

Title: An IPM programme for protected raspberry crops



Subject:

- The core subject of the case:

Protected raspberry IPM programme combines aphid resistant varieties, semiochemical enhanced traps for raspberry beetle (monitoring or mass trapping), biocontrol using endemic and augmented release (hoverflies, parasitoid wasps), bio-pesticides (under assessment currently, in Defra Hortlink ‘SCEPTRE’ project).

- The scope of the case being studied:

The IPM programme was developed over a 15 year period, testing different tools in the U.K. (Scotland, England), testing raspberry beetle traps in Scotland, Switzerland, France, Norway, and testing biopesticides with biocontrol agents (collaboration with biocontrol companies, biopesticide companies and Lincoln University, New Zealand (Prof. Steve Wratten) and USA (Prof. Sanford Eigenbrode, Idaho University).

- The stated goal(s) of the case being studied:

To reduce dependence on conventional pesticides by at least 30% in 10 years (achieved). To increase the durability of pest resistant varieties (achieved). To promote use of conservation and augmented biocontrol (ongoing). To test new/alternative biopesticides (ongoing)

Specific elements assessed in the case study

The goal(s) of the study conducted, and the elements which were assessed:

- Reduction in aphid attack (2-3 species). Reduction in pesticide use (30% reduction target initially). Extend durability of existing aphid-resistant varieties through IPM measures.

The approach used to promote IPM adoption:

- A collaborative approach (UK and EU) was adopted, via Defra and EU funded projects involving multiple partners. This facilitated testing in several countries and involved training of PhD and summer students. Also involved sharing of IPM ideas and tools.


Assessments used in case study

Cost-benefit analyses /economic viability:

- Although IPM is slightly more expensive than just using pesticides, the main drivers are EU policies that are to restrict pesticide use – so farmers have no choice other than to implement IPM under EU policies such as 91/414/EEC National Action Plans for each Member State (from 2014).

Crop protection or prevention outcomes (efficacy):

-In comparison trials (Scotland and England), IPM achieved as good pest control as current conventional

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| <p>pesticides, with IPM using 30-40% less chemical inputs (combined pests and diseases).</p> <p>Pesticide risk reduction impact:</p> <ul style="list-style-type: none"> - 30-40% reduction with no added risk of pest and disease losses (over 3 years, on farm trials). <p>Success rate of approach used to promote IPM adoption:</p> <ul style="list-style-type: none"> - Our IPM systems is now adopted as UK best practice by ADAS advisors. <p>Change in grower understanding or practices (uptake):</p> <ul style="list-style-type: none"> - Good – driven more by EU Directives/policies than economics. <p>Methods used:</p> <ul style="list-style-type: none"> - Pest counts, fruit damage assessments, farmer feedback, cost/benefit analysis. | |
| <p>Summary of case study findings</p> <ul style="list-style-type: none"> - Developing an IPM system takes several years and requires close collaboration with farmers and advisors, through demonstrations (on-station) and on-farm trials to engage and train farmers and advisors. | |
| <p>Name of the responsible and funding organization</p> | <p>Funding organizations include:</p> <ul style="list-style-type: none"> • Scottish Government (RESAS), DEFRA • Scottish Society for Crop Research • Koppert Biological Systems Ltd (UK) • EU |
| <p>Website/ URL</p> | <p>Links to relevant website pertinent to the case being studied:</p> <p>http://www.hutton.ac.uk/staff/nick-birch</p> <p>http://www.hdc.org.uk/project/sceptre-sustainable-crop-environment-protection-targeted-research-edibles</p> <p>http://www.hdc.org.uk/sites/default/files/research_papers/SF%2074%20final%20report%20-%20unrestricted%20version.0.pdf</p> <p>http://insecttrapsandlures.blogspot.co.uk/2013/06/soft-fruit-trapping-for-raspberry.html</p> <p>http://insecttrapsandlures.blogspot.co.uk/p/soft-fruit.html</p> <p>http://www.fruitdisease.co.uk/EntomologyResearchPage4.asp</p> <p>http://www.mrsltd.com/raspberries.asp</p> <p>http://www.pure-ipm.eu/project</p> <p>http://www.endure-network.eu/</p> |
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