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## DAIRY FARM PLANTING GUIDE

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### When Grass Wont Cut The Mustard

Diary farmers are practical people. They apply water and nutrients to grow grass to feed to cows to produce milk. Right? It would be nice if it were as simple as that. In reality more and more farmers are becoming aware of their responsibility to plant trees and shrubs to

- provide buffer zones along waterways
- screen diary sheds and operating areas
- improve stock welfare by sheltering and shading paddocks
- improve the efficiency of irrigation, and reduce the amount of water used
- help control nutrient runoff and leaching
- keep their customers and the general public happy

There are other spin offs in that a mixed planting will provide the diversity of habitats to attract wildlife, bees and invertebrates on to the farm, plus your farm just looks a hell a lot better.

Ultimately the decision on whether to plant trees for livestock shelter will probably hinge on your attitude to the welfare of your stock rather than purely economic grounds. Given a choice, most cows will graze and rest in sheltered conditions during cold, wet weather, and will seek shade on hot sunny days.

At Southern Woods we have noticed a heightened awareness among dairy farmers of these issues over the last couple of years.

Most of us tree lovers have cried as we have watched shelter belts being taken out knowing that these trees have taken decades of nurturing to get to that size. That however is the way of things and the most important fact is that farmers are re-establishing shelter to conform to modern irrigators such as central pivots, and farm management systems generally.

There are downsides in that plantings use valuable grazing land; tall evergreens cause winter shading, frosting and pugging problems; roots can invade and compete with pasture; and there are costs associated with firstly establishing the plants, and then maintaining them.

### **What are the challenges in getting trees and shrubs established?**

Canterbury is one of the hardest places in the country to get plants established. The big killers in order of severity are drought, rabbits and hares, stock damage, and out-of-season frosts. Under irrigation there is less risk of the plants drying out but the high nutrient and water levels will also encourage rampant competing weed growth. You can minimize your risk by

- Choosing a plant supplier with good quality plants
- Getting good advice
- Keeping your plantings simple.
- Choosing the hardiest species and the best grade of plant for your site. Ensure the plants are grown from local seed sources.
- Preparing your site well.
- Having a strategy to deal with hares, rabbits, possums and weeds
- Planning on post-planting care for two or three years
- Being on good terms with the person who controls the electric fence system!

### **What sort of shelter should you plant?**

The types of shelter fit into 2 categories. Firstly, tall semi-permeable perimeter windbreaks will provide shelter well out into the paddock. These may contain a dense under storey if the taller species is deciduous. Secondly, low dense internal shelter which stock can back in against that wont shade or invade pasture or access ways, nor impede the operation of a pivot irrigator.

#### **Tall perimeter windbreaks**

Deciduous and/or evergreen shelter can be planted depending on whether shading will be an issue in winter. Remember that for every 1m of porous shelter height you get at least 15m of good shelter back in the paddock. Ten-meter tall trees will shelter a 150m wide paddock. Plant your shelter at right angles to the prevailing wind if possible. Good deciduous species choices include Crows Nest poplars, Italian or Grey alders, certain Oaks, Planes and Hornbeam. Evergreen choices include Pines, Douglas Fir, Western Red Cedar, Deodars or Leyland Cypress. With the latter be aware of abortion risk in pregnant dairy stock from gorging on wilted trimmings.

#### **Low dense internal shelter**

Under the pivot a great option is to use our native flax, *Phormium tenax*, which will quickly grow to between 2 and 3m tall. It will provide a very dense shelter for stock to back into, is easy to establish, inexpensive to buy, is palatable (and non-poisonous) to stock, can be sprayed around with common herbicides with minimal risk, and has a soft top for the irrigator to pass through. Plant low shelter at 1.2m spacing.

If planting woody species, you should regularly trim to maintain a dense shelter, and to ensure you have sufficient clearance below the pivot droppers. Bushy native species that are suitable for trimming and could be used under the pivot, or as an under storey in taller deciduous shelterbelts, are *Pittosporum tenuifolium* (Kohuhu), *Olearia* 'Dartonii', *Olearia paniculata*, *Olearia oleafolia*, *Coprosma robusta* (Karamu), *Coprosma lucida* (Shining Karamu), *Coprosma propinqua* (Mingimingi), *Coprosma crassifolia*, *Griselinia littoralis* (Broadleaf), and *Hebe salicifolia* (Koromiko). Non-native options are *Viburnum tinus*, *Atriplex halimus* (saltbush), or *Chamaecytisus palmensis* (Tree Lucerne). The latter 2 are well known sources of stock fodder.

### **Other areas around the farm**

Areas such as the calf-rearing pens, the dairy shed and the tanker track are ideal for a mix of natives. These areas are usually irrigated by methods other than a centre-pivot, and so the height is not such an issue, and you can go all-out in contrast foliage and form to really put together a nice planting. If you are feeling rash then give the planting more width and it will look a lot better. Options include the bushy natives listed above plus taller species such as *Plagianthus regius* (Ribbonwood), *Hoheria angustifolia* (Lacebark), *Kunzea ericoides* (Kanuka), *Sophora micorphylla* (Kowhai), *Cordyline australis* (Cabbage tree) or *Podocarpus totara* (Totara).

Prepare for your planting by completing a pre-plant spray in May with glyphosate or Buster, rip to a depth of between 600mm and 800mm in winter, and plant in winter or spring depending on the site and plant type. Don't forget to monitor weed growth after planting, as you'll notice that with regular watering and the high fertility of the site, undesirable weeds such as nodding thistles, wild turnip, fathen and nightshade will tend to thrive. If you can knock these down, they will provide effective mulch and keep the root-run of the plants cooler. Use sawdust from the calf rearing shed, or shavings as a mulch too. Be sure to keep on top the rabbits and hares – use a repellent (e.g. Liquid Shotgun), plastic sleeves, fencing, shooting or all of the above to keep them at bay.

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