



Horticultural
Development
Company

New Project

TF 189

Optimum treatment timing to
reduce over-wintering
codling moth populations

Project Number: TF 189

Title: Optimum treatment timing to reduce over-wintering codling moth populations

Start and end dates: 1 April 2009 to 31 March 2011 (2 years)

Project Leader: Professor Jerry Cross, East Malling Research, East Malling, Kent

Project Co-ordinator: TBA but likely to be John Moor of DJ Moor.

Location: Nichol Farm, Teynham, Kent

Background and project objectives

Codling moth is the most important pest of apples in the UK as well as being a significant pest of pears. Most insecticide sprays and associated costs are targeted against this pest on apple. Year-in, year-out high codling moth pheromone trap catches continue in many orchards even though they receive programmes of 4-6 sprays of insecticide every year targeted against the first and second generations. Intensive spray programmes are failing to greatly reduce the populations of overwintering codling moth larvae and pupae allowing damaging populations to persist from year to year. This is probably because sprays are not focussed on critical periods or accurately timed to coincide with the periods when eggs are laid that give rise to overwintering larvae/pupae. Sex pheromone traps are used for monitoring the flight of male moths to time sprays but it is not clear how these relate to the flight of gravid moths and egg laying. Better targeting and timing of sprays to control larvae that result in overwintering populations would result in substantially improved long-term control of codling moth.

The overall objective of the proposed project is to study the egg laying dynamics of codling moth through the season in relation to pheromone trap catches and forecasts given by the RIMpro-Cydia model to determine the optimum timing for treatments to reduce overwintering of codling moth populations so that high populations do not persist from year to year. The specific objectives are:

- To determine the seasonal dynamics of egg laying by codling moth and how this relates to sex pheromone trap catches and weather conditions
- To determine the proportions of larvae completing their development at different times through the season that overwinter
- To check the predictions of codling moth spray timing from the RIMpro-Cydia forecasting model against real biological data under UK conditions

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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