Grower Summary

The Bedding and Pot Plant Centre – new product opportunities for bedding and pot plant growers.

Work package 2. Spray application

PO 019d

Annual report 2021

Project title:	The Bedding and Pot Plant Centre – new product opportunities for bedding and pot plant growers. ***Work package 2. Spray application***
Project number:	PO 019d
Project leader:	Dr Jill England, ADAS Boxworth
Report:	Annual report, 31 March 2021
Previous report:	None
Key staff:	Dr Jill England (ADAS), Associate Director Chloe Whiteside (ADAS), Associate Director David Talbot (ADAS), Senior Horticulture Consultant Clare Butler (Silsoe
Location of project:	RSK ADAS Ltd, Battlegate Road, Boxworth, Cambridgeshire, CB23 4NN
Industry Representative:	Chris Need
Date project commenced:	1 April 2020
Date project completed **(or expected completion date):**	31 March 2023

DISCLAIMER

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

AUTHENTICATION

We declare that this work was done under our supervision according to the procedures described herein and that the report represents a true and accurate record of the results obtained.

Dr Jill England

Senior Horticulture Consultant

ADAS

Signature Date: 31.03.21

Chloe Whiteside

Horticulture Consultant

ADAS

Signature Date: 31.03.21

David Talbot

Senior Horticulture Consultant

ADAS

Signature Date: 31.03.21

Report authorised by:

Dr Barry Mulholland

Head of Horticulture

ADAS

Signature Date

Grower Summary

Headline

- Reducing water volumes when spraying can result in savings in spray application.

Background

The Bedding and Pot Plant Centre (BPPC) has been established to address the needs of the industry via a programme of work to trial and demonstrate new product opportunities and practical solutions to problems encountered on nurseries.

This is the Bedding and Pot Plant Centre report for:

Objective 2. Spray application.

This programme of work focuses on improving the application of plant protection products (PPPs) for bedding and pot plants through identifying alternative approaches to existing hand-held high-volume systems, which can improve the quantity, uniformity, and distribution of PPPs over plants. These include: 1) air-assisted sprayer (such as Birchmeier AS 1200), 2) an alternative spray gun that solves the issue of repeatability (i.e. has fixed settings to enable consistent results to be achieved, 3) a boomless nozzle from a UK supplier.

Summary

This project is at an early stage and results are not yet available on the suitability of alternative spray application equipment that may help growers to consistently achieve lower water volumes when spraying. A standard cropping programme of three crops of six pack pansies followed by three crops of six pack summer bedding represents a typical year's production on a bedding nursery.

Pansies are an important crop for most bedding nurseries, particularly during the autumn / winter. They are produced in large volumes under permanent protection with full enclosure by many bedding plant producers and so were selected as a representative crop to base spray application costs on,

Downy mildew and leaf spots are the predominant pathogens affecting this crop, and aphids are key pest that can cause problems in both Pansy and summer bedding crops. Plant growth regulators are also routinely applied to both Pansy and summer bedding crops. Details of the main plant protection products recommended for the control of aphids and downy mildew (two application scenarios) have been collated in **Appendix 1**

Table 1. Products and crops used to base spray application costs on

Crop	Insecticide	Fungicide	PGR / no. of applications
Pansies (3 crops / year)	Majestik	Amistar, Fubol Gold, Percos, Switch	Bonzi x 2
Mixed summer bedding (3 crops / year)	Mainman, Majestik	Serenade ASO	Bonzi x 2

Financial benefits

Based on the assumption that the pesticides and bioprotectants listed in **Table 1** are applied in six-pack pansy production, with production commencing around week 28, with three pansy crops produced per hectare (ha) and are followed by three crops of summer bedding from week 10 onwards in a typical year. In, this study reducing the water volume that sprays are applied in from 1000 L/ha to 400 L/ha results in a saving of £2,311.14 per hectare.

Savings are achieved through a combination of energy, labour and water savings combined with product savings where products such as Bonzi are applied at a rate per litre. The typical margin on six pack bedding is in the region of £0.20 per pack therefore this saving equates to the margin on an extra 11,555 extra packs per hectare per year.

Action points

- The spreadsheet in Appendix 2 can be used to calculate savings achieved through applying pesticides in lower water volumes.
- Growers should engage with the project and the results generated during the next, experimental, phase of the work.