



Agriculture & Horticulture
DEVELOPMENT BOARD



New Project

CP 099

Diagnostics: Validation of the lateral flow detection devices for the light leaf spot and powdery mildew vegetable Brassica pathogens and testing of white blister detection test prototypes.

Project Number: CP 099

Project Title: Diagnostics: Validation of the lateral flow detection devices for the light leaf spot and powdery mildew vegetable Brassica pathogens and testing of white blister detection test prototypes

Project Leader: Alison Wakeman

Contractor: University of Worcester

Industry Representative: Andy Richardson
Allium and Brassica Centre

Start Date: 01 August 2012

End Date: 31 July 2014

Project Cost (total project cost): £122,500 (£152,500)

Project Summary:

This project is underpinning vital field validation and threshold work in lateral flow devices for Brassica disease detection. These devices have been developed in previous HDC funded projects. This project is part of a portfolio of work which is aimed at commercialising a range of diagnostic tools for use in the field.

Aims & Objectives:

(i) Project aim(s):

Overall Project Aim

The aim of the project is to produce the light leaf spot and powdery mildew device and validate within commercial crops leading to mass production of devices. An additional aim is to develop lateral flow prototypes for white blister and test in the laboratory and field to provide further information on their optimal usage.

(ii) Project objective(s):

Mass produce the light leaf spot lateral flow device to detect threshold levels of light leaf spot inoculum and test within areas endemic with light leaf spot.

Mass produce the powdery mildew lateral flow device to detect threshold levels of powdery mildew inoculum and test within areas endemic with powdery mildew.

Investigate the use of several lateral flow measurements for different pathogens from the same sampling tube under field conditions. To include measurements of ringspot light leaf spot and powdery mildew.

Develop prototype lateral flow devices (using existing antibodies) for detection of white blister inoculums in vegetable Brassica crops.

Develop sufficient batches of tests for each pathogen (which have appropriate shelf lives) for further commercial development of tests.

Benefits to industry

There is considerable scope for benefit from this work in terms of early detection and improved spray timing. Ultimately, financial benefit will be gained through improved quality and reduced pesticide residues.

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HDC
AHDB
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

Tel – 0247 669 2051

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