

Keep it Clean for Field Vegetables

Preventing pests and diseases in field vegetables

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This fact sheet series has been produced to provide a practical guide to help you to economically and effectively use preventative strategies to manage pests in your crops. Farm hygiene is the basis of preventative management.

Pests are organisms that cause damage or loss, or pose a risk to your crop. Most often people think of pests as insects and mites. However not all insects and mites are pests, and some are beneficial and assist in pest management. Large animals, such as rats, mice and rabbits are also pests.

Pathogens are organisms that cause disease. A **disease** is any condition in a plant that interferes with its normal functioning, growth and/or development. For simplification, this publication uses the term “disease” to refer to both the disease causing organism and the disease it causes.

A **weed** is a plant growing where it is not wanted. Weeds provide a home for other pests and diseases which can then get into a crop and in some situations, weeds can compete directly with crops for water and nutrients.

Reducing costs and losses

The profitability and productivity of your farm can be significantly improved by minimising the losses caused by pests such as insects, mites, diseases and weeds. Effective pest management practices, once established, are also very likely to reduce overall chemical and labour costs.

Preventative pest management is about planning, cleaning and quarantining. This requires being organised, consistent and using a relevant plan for your farm. A good plan will ensure that you are able to 1) keep growing areas and equipment clean and 2) use basic practices to stop pests getting into your crop. Prevention is cheaper than treatment.

No single practice on its own can completely prevent pests causing losses to your crop and to your business. There are many different strategies and specific control options or tactics that can be used in and around a farm to manage pest problems.

Each option will tend to

- have a different impact,
- affect different pests and diseases
- have different costs or benefits.

The key to cost effective pest and disease management is integrating the most suitable strategies from the best available options and establishing a solid prevention program.

Integrated Pest Management

IPM is the use of multiple tactics to contain pests to tolerable levels. This means using more than one tactic, practice or control measure in combination. It also means that the aim is not always to eradicate the problem because sometimes it is more profitable to tolerate a small number of pests or a low level of disease than to spend more money to completely remove the problem.

An important aspect to remember is “integrated”. The combinations of appropriate tactics or practices that are used have to be put together sensibly in terms of your business.

“IPM is the use of multiple tactics to contain pests to tolerable levels”

The 10 factsheets in the 'Keep it clean for field vegetables' series focus on all the preventative practices that can be implemented up to the point

of applying a control such as using a biological or chemical treatment.

How do you start?

Everyone can practice IPM. It is all about using a range of different tactics and practices in combination. The most important and cheapest place to start is with prevention – KEEP IT CLEAN.

Setting up an effective preventative management program will require:

- Knowing how and where problems occur
- Using as many practices as possible to reduce the risk of insect pest and disease outbreaks in your crops
- Doing a risk assessment for each pest and using this information to plan the best order in which to implement all the preventative strategies you can.

“Use as many tactics and practices as possible”

Risk assessment and planning gives you the time to prepare and prevent, or at least limit, the damage and cost of pests and diseases. If you do not practice good hygiene and use preventative strategies, it will always be more difficult and costly to get on top of any pest problem.

At a minimum, there are 10 ESSENTIAL MANAGEMENT PRACTICES which need to be used in every farm. Even if you do nothing else, do these:

1. A pest and disease checks are conducted routinely to ensure early detection and correct identification of problems
2. Crop monitoring information is used for all decision making including chemical, biological, whole-crop and hot-spot treatments
3. Unrecognised insects or plants with disease symptoms are sent away for identification
4. Crop production areas and farm surrounds are kept weed free
5. The growing area is in a ‘clean’ zone which is quarantined from the ‘outside’ zone of the farm
6. All seedlings are quarantined, checked and found free from pests and diseases before they are planted out
7. Seeds or seedlings are planted into a clean cultivated area which has not grown same family of crop (or host of regular soil borne fungus such as sclerotinia) in previous year.

8. Cultivate old crops into the soil immediately after harvest or being abandoned
9. Activity of people or tractors is minimised when foliage is wet, particularly when crop is showing signs of fungal or bacteria leaf diseases
10. Activities are scheduled in crops with fewest pests before working in more infested crops

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