Reducing spray drift using buffer zones and vegetative barriers

This fact sheet outlines the potential value of buffer zones and vegetative barriers when applying pesticides to cropping and horticultural crops.

Often these are seen only of value to protect from herbicide spray drift between broadacre cropping and horticulture. However, the risk is equally important with fungicide and insecticide use in horticulture causing contamination of broadacre crops as well as other types of horticultural crops.

# What is a buffer zone?

An area left designated as a no spray zone between a sensitive area and a crop being sprayed is known as a buffer zone. A buffer zone often forms a strip of unsprayed paddock, but may also contain a vegetative barrier within it. The presence of a buffer zone allows spray drift to settle out of the air stream as it travels across the buffer zone before reaching the sensitive area.

The required distance of a buffer zone will vary a great deal and may be different from day to day as you must take into account:

* The product you are using, some require buffer to be used in order to legally use the product. When using products that specify a required buffer distance it is important to make a note that this was observed when making a record of use.
* The type of application equipment as a boom sprayer applying a COARSE droplet size is less prone to drift than a mister applying a FINE droplet size.
* The nature of the sensitive area you are trying to protect as different distances may be required for crops compared to residential housing etc.
* The environmental conditions on the day, especially the wind direction and speed.

# What is a vegetative barrier?

A row of trees, or shrubs or tall grasses can be planted in strategic lines to reduce the extent of spray drift of agricultural chemicals. They can achieve this by filtering out spray droplets in air passing through their foliage. Limitations of buffer zones and vegetative barriers

Figure These young Casuarina trees (on the right) are already acting as a vegetative barrier for this orchard a few years after planting

It is important to be aware of the following limitations:

* They are not a substitute for good agricultural practice (GAP). If it is too windy then you should not be spraying as either a buffer zone or a vegetative barrier may not be able to stop drift. They are intended to reduce the risk spraying in nearly ideal conditions and help protect against unpredictable gusts.
* They will not stop vapour drift or odour occurring, this is purely a consequence of the product itself and the weather conditions.

# Why plant a vegetative barrier?

A good vegetative barrier works by allowing air to pass through foliage while filtering out spray particles and reducing possible damage to human health, the environment, crops and livestock.

Other benefits of vegetative barriers include productivity gains from improved crop and livestock shelter, filtered noise and dust levels, reduced complaints from concerned neighbours, lowered water tables, habitat for wildlife and increased aesthetic values.

# Effective Vegetative Barriers

A good vegetative barrier should be:

* Semi-permeable - you should just be able to see through it. This allows air to pass through foliage, filtering out spray particles and dust.
* At least 50% taller than the target plant.
* Located in consideration of sunlight and prevailing wind direction.
* Multi-rowed if possible.
* Made up of species with long, thin, rough foliage, e.g. Casuarina.

Figure A tall row of rye corn planted along the sprinkler row

# 

Figure Avoid solid barriers which force spray to be pushed over the barrier and drift further

# What to plant

Some examples are:

**Trees:**

* Casuarina and she-oaks are ideal species.

**Shrubs:**

* Tea-tree, e.g. Leptospermum, Melaleuca.
* Banksia.

**Tall grasses:**

* Grass buffer belts are useful for low growing crops only.
* Rye corn.
* Sorghum.

**Where to plant?**

* On crop boundaries.
* Next to sensitive areas.
* Between blocks or paddocks.
* Along sprinkler rows (low growing crops only).

# Further information

**Your local nursery for advice on what to plant in your area.**

**Product labels and manufacturers or your local reseller, agronomist or consultant to determine what buffer zone distances may be required**

**Agriculture Victoria Chemical Use website** www.agriculture.vic.gov.au/chemicaluse

**Agriculture Victoria Chemical Standards Officers**

Email: chemicalstandards@ecodev.vic.gov.au

**Statewide**

Steven Field (03) 5430 4463

**Northern**

Alex Perera (03) 5430 4591

Felicity Collins (03) 5833 5203

**South West**

Neil Harrison (03) 5336 6616

Stephanie Radford (03) 522

**South East**

Natalie Myring (03) 8427 2391

**ACCESSIBILITY**

If you would like to receive this publication in an accessible

format, please telephone Department of Economic

Development, Jobs, Transport and Resources Customer

Service Centre on 136 186, email

customer.service@ecodev.vic.gov.au or via the National

Relay Service on 133 677 www.relayservice.com.au

**DISCLAIMER**

This publication may be of assistance to you but the State of

Victoria and its employees do not guarantee that the

publication is without flaw of any kind or is wholly appropriate

for your particular purposes and therefore disclaims all

liability for any error, loss or other consequence which may

arise from you relying on any information in this publication.

**© THE STATE OF VICTORIA DEPARTMENT OF**

**ECONOMIC DEVELOPMENT, JOBS, TRANSPORT &**

**RESOURCES, JUNE 2018.**