

SHELTER FOR WET SITES

Natives

		Ht at 5 yrs	Max ht
Toetoe	<i>Austroderia toetoe</i>	2 m	2 m
Manuka	<i>Leptospermum scoparium</i>	2 m	4 m
Harakeke	<i>Phormium tenax</i>	2 m	2 m

Exotics

		Ht at 5 yrs	Max ht
Sallow wattle	<i>Acacia floribunda</i>	5 m	6 m
Tasmanian blackwood	<i>Acacia melanoxylon</i>	7 m	20 m
Swamp wattle	<i>Acacia retinodes</i>		6 m
River sheoak	<i>Allocasuarina cunninghamiana</i>	4 m	20 m
Red alder	<i>Alnus rubra</i>	6 m	25 m
River red gum	<i>Eucalyptus camaldulensis</i>	6 m	15 m
Swamp gum	<i>Eucalyptus ovata</i>	8 m	20 m
Red ironbark	<i>Eucalyptus sideroxylon</i>	5 m	15 m
Sweet gum	<i>Liquidamber styraciflua</i>	5 m	13 m
Pin oak	<i>Quercus palustris</i>	4 m	20 m
Hybrid English oak	<i>Quercus petraea x robur</i>	5 m	25 m
Tangoio willow	<i>Salix matsudana x alba</i>	6 m	25 m
Coastal redwood	<i>Sequoia sempervirens</i>	8 m	45 m
Western red cedar	<i>Thuja plicata</i>	4 m	30 m



TREES FOR SHELTER

Shelter tree spacing guide:

Single Row

Natives	1.0 – 2.0 m
Poplars/willows	0.8 – 1.5 m
Alders	1.5 – 3.0 m
Pines	1.0 – 2.0 m
Eucalypts/acacia	2.0 – 4.0 m
Leyland cypress	1.5 – 3.0 m
Slow growing conifers	2.0 – 3.5 m
Low trimmed hedge	0.5 – 1.2 m

Multiple row

Increase spacing by 50%, space between rows 1.5 – 3 m, stagger planting.

SHELTER TREES THAT DO NOT TOLERATE FLOODING OR DROUGHT

The following tree growth rates and dimensions are subject to natural variables and are given as a guide only.

Natives		Ht at 5 yrs	Max ht
Tarata	<i>Pittosporum eugenioides</i>	3 m	9 m
Exotics		Ht at 5 yrs	Max ht
Japanese cedar	<i>Cryptomeria japonica</i>	3 m	50 m
Mexican cypress	<i>Cupressus lusitanica</i>	7 m	30 m
White Ash	<i>Eucalyptus fraxinoides</i>	7 m	45 m
Narrow-leaved black peppermint gum	<i>Eucalyptus nicholii</i>	6 m	10 m
Shining gum	<i>Eucalyptus nitens</i>	10 m	50 m

Trees are often planted to protect property, crops or animals from wind or to create a screen for privacy.

Shelterbelts can be planted as a barrier, as a wind filter, or a combination of both.

Barrier type shelters are commonly planted with evergreen conifers such as Leyland cypress. Animals can shelter close to the trees however this creates tumbling air in the lea of the shelter giving less benefit downwind.

Semi-permeable shelterbelts are recommended as they can slow the wind speed over a greater distance. Wind speeds can be reduced by 20-50% over a distance 10-20 times its height. Moisture losses due to drying winds are reduced, resulting in greater crop and grass growth. It is important to look at deciduous versus evergreen trees. Tall evergreens create long winter shadows, which can affect pugging in paddocks and dangerous ice on nearby roads. Deciduous trees lose their leaves resulting in a more open draughty shelter at ground level. A compromise might be to use tall deciduous trees, while using a native evergreen to provide stock shelter in the lower third.

SHELTER FOR DRY SITES

Natives		Ht at 5 yrs	Max ht
Toetoe	<i>Austroderia toetoe</i>	2 m	2 m
Taupata	<i>Coprosma repens</i>	3 m	6 m
Akeake	<i>Dodonea viscosa</i>	4 m	7 m
Purple akeake	<i>Dodonea viscosa "purpurea"</i>	4 m	7 m
Broadleaf	<i>Griselinia littoralis</i>	3 m	10 m
Lacebark	<i>Hoheria spp.</i>	3 m	6 m
Kanuka	<i>Kunzea ericoides</i>	3 m	8 m
Manuka	<i>Leptospermum scoparium</i>	2 m	4 m
Ngaio	<i>Myoporum laetum</i>	5 m	7 m
Akiraho	<i>Olearia paniculata</i>	3 m	4 m
Coastal tree daisy	<i>Olearia solandri</i>	3 m	4 m
NZ daisy bush	<i>Olearia virgata</i>	3 m	5 m
Ralph's Kohuhu	<i>Pittosporum ralphii</i>	3 m	4 m
Kohuhu	<i>Pittosporum tenuifolium</i>	3 m	6 m
Totara	<i>Podocarpus totara</i>	2 m	20 m
Exotics		Ht at 5 yrs	Max ht
Silver Wattle	<i>Acacia dealbata</i>	10 m	20 m
Italian alder	<i>Alnus cordata</i>	7 m	20 m
Tree Lucerne/ Tagasaste	<i>Chamaecytisus palmensis</i>	4 m	7 m
Red Flowering Gum	<i>Corymbia ficifolia</i>	6 m	10 m
Macrocarpa	<i>Cupressus macrocarpa</i>	7 m	25 m
Oven's cypress	<i>Cupressus ovensii</i>	7 m	30 m
Leyland cypress	<i>Cupressus x leylandii</i>	7 m	30 m
River red gum	<i>Eucalyptus camaldulensis</i>	6 m	15 m
Heart-leaved silver gum	<i>Eucalyptus cordata</i>	7 m	10 m
Red stringybark	<i>Eucalyptus macrorhyncha</i>	6 m	30 m
Yellow box	<i>Eucalyptus melliodora</i>	7 m	20 m
Swamp gum	<i>Eucalyptus ovata</i>	8 m	20 m
White peppermint	<i>Eucalyptus pulchella</i>	6 m	12 m
Red ironbark	<i>Eucalyptus sideroxylon</i>	5 m	15 m
Mediterranean ash	<i>Fraxinus angustifolia</i>	5 m	20 m
European ash	<i>Fraxinus excelsior</i>	5 m	30 m
Sweet gum	<i>Liquidamber styraciflua</i>	5 m	13 m
Olive	<i>Olea europea</i>	4 m	8 m
Hybrid English oak	<i>Quercus petraea x robur</i>	5 m	25 m
Radiata pine	<i>Pinus radiata</i>	7 m	25 m
Veronese poplar	<i>Populus nigra x euramericana</i>	7 m	30 m
Yunnan poplar	<i>Populus yunnanensis</i>	6 m	25 m