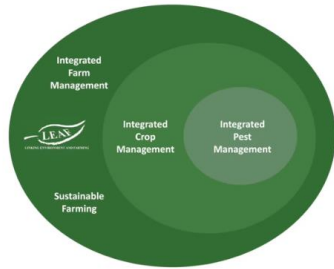


IPM in Practice: what does IPM look like on modern conventional farms?



LINKING ENVIRONMENT AND FARMING



How IPM fits with ICM, IFM and Sustainable Farming

LEAF (Linking Environment And Farming) is a leading organisation delivering more sustainable food and farming. We work with farmers, the food industry, scientists and consumers, to inspire and enable sustainable farming that is prosperous, enriches the environment and engages local communities.

LEAF was set up in 1991 to promote Integrated Crop Management and later extended its activities to encompass livestock farms, promoting Integrated Farm Management. Throughout this period, LEAF has been pioneering Integrated Pest Management research on all farm types and continues to be at the forefront of developing this research into practical on-farm application.

Through LEAF's network of Demonstration Farms and Innovation Centres we are able to facilitate IPM knowledge generation and exchange amongst farmers and researchers via mechanisms such as technical events and publications. In addition, our core online tool initially established in 1993, the LEAF Audit, now the LEAF Sustainable Farming Review, asks farmers to evaluate and improve all aspects of pest management within an integrated approach.

What Is IPM and what does it involve?

Integrated Pest Management is the careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health. IPM offers a toolbox of techniques that can be tailored to different cropping systems, climatic conditions, pest pressures and availability of solutions and consists of 8 general principles:

- Achieving prevention and suppression of harmful organisms
- Monitoring of harmful organisms
- Decisions made based on monitoring and thresholds
- Non-chemical methods
- Pesticide selection
- Reduced use of chemical pesticides
- Anti-resistance strategies
- Evaluation

How does IPM contribute to sustainable farming?

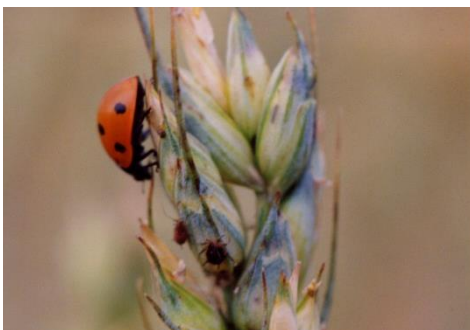
IPM can play a significant role in making farming more environmentally, economically and socially sustainable. Through practicing a range of techniques, producers can make informed decisions and minimise their reliance on pesticides. Changes such as these can help maintain biodiversity, decrease pollution and lower the build-up of pesticide resistance. IPM is a systems based approach where the entire systems effect is greater than the individual components. In addition, the diversity of solutions available in IPM helps ensure the long term sustainability of control measures.

In order to gain a full holistic understanding of the benefits of IPM a sound understanding of the interactions between soil, water, air and plants under the unique climatic and cropping conditions of the individual farms is required. This requirement for understanding along with ensuring strategies are within the context of sustainable production, addressing economic viability, environmental responsibility and social acceptability mean that ensuring widespread uptake of IPM has its challenges.

How can LEAF help encourage the uptake of IPM?

The LEAF Sustainable Farming Review provides a useful decision based framework to support farmers in adopting IFM and IPM measures as well as consider other options that might be available. As IFM and IPM develops LEAF will continue to communicate practical, realistic and achievable solutions, while working with others to seek new innovation and technologies to improve farm productivity, environmental enhancement and social acceptability.

The main avenue for successful communication in this area is via demonstration farms and on farm research. To this end, LEAF has 36 Demonstration Farms across England and Scotland, which are able to share their experiences, expertise and thoughts on how IPM works in practice within their business. LEAF Demonstration Farms will host visits and event which form great opportunities to exchange ideas and discuss new practices in an informal but structured setting.



Morrison Farm is a 650ha LEAF Demonstration Farm in Ayrshire. They are an arable farm that grows largely forage crops for neighbouring livestock farms. Strip tillage is used throughout the estate and wide grass margins are planted with wild bird seed or maintained in long term grass/wildflower mixes to increase biodiversity and for game for the estate.

Since the development of the margins, a reduced requirement for insecticides has been noticed as the margins are a haven for insects which can help with pest control. For example, ladybird populations are relied upon to control aphid populations. The ladybirds help prevent pest outbreaks and keep aphids below the threshold at which they begin to cause damage. Similarly other insects such as ground beetles encourage birds which help keep slug population low.



Eric Wall Ltd has been growing tomatoes under glass since 1977 at the nursery in Barnham, Nr Arundel, W. Sussex. Biological control is an important and effective IPM technique that has been used at Eric Wall Ltd. for more than 30 years. Predatory insects are used to control pests in the in the glasshouses, with the most common pests being whitefly, red spider and leafminer. To control whitefly the Encarsia wasp is introduced; for the red spider, Phytoseiulus and for the leafminer, Diglyphus. In addition to these a macrolophus insect is introduced which is a meat eater, to ensure populations of the predatory insects are maintained at a satisfactory level.

"The secret to our success has been the skill of the staff at our nursery – early detection of pests is essential in giving the predators every chance in controlling their numbers. There are over 60 miles of tomato plants and due to the scale of production we are reliant on the staff to feed back issues when they arise."

More recently Eric Wall have been challenged with a new pest which is also new to the UK. As yet there is not a complete solution to controlling the 'Tuta Absoluta' moth without the use of some pesticides. In this instance a combination of trapping and the macrolophus insect provide good control and artificial pesticides are used to control certain hotspots when necessary.

