses is not required for systemic infection (i.e., cell-to-cell and long-distance movement) or symptom development. In contrast, Cp is required for systemic infection of monopartite begomoviruses, curtoviruses and mastreviruses. It is worth investigating, that alteration in Cp gene constitutes a novel epidemiological adaptation for a geminivirus. Co-infection is also a prerequisite for recombination occurring between viruses and it is suggested from the available evidence that due to intergenic recombinations, present taxonomic structure of the family Geminiviridae has established. Recent evidence indicates that dicot-infecting mastreviruses are particularly prone to inter-specific recombination (trans-encapsidation). Irrespective of the type of geminivirus examined, the Cp is essential for insect transmission and it is the determinant of vector specificity. Hence, this article will help scientific community to better understand the co-infection with different Geminiviruses especially due to vector in specificity thus lead to the occurrence of revolutionary recombination events occurring with the potential to yield new viruses that could adversely affect agriculture.

Biography

Sana Khalid is currently a PhD student at Institute of Agricultural Sciences, University of the Punjab, Lahore, Pakistan. She has published papers in national and international. She is a young, vibrant and dedicated scholar.

sanakhalid4@yahoo.com**Notes:**