

Keep it Clean for Field Vegetables

Weeds, windbreaks and water management

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Weeds

Many plants found around farms are hosts of insect pests, nematodes and diseases that can affect common crops. A weed management plan is a critical part of preventing pests causing damage to crops. Effective weed management involves knowing which plants are weeds and not allowing them to grow. There may also be some plants that are designated weeds in your local government area that legally must be suppressed or eradicated even if they do not pose a direct problem for your crop.

“Crop production areas and farm surrounds are kept weed free”

A routinely implemented weed management plan is essential. Crop rotations, cultivation, pre-irrigation, pre-emergent, selective and knockdown herbicides are all part of the solution as well as reducing the influx of seeds via soil amendments, seedlings or neighbouring lands. The aim is to reduce the weed seed bank to a minimum and minimise seed coming onto your farm. Management options will vary for the situation (e.g. between crops or seasons, inter or within-rows, in furrows or along irrigation lines, paddock edges, roadways or tracks) but needs to be thought about and planned. Investing in inter-row cultivation implements, using cropped mulches and crop rotations are all non-chemical weed management options that can be used alone or to reduce chances of herbicide resistance building up.

On some farms, regular mowing may be the preferred option for weed control. Always keep the grass short and free of broad leaf and flowering plants.

Around the crop growing areas, a weed free area is needed – not even weed seedlings. This may just be a 5 - 10 metre buffer zone adjacent to the crop which is kept completely plant free. For small areas between sheds or other structures, cover the ground with weed matting, gravel or mulch to prevent plants from growing. For even better results, maintain a larger weed free area, especially on parts of the property that are in the direction of prevailing summer winds.

A valuable strategy is to plan and work with neighbours to establish an area-wide weed management program. In some regions native revegetation strategies have been developed using selected species of plants that are not a refuge for pests.

Windbreaks and vegetative screens

Many insect pests, weeds and diseases are spread by the wind. Putting windbreaks around the farm or production area can reduce the levels of pests which might be carried into the field. A windbreak could be a structure such as a screen fence or more commonly, a hedgerow of plants. There are specific ways in which to construct or plant an effective windbreak. There are a couple of simple guidelines.

When planting a windbreak, aim to use 3 rows of plants. Use a mix of appropriate evergreen species, preferably native to your area. A vegetative windbreak will provide protection for about 6 times the height of the plants. For example, a 3 m tall hedgerow will provide protection for about 18 m.



areas are a breeding ground for some insect pests and diseases. These need to be drained or filled in. This also makes the farm much easier to keep clean. Maintain roadways and paths around fields to prevent puddles forming and keep drains clear to avoid flooding.

To avoid shading, the windbreak needs to be a distance 2 – 3 times the height of the plants away from the fields. This will vary depending on the topography of the site.

If you are recycling your irrigation water then it is important to monitor pathogen loads in your dam and have a filter system to eliminate or reduce the chances of recirculating a disease when you are irrigating again.

Vegetative windbreaks may also provide habitat for beneficial organisms such as birds, spiders and predatory insects that can help reduce pests on your farm. It is important to think carefully about the types of plants which are used to avoid creating problem areas.

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Water management

Water is a vital part of vegetable production. How it is managed on the property and delivered to the crop has an impact on pest management. A reliable supply of clean, quality water is necessary.

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Ensure you understand how irrigation timing may impact on disease management. For example prolonged leaf wetness can lead to an increased incidence of fungal diseases such as downy mildew.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (March 2012). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

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Good drainage around the farm is important in reducing the risk that diseases will get into the crop. Drainage needs to be planned in the context of the roadways and farm topography. Make sure that surface run-off and storm water can not wash dirt or debris into the growing areas or onto roadways. Prevent algae from growing in drains, channels and in other areas of the farm.

It is important to not have wet boggy areas or puddles in the 'clean' zone. Puddles and muddy