RD 2.1.5: In-field detection

Improved detection of key pests and pathogens

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Aim:
To underpin Integrated Pest Management by delivering improved and timely methods of detecting, identifying and quantifying key pests and pathogens in the field.

Scottish crops including barley, potatoes and soft fruit are susceptible to damage caused by a wide range of diseases.

In the future, crops are likely to face additional challenges from new pests and pathogens with the loss of key pesticides through legislation or reduced efficacy, increased global movement of plant material and a changing climate all having an effect.

Research Objectives

- Improve detection of potato, cereal and soft fruit pests and pathogens
- Application of sensors into early warning systems
- Develop rapid genome-based diagnostic methods
- Identify new and emerging threats

Virus detection in blueberry – safeguarding an expanding industry

- Blueberry production is a rapidly expanding industry in Scotland and the risk of virus introduction is high
- Virus testing is essential to maintain high health material for propagation
- The aphid vector of Blueberry scorch virus (*Ericaphis scammelli*), first confirmed in Scotland in 2013 (SASA), has become widely established
- Diagnostics for Blueberry scorch virus have been developed and a suite of diagnostics for other viruses is under development

Healthy blueberry fruit

Blueberry affected by Blueberry scorch virus

Impact

- Reducing the risk of new viruses being introduced into Scotland
- Safeguarding the health of the rapidly expanding blueberry industry
- Improving diagnostic, trapping and sensor technologies to facilitate Integrated Pest Management solutions for the major Scottish crops

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