

Nature in brief

11: Integrated pest management



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Pesticides can harm wildlife and ecosystems. Research has shown negative effects on: soil biodiversity, freshwater ecosystems, amphibians, insect pollinators, and agricultural biodiversity.

To reduce environmental damage, the EU has set out rules for the **sustainable use of pesticides**.¹ Member states must produce a National Action Plan (NAP) showing how they will reduce risks and impacts of pesticide use. The plan must include guidance on **integrated pest management** (IPM) which must be applied by commercial users from **1 January 2014**. Defra, with contributions from the Scottish Government, has published a NAP;² guidance on IPM has not yet been published.

IPM uses a suite of tools to achieve **low pesticide-input systems** to grow healthy crops. The combined measures to protect crops may include: creating the right field conditions for biological control, biomimicry, crop rotation, understanding agricultural ecosystems and food webs and using pesticides only when necessary (i.e. more as a last resort rather than as an insurance policy).

Applying IPM reduces the chance of pests becoming resistant, and if practiced at the catchment scale, can benefit **aquatic ecosystems**, farmland **biodiversity** and **agricultural ecosystems**.

Research into IPM solutions, funded by the EU, is designed to be specific to regional cropping systems, landscapes, agronomy, biodiversity and local climatic conditions. IPM trials in Scotland have shown that pesticide input in the soft fruit industry can be **reduced by 30%** by using unique pest attractants and repellents; this approach gave similar levels of crop protection as the farmers' standard practice, using currently recommended synthetic insecticides.³

What the Scottish Wildlife Trust would like to see:

- **Support from the Scottish Government** for research into integrated pest management solutions for Scottish agricultural systems
- **Integrated pest management** applied at the catchment scale in Scotland
- **Cross compliance in direct farming payments** (i.e. Pillar 1) being aligned to the EU's Sustainable Use of Pesticides Directive
- **The permanent ban** on the use of neonicotinoid seed coatings. This form of pesticide application is contrary to the principles of integrated pest management because it is applying the chemical as an 'insurance measure' against pest attack rather than using it when it is needed.

¹ Sustainable Use of Pesticides Directive (Directive 2009/128/EC). See: <http://ec.europa.eu/environment/ppps/home.htm>

² See: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221034/pb13894-nap-pesticides-20130226.pdf

³ See: Birch et al (2011) How agro-ecological research helps to address food security issues under new IPM and pesticide reduction policies for global crop production systems Journal of Experimental Botany, 62 (10) 3251–3261