

Pest management – it isn't just about the killing

November 5 2013, by Simon Leather



I'm just a sprayer, the pest manager does the thinking. Credit: ricephotos

To most people pest management brings up images of rats, cockroaches and chemical spraying. Poisoning vermin and insect is only one minor, albeit important, aspect of pest management. Few people know about the intellectual challenge and impact of this profession.

Pest managers are in great demand from industry. There are more

positions than suitably qualified graduates. Yet students seem reluctant to train in this area. With global food security increasingly in the news, and governments becoming more aware of the potential disaster looming, the demand for pest managers is only going to increase. So why are young ecologists and biologists so reluctant to enter the field? There are two root causes for this problem in the UK – a lack of exposure to the subject and a misunderstanding of pest managers and what they do.

Integrated [pest management](#), as it is formally known, is the selection and use of [pest control](#) measures to ensure favourable economic, ecological and sociological outcomes. The use of pesticides is only one way to achieve this. An integrated programme could include biological control, the use of resistant plants, the diversification of the farm landscape through conservation headlands (an area where weeds are allowed to grow) and cultural methods such as crop rotation or intercropping (growing crops close to each other). Even scare-crows can be part of such a [programme](#). This, of course, needs to be backed up by a detailed knowledge and understanding of the biology and ecology of the [pest species](#), their natural enemies and the habitats that they live in. All of which makes it quite an intellectual challenge.

The idea of pest management is not an entirely modern one. Benjamin Walsh, a British-born applied entomologist working in the US, said in 1866:

Let a man profess to have discovered some new patent powder pimperlimplimp, a single pinch of which being thrown into each corner of a field will kill every bug throughout its whole extent, and people will listen to him with attention and respect. But tell them of any simple common-sense plan, based upon correct scientific principles, to check and keep within reasonable bounds the insect foes of the farmer, and they will laugh you to scorn.

Pest managers do not just work in domestic and urban situations. They work in agriculture, forestry and horticulture, safeguarding our crops and ensuring global food security. Because of the complexity of the problems facing sustainable crop production today, the role of pest managers needs greater depth and breadth of knowledge than pure ecologists. That is why they need to be familiar with the study of insects, plant pathology, nematology (study of worms) and the application and chemistry of pesticides.

These solutions need to be practical, easily to implement and cost-effective. That is why pest managers also need a good grasp of economics of both pest control and the farming and cropping system. This involves appreciation of the farmer's or forester's year, budgets and targets in terms of yields and profits. There is no point in coming up with the ideal ecological or conservation solution that cannot be implemented because of the constraints of the real world. Pest managers, even those working in academia, interact closely with those on the ground doing the work, to ensure a reduction in pest numbers and abundance, not necessarily eradication.

So when you hear the word pest management in future, don't just think spray, think conservation headlands, beetle banks, [biological control](#), [crop rotation](#), resistant varieties, chemical ecology, forecasting, monitoring, holistic farming, sociology, economics and sustainability. These are the elements of the armoury most commonly used by pest managers, not pesticides alone. The impact of pest managers is much greater than many appreciate.

Pest management doesn't sound cool, but it should.

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