



Agriculture & Horticulture
DEVELOPMENT BOARD



New Project

TF 202

Monitoring scab populations on
apple for fungicide insensitivities and
races

Project Number:	TF 202
Project Title:	Monitoring scab populations on apple for fungicide insensitivities and races
Project Leader:	Professor Xiangming Xu
Contractor:	East Malling Research
Industry Representative:	Nigel Kitney
Start Date:	1 st April 2012
End Date:	31 st March 2014
Project Cost:	£11,000

SUBJECT TO CONTRACT

Project Summary:

Results from the HDC TF190 project (based on a limited number of isolates) showed an unexpected strong correlation in the sensitivity to dithianon (a multi-site action fungicide) with that to DMI fungicides. We propose to conduct further testing to confirm this correlation given the importance of this correlation: dithianon and DMI fungicides are often used in same spray programmes. Nomenclature of scab races and the corresponding resistance genes has been extensively revised in recent years. Consequently, a new set of indicator genotypes are proposed to differentiate scab races. We propose to establish a plot at EMR with all 19 indicator genotypes for future monitoring of scab race structure.

Aims & Objectives:

(i) Project aim(s):

The overall project aims are to understand the extent of cross-insensitivity of scab isolates to dithianon and DMI fungicides and to establish plots for monitoring scab race structure.

(ii) Project objective(s):

Specifically, we have three objectives: (1) to determine whether insensitivity of scab isolates to dithianon is positively correlated with that to DMI fungicides (myclobutanil and fenbuconazole), (2) to graft 19 indicator genotypes onto M.9 rootstocks for differentiating scab races, (3) to establish a plot for these indicator genotypes to monitor scab races in the UK.

Benefits to industry

- This project will determine whether there is significant correlation in scab insensitivities to dithianon and DMI fungicides. Presence of such correlation may have significant implications on use of these fungicides in practice since they are currently often used together
- Correct use of these fungicides will not only lead to better scab control but also reduce the risk of scab isolates developing resistance to these fungicides

Establishment of monitoring plot with 19 indicator genotypes will enable EMR to monitor dynamics of scab races in the local region; such information has critical implications on breeding programme and deployment of cultivars with particular scab resistance genes

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