conferenceseries.com

8th World Congress on

Virology

November 28-30, 2016 San Antonio, USA

Molecular detection of *Bean yellow* mosaic virus in *Lupinus albus* plants and its associated alterations in biochemical and physiological parameters

Zenab Aly Torky Ain Shams University, Egypt

Bean yellow mosaic virus (BYMV) is one of the most devastating diseases of cultivated Leguminosae plants worldwide causing mosaic, mottling, malformation and distortion in infected cultivar plants. The virus isolate was identified by detection of the coat protein gene amplified by reverse transcription polymerase chain reaction and also via diagnostic host plant *Chenopodium amaranticolor*, which expresses the typical necrotic lesion and leaf deformation observed on inoculated but not in mock-inoculated plants. The present study was conducted to investigate the possibility of infection of *Lupinus albus* with *BYMV*. The study showed that infection can be induced under green house conditions and infected plants showed a considerable level of mosaic symptoms. As disease development in infected plants is always associated with physiological and chemical changes, some metabolic alterations parameters have been evaluated like photosynthetic pigment contents, total carbohydrate content, total soluble protein, total free amino acid, proline induction and total phenolics' content in healthy and infected lupine plants. The results indicated a great variation in all the biochemical categories in *Lupinus albus* infected with *BYMV* as compared to healthy plants. Chlorophyll a of virus inoculated *Lupinus albus* decreased by 27%, whereas Chlorophyll b content decreased by 19.5% and carbohydrate content decreased to 36% when compared to healthy control plant corresponding values. The effect of virus infection on the induction of plant growth regulators like abscisic acid was determined, as well as the relationship between abscisic acid induction, accumulation of the virus and symptoms development was discussed.

Biography

Zenab Aly Torky is an Assistant Professor of Microbiology in the Department of Microbiology, Faculty of Science, Ain Shams University in Egypt. She has also worked as a Visiting Scientist in the Department of Biological Sciences, University of Louisville, USA. She has reviewed and edited many papers for the Food Safety Journal.

zenabaly72@yahoo.com

Notes: