



Grower Summary

CP 119

Sensor based pre-symptomatic detection of pests and pathogens for precision scheduling of crop protection products

Annual 2017

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The results and conclusions in this report may be based on an investigation conducted over one year. Therefore, care must be taken with the interpretation of the results.

Use of pesticides

Only officially approved pesticides may be used in the UK. Approvals are normally granted only in relation to individual products and for specified uses. It is an offence to use non-approved products or to use approved products in a manner that does not comply with the statutory conditions of use, except where the crop or situation is the subject of an off-label extension of use.

Before using all pesticides check the approval status and conditions of use.

Read the label before use: use pesticides safely.

Further information

If you would like a copy of the full report, please email the AHDB Horticulture office (hort.info.@ahdb.org.uk), quoting your AHDB Horticulture number, alternatively contact AHDB Horticulture at the address below.

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AHDB Horticulture is a Division of the Agriculture and Horticulture Development Board.

Project title: Sensor based pre-symptomatic detection of pests and pathogens for precision scheduling of crop protection products

Project number: CP119

Project leaders: Dr Martin McAinsh, Lancaster University
Prof Frank Martin, University of Central Lancashire

Report: Annual Report, 2017

Previous report: Annual Report, 2016

Key staff:

Location of project: Lancaster Environment Centre, Lancaster University

Industry Representative:

Date project commenced: 01.11.2015

Date project completed 01.11.2018

(or expected completion date):

GROWER SUMMARY

Headline

There is a potential application for the development of proximal sensor devices for the detection of abnormalities in plants and crops that are associated with pest and pathogen effects. At this stage however it is difficult to quantify the financial benefits of the evaluated sensors especially with respect to their current cost of operation. As such no change to growing practice is currently advised.

Background

This project is intended to evaluate the feasibility of developing biospectroscopy (MIR and Raman spectroscopy) as sensor technologies in various horticultural settings to mitigate crop loss. Rapid non-destructive sensors, such as biospectroscopy, will aid in the development of sustainable technologies for the reduction of crop loss to pests and pathogens pre and post-harvest, thereby improving the rational use of crop control measures and reducing negative environmental impacts.

Summary

At this point and due to exploratory nature of the project, there is insufficient material to expand this section reliably, especially because data analysis for many of the results is on-going and need to be validated through reproducibility.

Financial Benefits

Due to the stage of development of the technology, prospective financial benefits cannot be meaningfully analysed.

Action Points

- Currently no change to grower practice is advised

