

Getting your shelterbelts planted and off to a good start

Shelterbelts Fact Sheet 2

This Fact Sheet has been developed as part of the *Profitable Dairying in a Carbon Constrained Future* project.

It is one in a series of resources developed to profile practices that profitably reduce greenhouse gas emissions from dairy farm systems, embedded in the context of every-day farm management decisions.

The Australian dairy industry has committed to reducing greenhouse gas emissions intensity.

Shelterbelts can enhance productivity on farm by keeping cows comfortable and allowing them to put their energy into milk production. They also provide opportunity for sequestration of carbon on farm and consequently contribute to the efforts of reducing emissions on dairy farms.

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Tips for preparation & planting of your shelterbelt

- Decide on planting or direct seeding for shelterbelt establishment
- Locate shelterbelt sites and plan for weed control and pest control
- Order plants or seed required from a reputable nursery or local seedbank
- Spray the site twice well ahead of the planting date
- Cultivate soil if advised for your soil conditions
- Ensure a stock proof fence is in place
- Get the plants or seeds in the ground
- Monitor the site and take action as required for weed and pest control

If you want to establish shelterbelts on your farm, the best time to start is now. If you are time pressured and new to the task consider getting some help in the first year to get your projects underway.

Local nursery services can help with most steps in the process.

Landcare networks are a great source of information and nearby farmers who plant trees on their farms are usually very happy to share their experiences and point you in the right direction.

Plan ahead

There is no right or wrong way to plant shelterbelts. It depends on what you want to achieve on your farm.

Plan well ahead of planting time to ensure your site is ready to go. Use your whole farm plan to identify sites for your shelterbelts that work around farm infrastructure, cow movement and will provide effective shelter from prevailing winds and offer shade in summer.

Decide whether you will plant trees and shrubs or use a direct seeding method. If you are planting larger, arable areas consider direct seeding as an efficient and cost effective method for establishing vegetation quickly.

Place your order with the local nursery 12 months ahead of when you want to plant, this will ensure you get the species you want.



If you are direct seeding your site, locate a seeding machine and book it in for your project.

Planting time

The best time to plant trees and shrubs is when the soil is beginning to warm up but there is still plenty of soil moisture available for the trees and shrubs to thrive. Planting times will vary across Australia. Seek local advice from your Landcare network, state agency, local nursery or nearby farmers.

Ensure you plant quality seedlings or seed

Use local knowledge. Ask if seed is collected locally for growing of the tube stock that you order or for your direct seeding project. Local seed will be best suited to your conditions. Fresh tube stock will have free root systems ready to grow well in your plantations.

Weed control is critical

The most important factor affecting the survival and early growth of trees is weed competition.

The whole area to be treed can be sprayed or a spot for each tree or shrub can be sprayed. Use a glyphosate based spray to ensure weed control within a 1 metre radius of each plant. Many farmers spray twice in the lead up to planting to give the shelterbelt the best chance of establishment. A weed free environment reduces competition for soil moisture and light.

Weed control in the second and subsequent years is usually only necessary where tree growth is very slow or where there is extremely vigorous competition from deep-rooted grasses or woody weeds.

Is deep ripping and mounding or cultivation really necessary?

Seek local advice as to whether you should consider deep ripping, mounding or cultivation prior to establishment of your shelterbelt, it may lead to more weed growth and for most purposes is not essential. However, some soil types will

require this type of preparation enabling planting to be done more quickly and opening up of the soil for root penetration and soil aeration.

If you choose to direct seed, many direct seeding machines scalp the surface of the soil to remove the topsoil and any remaining weed burden.

Planting the trees and shrubs

Before setting out to plant give your tube stock a good soaking with water. Use a tree planter to make the hole and place the seedling into the ground. Push the soil in around the seedling to gain soil contact and ensure no air pockets are left around the plant.

Hamilton tree planters are useful for normal sized tube stock. Pottiputki planters are used by commercial planting contractors to plant large numbers of trees. These consist of a hollow tube with a duckbill end that is driven into the ground and levered open to create a hole suitable for the seedling. The seedling is then dropped down the tube into the hole and pressed into place with foot pressure. A practised operator can plant between 2000 and 5000 seedlings a day using a Pottiputki. These planters are suited to forestry tubes or hikos. Hiko seedlings are roughly half the size of standard tube stock and come in a tray of 40 seedlings rather than individual tubes. Hiko seedlings are nearly half the price of standard tube stock.

As the Hiko tubes are smaller, timing is critical and the ground needs to be soft enough for this planter to work effectively.

For direct seeded sites seek local advice from the organisation that you will hire the machine from.

Protecting your shelterbelts

A fence adequate to exclude stock is an essential part of any shelterbelt. This will vary depending on your own situation. You will be familiar with other local risks such as rabbits, hares, wombats, kangaroos, wallabies and deer. Seek advice about whether tree guards may be

useful to add further protection to your plantings and put a pest control plan in place ahead of planting time.

Insect damage to young trees can be extensive, especially during late summer when the trees might suffer moisture stress or when insect populations are high. Although most tree species can tolerate quite high levels of defoliation, treatment may be required if trees are attacked repeatedly.

Frosts, hot winds, sand blasting and hail can destroy young trees. Guards can reduce these risks although frost control is difficult. Assess the risks and decide for yourself or seek local advice about what control is necessary.

Depending on your location and planting time you may need to water your seedlings. If possible try and avoid this through weed control and careful timing of planting. It is a big task and not a desirable one. Direct seeded sites will not require watering. The seed sits in the soil and will germinate when conditions are appropriate. If conditions are unfavourable in the first year, germination is likely in subsequent years.

Maintaining your shelterbelts

Keep a close eye on plantations in the first few years until plants are out competing weeds and surrounding pastures. Top up plantings may be necessary to fill gaps if some plants have died or certain species have not flourished. As the shelterbelt grows you will have to remove fallen branches and maintain the fence to exclude stock. Weeds such as blackberries can grow in the shelterbelts during the early years, as the area becomes increasingly shaded weeds should become less of a problem.



Photo: Keep an eye of plantings in the first few years to manage weeds and fill any gaps*



Photo: quality tube stock are important, fresh tube stock will have free root systems ready to grow well in your plantations.*

For more information

[Basalt to Bay \(2014\) Economic Benefits of Native Shelter Belts](#)

[Agriculture Victoria – Shelterbelt design](#)

[NRM South – Bushfire recovery resource](#)

[Dairy Climate Toolkit](#)

Acknowledgments

*Photos – supplied by Gillian Hayman

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