



Horticultural
Development
Company

New Project

PC 289

Sweet pepper: Securing knowledge on TSWV and a potyvirus in an infected crop to increase understanding of potential threat to UK growers

Project Number: PC 289

Title: Sweet pepper: Securing knowledge on TSWV and a potyvirus in an infected crop to increase understanding of potential threat to UK growers

Start and end dates: 1 April 2008 to 31 December 2008 (9 months)

Project Leader: Dr Tim O'Neill, ADAS Boxworth

Project Co-ordinator: Mr Franco Pullara, Abbey View Produce Ltd, Galley Hill Rd Waltham Abbey Essex EN9 2AG UK

Location: Abbey View Nursery Galley Hill Rd Waltham Abbey Essex EN9 2AG UK

Background and project objectives

In January 2008, individual plants in two pepper crops in the UK developed stunted growth that progressed to necrotic leaf spots, leaf mosaic, wilted heads and unmarketable fruit due to irregular ripening. A yellow variety (cv. Fiesta) was affected on one nursery, a red/green variety (undisclosed) on the other. On one site, plants developed irreversible wilting in the heads and flower buds turned brown and died. Plants are being removed from the crop as soon as symptoms appear; over 150 had been removed by 31 March 2008.

Tests at CSL on samples from one crop confirmed the presence of TSWV (this virus is usually vectored by WFT in the UK) and a potyvirus (usually vectored by aphids), the latter as yet unidentified. Part of the problem in the affected UK and Dutch crops appears to be that insecticides used to control leaf hopper disrupted biological control of WFT in the previous crop. A heavy infestation of WFT in the old crop then carried over to the new crop soon after planting. TSWV has rarely been seen affecting pepper crops in the UK until this year (there were one or two outbreaks when WFT first occurred in the UK).

The source of the TSWV in the current outbreaks is unclear; both immigrant WFT and the young plants have been suggested (the plants for both of the affected crops in the UK originated from Holland). Immigrant WFT might be carrying TSWV from other infected crops. Or TSWV-infected young pepper plant could have provided a source of virus for resident WFT larvae to pick up and transmit to healthy pepper plants during feeding as adult thrips.

Until an effective method of leaf hopper control compatible with biological control of WFT is developed, there is a significant risk of an increasing number of TSWV problems in UK pepper crops.

Further information

Email the HDC office (hdc@hdc.org.uk), quoting your HDC number, alternatively contact the HDC at the address below.

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