New Project

CP 91

HDC Studentship: Biology of cabbage whitefly *(Aleyrodes proletella)*

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Project Number:	CP 91
Project Title:	Biology of cabbage whitefly *(Aleyrodes proletella)* - **HDC Studentship**
Project Leader:	Dr Rosemary Collier
Student:	Spencer Collins
Contractor:	Warwick Crop Centre, University of Warwick
Industry Representative:	Andy Blair, Emmetts UK
Start Date:	1 October 2012
End Date:	30 September 2015
Project Cost:	£67,650

Project Summary:

Cabbage whitefly is becoming increasingly difficult to control on kale and Brussels sprout in particular. It is not clear why this is happening. The overall aim of this project is to improve understanding of the biology and ecology of cabbage whitefly to help growers minimise the size of infestations and to control unacceptable whitefly infestations effectively. The project will consist of continuous field monitoring of whitefly populations and experiments to 1) identify periods of rapid population increase and decline and produce a simple model of whitefly development, 2) determine the main causes of population decline and increase, 3) identify the life-cycle stages and periods in the year when whitefly are most susceptible to applied control methods and 4) determine the factors influencing survival on, and preference for, host plants. The results will be communicated to the industry at grower meetings and through written summaries, such as articles in HDC News.

Aims & Objectives:

(i) Project aim(s):

The overall aim of the project is to improve understanding of the biology and ecology of cabbage whitefly to help growers to minimise the size of whitefly infestations and to control unacceptable infestations effectively.

(ii) Project objective(s):

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1.Monitor populations of cabbage whitefly year round (open field and caged) to identify the periods of rapid population increase and population decline.

2.Link this information to published information on whitefly development to produce a simple model of whitefly development during the year.

3.Determine the main causes of population decline and increase (abiotic and biotic factors).

4.Identify the life-cycle stages and periods in the year when whitefly are most susceptible to applied control methods (insecticidal, biological, physical).

5.Determine the factors influencing survival on, and preference for, host plants, considering both wild and cultivated hosts.

6.Communicate results to the industry.

Benefits to industry

Whitefly is becoming increasingly difficult to control on kale and Brussels sprout in particular, leading to crop losses in some cases. Control options are limited at present.

Whilst pesticidal control methods are being evaluated in an ongoing HDC project (FV 399), improved understanding of whitefly biology and ecology should inform strategies for reducing the risk of infestation and targeting control methods more effectively. These strategies are likely to be related to cultural approaches or to treatment timings and although unlikely to incur extra capital costs, might require extra management inputs.

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Further information

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

HDC
AHDB
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

Tel – 0247 669 2051

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