New Project

PO 008

Improving the efficiency of spray application for protected ornamental crops: a study of current spraying methods and novel spraying technologies.

Project Number:	PO008
Project Title:	Improving the efficiency of spray application for protected ornamental crops: a study of current spraying methods and novel spraying technologies.
Project Leader:	John Buxton
Contractor:	ADAS
Industry Representative:	Colin Frampton
Start Date:	01/02/2012
End Date:	01/05/2013
Project Cost:	£29,500

SUBJECT TO CONTRACT

Project Summary:

Spraying methods have changed relatively little in ornamental horticulture over the last few years, whilst in other crops, including arable and fruit crops, there have been significant developments which have improved crop canopy penetration, reduced water volumes applied, and reduced drift.

This project will review a range of new developments in crop spraying technology and will highlight those that have potential to be introduced to ornamental horticulture in the near future. It will also study aspects of current practice in situ on nurseries, to identify and quantify the range of factors, such as water volumes, pressures, and settings on the RIPA pistol that are currently used by growers. By quantifying these factors, a set of data will be produced which defines them in detail.

Laser droplet spectrum analysers will be used to assess the droplet spectrum produced at a range of settings on the RIPA spray pistol, including pressure, nozzle diameter and setting on the twist grip.

The biological effectiveness of treatments will not be addressed within the scope of

this project. However, with the data gathered from the nursery studies and laser droplet analyses, further work to evaluate the effect of different sprayer settings upon the crop coverage and effectiveness of sprays on target organisms would be valuable.

Aims & Objectives:

(i) Project aims:

1. To improve the efficiency of spray application in ornamental crops.
2. To highlight novel technologies that ornamental growers can readily adopt.

(ii) Project objectives:

1. To review developments in crop spraying technology, including developments overseas, and identify those of greatest potential for use on ornamental crops.
2. To gather data on current spraying practice by growers when using the RIPA spray pistol.
3. To compare the critical factors involved in spray application in protected crops, and develop guidelines for adoption by growers.

Benefits to industry

i. Improvements in the efficiency of crop spraying and improved work rates.
ii. Reductions in the cost of spraying by reducing labour and chemical costs.
iii. Reduction in incidence of *Botrytis* by highlighting possible reduction in water volumes.
iv. Environmental benefits and improved operator safety from reduced drift.

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