

Keep it Clean for Field Vegetables

Crop monitoring

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Crop pests such as insect and mite pests, weeds and diseases, can come from lots of different places. They can enter your crop and spread from plant to plant by a number of different ways.

Pests can come from sources already in your crop, somewhere else on your farm or from off-farm. Knowing which pests are around and how they could get into your crop enables you to stop them early. Even though it is not always possible or practical to completely prevent a pest getting in, reducing the amount that does get in can drastically lower the cost of management, greatly improve your capacity to control it and significantly reduce the impact it might have on your harvestable crop.

Some pests can fly and/or be carried on air currents, for example thrips, aphids and butterflies. Spores of fungal diseases can also be carried by the wind. Most diseases are also carried and spread by water including run-off and rain splash.

Many pests can walk or crawl short distances so if they are near-by, they can easily find their way into the crop.

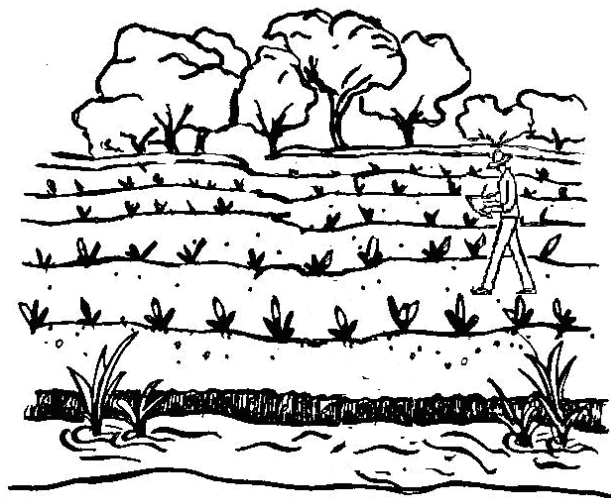
Insect pests and diseases are also carried on plant material such as new seedlings or prunings and in soil or soil amendments. A lot of diseases survive for a period of time on surfaces such as containers, tools and plastic mulch materials and in soil and crop debris. Similarly small insects, mites and weed seed.

Some diseases are carried, 'transmitted' or 'vectored' by insects, or carried on people and clothes as well as on tools including items like a mobile phone.

The choice of crop that you grow is not only an essential business decision; it is also an important management decision in terms of insect pests, nematodes and diseases.

You need to know what plant family the crop you are growing belongs to and the key pests of that family in your growing region. For example, crops such as cucumber, zucchini, squash and melon are all cucurbits and belong to the Cucurbitaceae family. Tomato, capsicum, chillies and eggplant are all in the

Solanaceae family. Thrips and aphids can be major



insect pests of these families. Many common weeds also belong to the same families as common crops and may host crop diseases.

"Monitor crops systematically and routinely for insect pest and diseases"

You need to become familiar and be able to readily recognise common pests and diseases in your crop. This information is available from courses run by agriculture advisory services, many printed resources and the internet. However to be sure you have correctly identified a problem, the pest or diseased plant can be sent away for identification.

“Unrecognised insects or plants with disease symptoms are sent away for identification”

Crop Monitoring

Monitoring means, looking for pests and diseases on a regular basis in your crop. Monitoring is done by inspecting the plants and by using sticky traps.

“Crop monitoring information is used for all decision making including chemical, biological, whole-crop and hot-spot treatments”

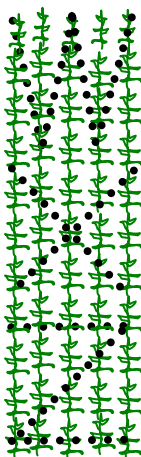
Why do you need to monitor?

The growth of pest and disease problems generally follows a pattern. They start off slowly, with low numbers of pests or plants affected, then rapidly increase when conditions are just right.

There are two good ways to monitor your crop:

Random monitoring:

This is useful when you are trying to catch a problem early. You do not need to look at every plant. Walk through your crop in a W, X or Z pattern and stop and check 10 plants along each bed.



Selected Monitoring:

Stand back and look for signs of ill-health in the crop. This might look like an area of smallish plants, yellow plants or plants with holes in leaves or any other problem. Look closely at these plants for signs of the pest or disease.

Pick particular places to monitor. These might be places that have had problems before or in high risk areas.

Crop monitoring records

Keep records of all crop monitoring. Records can provide past history and trends in pest populations, damage levels, beneficial populations, and the response to treatment or changes in sanitation practices or weather.

Reviewing crop monitoring records is recommended each week. Compare current results with previous weeks monitoring and again after harvest and annually.

Acknowledgement: Information in this factsheets has been prepared from Keep It Clean – Reducing costs and losses in the management of pests and diseases in the greenhouse. Badgery-Parker, J and T Burfield 2009, with input and advice from Sandra McDougall and Alison Anderson.

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