

LAND MANAGEMENT

SUSTAINABLE LAND MANAGEMENT

Shelter for Hill Country Farms: Part 2 Shelterbelt Trees

Introduction

Once you have decided where a shelterbelt will be planted (see Environment Topic *Shelter for Hill Country Farms: Part 1 Shelter Design*), use this Environment Topic to assist you in deciding what species should be planted. The third in this series on *Shelterbelt Establishment and Maintenance* discusses how to plant and manage the shelterbelt.

What to plant

For any shelterbelt there are a variety of trees to choose from. You need to compare the trees in terms of:

- Growth rates and final size
- Resistance to pests and diseases
- Hardiness
- Amounts of shade produced
- Fodder
- Bee nectar/pollen, attracting birds, flowers, foliage colour or just general good looks,
- Shelter objectives (for example which wind direction are you sheltering from and alternative uses from the same trees).

Shelter species

The tables on the following pages list species suitable for shelter. Once you have made your selection check around the local area to see if any of the trees are grown and if they are, how well they are growing. Talk to your local Farm Forestry expert or Land Management Officer. You need to be sure of your tree selection, as you will have them for many years.

References

Planting Native Plants in Hawke's Bay. Hawke's Bay Regional Council and Department of Conservation, Napier.

New Zealand Native Plants for Erosion Control. Environment Topic NT1, Hawke's Bay Regional Council, Napier. 1998.

Plant Materials Handbook for Soil Conservation. Volume 1: Principles and Practices. Water and Soil Miscellaneous Publication No. 93. Soil Conservation Centre, Aokautere, 1986.

Infosheet: Wilding Trees. Environment Canterbury, Christchurch.
www.ecan.govt.nz

Trees on Farms. A guide with local experience of growing trees in the Waikato Region. Environment Waikato in association with MAF Sustainable Farming Fund, NZ Farm Forestry Association and Federated Farmers, Hamilton, 2002.

Guide To Successful Farm Forestry A Hawke's Bay Perspective

Kevin Thomsen, Simon Stokes, Alec Olsen & Susan Mackintosh. Hawke's Bay Farm Forestry Assn 2005.

Table 1. Shelter Trees

Scientific Name	Common Name	Evergreen (E) Deciduous(D) NZ Native (N)	Conifers						Medium-tall hardwood			Deciduous		Evergreen		
			Pruned for Timber	Unpruned			Tall			Medium height species	Tall species	Low or slow growing evergreen species for underplanting	Low or slow growing species	Fast growing species	Low or slow growing species	Fast growing species
				Slow growing	Medium growing	Fast growing	Slow growing in low rainfall areas	Slow growing in medium to high rainfall areas	Fast growing							
<i>Abelia grandiflora</i>		E										✓		✓		
<i>Abies pinsapo</i>	Spanish fir	E				✓										
<i>Acacia floribunda</i>		E										✓		✓		
<i>Acacia melanoxylon</i>	Australian blackwood	E										✓		✓		
<i>Acacia retinodes</i>		E										✓		✓		
<i>Acacia spp.</i>		E									✓					
<i>Alnus cordata</i>	Italian alder	D							✓					✓		
<i>Alnus glutinosa</i>	Black alder	D							✓					✓		
<i>Alnus incana</i>	Grey alder	D							✓					✓		
<i>Alnus rubra</i>	Red alder	D							✓					✓		
<i>Bambusa oldhamii</i>		E									✓					
<i>Callistemon spp.</i>	bottlebrush	E									✓	✓		✓		
<i>Cedrus deodara</i>	Deodar	E				✓										
<i>Chamaecytisus palmensis</i>	Tagasaste or tree lucerne	E									✓	✓		✓		
<i>Corokia spp.</i>	Korokio	E, N									✓					
<i>Cryptomeria japonica</i>	Japanese cedar	E		✓			✓				✓	✓		✓		
<i>Cupressus torulosa</i>		E		✓												
<i>XCupressocyparis leylandii</i>	Leyland cypress	E	✓		✓						✓	✓		✓		
<i>Eucalyptus spp.</i>		E													✓	
<i>Melaleuca spp.</i>												✓		✓		
<i>Oleria spp.</i>		E,N									✓	✓		✓		
<i>Phebalium squameum</i>		E							✓							
<i>Phormium cookianum</i>	Mountain flax	E, N									✓	✓		✓		
<i>Phormium tenax</i>	Lowland flax/harakeke	E, N									✓			✓		
<i>Pinus nigra subsp laricio</i>	Corsican pine	E			✓											
<i>Pinus muricata</i>	Bishop pine	E				✓										
<i>Pinus ponderosa</i>	Ponderosa pine	E														
<i>Pinus radiata</i>	Radiata pine	E	✓			✓										
<i>Pittosporum spp.</i>												✓		✓		

<i>Populus</i> spp.	e.g. Crows Nest	D										✓			✓		
<i>Pseudotsuga menziesii</i>	Douglas fir	E	✓		✓				✓								
<i>Salix discolor</i>		D										✓					
<i>Salix</i> spp.	i.e. Tangoio	D										✓					✓
<i>Sequoiadendron giganteum</i>	Sierra redwood	E		✓													
<i>Thuja plicata</i>	Western red cedar	E															

Table 2. Shelter Trees for Coastal Areas

Scientific Name	Common Name	Evergreen (E) Deciduous (D) NZ Native (N)	Coastal			
			Low-Medium		Tall	
			Windward species	Leeward species	Windward species	Leeward species
<i>Acacia longifolia</i> var <i>sophorae</i>	Coastal golden wattle	E	✓		✓	
<i>Albizzia lophantha</i>	Brush wattle	E		✓		
<i>Araucaria heterophylla</i>	Norfolk Island Pine	E		✓		
<i>Banksia integrifolia</i>	Coast banksia	E		✓		
<i>Coprosma repens</i>	Taupata, Coprosma	E, N	✓		✓	
<i>Cordyline australis</i>	Cabbage tree, Ti	E, N		✓		
<i>Corynocarpus laevigatus</i>	Karaka	E, N		✓		
<i>XCupressocyparis leylandii</i>	Leyland cypress	E				✓
<i>Dodonaea viscosa</i>	Akeake	E, N		✓		
<i>Erythrina sykesii</i>	Coral tree	D		✓		
<i>Eucalyptus botryoides</i>		E				✓
<i>Lagunaria patersonii</i>	Norfolk Island hibiscus	E		✓		
<i>Metrosideros excelsa</i>	Pohutakawa	E, N		✓		
<i>Myoporum insulare</i>		E		✓		
<i>Myoporum laetum</i>	Ngaio	E, N		✓		
<i>Oleria paniculata</i>	Akiraho	E, N		✓		
<i>Oleria traversii</i>	Chatham Island akeake	E, N		✓		
<i>Phormium cookianum</i>	Mountain flax	E, N	✓			
<i>Phormium tenax</i>	Lowland flax/harakeke	E, N	✓		✓	
<i>Pinus muricata</i>	Bishop pine	E				✓
<i>Pinus radiata</i>	Radiata pine	E				✓
<i>Pittosporum crassifolium</i>	Karo	E		✓		
<i>Pittosporum ralphii</i>		E		✓		
<i>Pomaderris apetala</i>	Tainui	E, N		✓		
<i>Quercus ilex</i>	Holm oak	E		✓		
<i>Senecio reinoldii</i>		N	✓		✓	
<i>Tamarix chinensis</i>	Tamarix	D	✓		✓	
<i>Teucrium fruticans</i>	Shrubby germander	E	✓			

For further information

For further information on Sustainable Land Management issues and Conservation Trees ask for other titles in this series or contact Land Management Officers at Hawke's Bay Regional Council.

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