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Viral satellite RNA as a biological control agent against viral diseases

A naturally occurring satellite RNA possessed by the CMV strain was first characterized and then used as a biological control agent to protect tomato plants against the disease induced by another severe strain. Viability and infectivity of the virus in extracted nucleic acid inoculums was further proved using mechanical transmission method. Tomato plants were pre-inoculated or vaccinated with the strain containing viral satellite RNA and then challenge inoculated with the severe strain at different time intervals. All plants challenged three weeks after vaccination showed nearly complete protection from subsequent infection by the severe strain. This biological control technology of plant viruses was effective and could be successfully used as biological control agent at the molecular level.

Biography

Magdy Montasser has his expertise in molecular virology and plant pathology. He has over 30 years of experience in research and evaluation and he had been teaching and supervising graduate students towards MSc. He has obtained his PhD degree from Rutgers University, New Jersey, USA in 1988 and completed his Post-doctorate at the University of Maryland. He is currently working as an Associate Professor of Biological Science at the University of Kuwait.

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