



Agriculture & Horticulture
DEVELOPMENT BOARD



New Project

CP 86

Weed control in ornamentals, fruit and vegetable Crops – maintaining capability to devise sustainable weed control strategies

EMT/HDC/HTA Fellowship

Project Number:	CP 86
Title:	Weed control in ornamentals, fruit and vegetable Crops – maintaining capability to devise sustainable weed control strategies
Start and end dates:	1 st April 2011 to 31 March 2016
Fellow:	John Atwood
Industry Representative:	Horticultural Fellowship Governance Committee
HDC Lead:	Wayne Brough
Location:	ADAS
HDC Cost:	£150,000 (total cost £250,000)

Fellowship Background

The fellowships are funded by the East Malling Trust (EMT), the Horticultural Development Company (HDC), and the Horticultural Trades Association (HTA). The funds provide essential underpinning funding to UK-based applied horticultural researchers working in fields of study crucial to the future efficiency and competitiveness of horticultural crops grown in Britain. Each fellowship focuses on training the next generation of applied researcher whilst delivering outputs to industry through a flexible programme of work. The work is flexible so that it can respond to the skills of the individuals undergoing training and the needs of the industry. Each fellowship is managed by a Steering Group, on behalf of the Horticultural Fellowship Governance Committee.

Project Summary

Weed control is a difficult technical challenge for growers of horticultural crops. The limited and complex horticultural market is unattractive for agrochemical manufacturers and the loss of approval for traditional horticultural herbicides under recent and impending EC legislation has made the situation more difficult. There are only two researchers actively working on weed control in horticultural crops in the UK. For succession it is vital that new recruits are trained in horticultural weed control research to be able to continue a programme of work of benefit to the horticultural industry in years to come.

The fellowship will be used to fund a programme of work and training. The work will be undertaken by ADAS trainee consultants Angela Huckle (vegetables), Harriet Roberts (fruit) and David Talbot (ornamentals) supervised and mentored by John Atwood, and weed biologist Lynn Tatnell and Sarah Cook. Weed control research will therefore become an important part of these new consultants' portfolio of work, running alongside their crop agronomy work. In addition, Jessica Sparkes, a graduate weed biologist has been recruited. The fellowship will enable the graduate to work on horticultural weed problems such as

perennial weed management and herbicide resistance within current arable work. Liaison with the European Weed Research Society (EWRS) will be important.

At present the following project areas are planned:

Weed control in ornamentals

Trials will be conducted with herbicides and bio-control treatments for container-grown and field-grown hardy nursery stock production. This will include crop safety and efficacy screening in addition to cultural control by understanding and manipulating the biology and lifecycle of the problem weed species.

Weed control in top fruit

This will include investigations into cover crops and vegetation management for weed suppression in top fruit and bush fruit. Herbicides for newly planted trees will also be tested for crop safety and efficacy.

Weed control in vegetables

Active ingredients identified in the SCEPTRE project (CP 77) will be further developed.

Perennial weed management

This will include the use of cover crops or suppressive plant species, where appropriate, and controlling weeds by competition, suppression or antagonistic effects.

Aims & Objectives:

Aim:

- To mentor the next generation of horticultural consultants in weed control research covering the ornamentals, fruit and vegetables sectors
- To mentor a graduate weed biology researcher in aspects of horticultural crop weed control
- To develop new treatments for weed control in horticultural crops, chemical and non-chemical
- To develop links with weed control researchers working on minor crops in Europe

Objectives:

- 1.0 To develop and mentor four new staff in weed control
- 1.1 Develop expertise in weed control research for three horticultural consultants covering the ornamentals, fruit and vegetables sectors
- 1.2 Develop expertise in horticultural weed control for a graduate weed biologist

- 2.0 To identify and develop new weed control opportunities in UK ornamentals, vegetables and fruit
 - 2.1 Identify new actives with potential for use against weeds of particular importance in horticultural crop production
 - 2.2 Develop new herbicide treatments for container-grown nursery stock production
 - 2.3 Develop new herbicide treatments for field-grown nursery stock production
 - 2.4 Further develop herbicide treatments identified by screening in the SCEPTRE programme for vegetable production
 - 2.5 Develop new herbicide treatments for top fruit production with particular reference to crop safety on newly planted trees
 - 2.6 Identify effective and practical ground cover and vegetation management techniques for non-chemical weed control in top and bush fruit crops
 - 2.7 Develop effective pre-planting techniques, integrating chemical and non-chemical methods for reduction of perennial weed problems in fruit crops
- 3.0 To develop pan-European opportunities for maximising effective delivery of horticultural weed research relevant to UK
 - 3.1 Set up a working group within the European Weed Research Society for researchers working on horticultural crops so that information on minor crops can be shared and to provide a platform for accessing European funding for collaborative research

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