New Project

SF 132

Progressive die-back symptoms in blueberry: Identification and control.

Project Number:	SF 132
Project Title:	Progressive die-back symptoms in blueberry: Identification and control
Project Leader:	Graham Moore
Contractor:	Farm Advisory Services Team Ltd
Industry Representative:	George Leeds – The Withers Fruit Farm Peter Thomson – Thomas Thompson (Blairgowrie) Ltd
Start Date:	01 April 2012
End Date:	31 March 2014
Project Cost:	£39,906

Project Summary:

Die back and crown rot of blueberry leading to bush death have been noted in blueberry crops in various parts of the UK over several seasons. More recently the incidence of these problems on some farms has increased dramatically with significant losses recorded. The fungus *Phomopsis* has been isolated consistently from the affected bushes. The project will combine the knowledge and skills of Fera and East Malling Research in tackling what is becoming a serious threat to blueberry production in the UK. There are three key objectives for the project:

1. To confirm whether or not *Phomopsis* is the primary cause of the problem (showing an unusual degree of pathogenicity towards the northern highbush blueberry varieties now widely grown in Britain) or whether it is present mainly as a secondary infection following some earlier damaging event or is part of a complex of diseases affecting susceptible blueberry varieties
2. To identify the means by which the problem is spread

To use the knowledge gained while accomplishing the first two objectives to invent and provide the industry with ways to manage the disease using appropriate cultural or chemical methods

Aims & Objectives:

(i) Project aim(s):

1. To identify the cause of an aggressive type of dieback and crown rot symptom responsible for rapid decline or death in blueberry bushes

2. To discover how the problem is spread within and between sites

3. To develop methods to manage and control the problem

(ii) Project objectives(s):

1. To design appropriate and consistent, crop and symptom specific, field sampling methods for collecting material to be submitted for laboratory based diagnostic tests.
2. To provide Fera with a set of tissue samples with full traceability back to site, variety, position in bush, growth stage and visible symptom expression
3. To develop a dossier of photographic images and written descriptions directly corresponding to specific laboratory based diagnostic test results
4. To seek to explain how the problem has spread between bushes and between sites
5. If a pathogen or pathogens are confirmed as causal agents, to seek to identify the species and use this information to predict both the likely biology of the disease and potential chemical, biological or cultural controls
6. Subject to (5) and in collaboration with projects working on similar die-back problems affecting blackcurrants and grape vines, to contribute towards industry applications for CRD approval of appropriate chemical controls
7. To produce a fact sheet, describing symptoms and methods to manage and control the problem
8. To present findings to blueberry growers through appropriate HDC events, and appropriate industry conferences

Benefits to industry

Blueberries are a relatively new crop for most UK fruit growers with, until recently, few significant disease problems identified. Many growers have invested in blueberry plantations, often using hydroponic/soil-less growing systems or other relatively expensive amended soil systems. Substantial plant losses, of the kind experienced by the worst affected farms in 2011, cannot be tolerated. At least one young plantation has been grubbed as a result of this problem in 2011 and up to 90% of plants are showing symptoms in affected blocks within other plantings. This project will properly identify the cause of these problems, establish source of the problem and clarify the timing and spread of infection where a pathogen is confirmed. The project will also design and start to test methods for controlling the problem with properly targeted measures. This will allow blueberry growers to invest in the crop and ensure consistent yields and quality. One of the outputs of the project will be bulletin clearly describing the symptoms and any visible signs of infectious stages and, later on, a fact sheet giving clear details of symptoms to allow recognition of the problem at an early stage together with methods to better manage the problem.

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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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