



Implementing IPM in UK arable production systems

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Abstract

There are many examples of biological tools used in horticultural systems such as protected crops and fruit production but there are few examples in arable systems. In these systems emphasis has been placed on optimising cultural and chemical tools. In all systems IPM is a continuous process in which innovations are integrated into existing systems. Farmers adopt new techniques and processes very quickly provided that they are economically viable and sustainable. Novel IPM systems which are economically damaging will not be adopted unless the farmer is compensated for loss of income (by government or customer through higher prices). Also, some well-intended IPM strategies may have unintended consequences which may have the opposite effect to that intended. Typical 'good farming practice' by UK arable farmers makes use of many IPM principles - including crop rotation, the use of novel cultivation techniques (e.g. stale seedbeds, sowing densities, direct sowing or much reduced tillage techniques), the use of resistant cultivars and certified seed, managed fertilisation, liming and irrigation/drainage practices, the protection or enhancement of beneficial organisms. Most farmers adjust inputs by monitoring pest and disease levels, often done by their own agronomy adviser who must be professionally trained and qualified. They would also employ national and regional pest and disease monitoring and forecasting tools including the use of thresholds. The use of biological, physical and other non-chemical methods for pest and disease control are used to a minor degree, mainly because they cannot offer a high enough level of control. The choice of pesticides applied, particularly insecticides, is frequently influenced by the effects on non-target organisms and the environment in its widest sense. The farmer has no easy way to judge the effects of any pesticide use on human health, other than following pesticide labels stringently. Dose and frequency of application are often reduced to the lowest effective strategy. Anti-resistance strategies are almost universally applied, particularly the use of mixtures and different modes of action, some imposed through statutory label recommendations. The recording of the use of pesticides on farm is a statutory requirement as is the training of people handling or applying pesticides.