



A guide to the benefits of planting willows



Moutere willow shelter line

Willow trees are a valuable asset on the farm and to the Southland region, performing many beneficial services like erosion control, stock shelter, bee food, bird habitat and providing resources like woodchip, firewood and honey.

New Zealand has a number of willow species that can be used for aesthetic purposes in the garden as they provide various bark colours and interesting shapes. For the farm, there are specially bred clones designed to do a specific job without the issue of spreading or requiring a lot of maintenance.

Willows are also good stock food, containing astringents that reduce parasites, and the trees' deep roots mean lots of lush, green leaves even in drought conditions.

Some willow species can be a problem, but these species can be easily avoided. If you are concerned about willow roots entering drains carefully consider where to plant them or use solid pipe.

Crack willows are one of the main bank stabilising trees on Southland rivers, but they are highly invasive and require costly management. They are not permitted under the Biosecurity Act – so don't establish them on your farm.

► Establishing willows

Willows thrive in damp rich soils and are easy to establish by planting as a stake (40-60cm) or wands (100-150cm) rather than a rooted plant. Stakes and wands are cut from new growth off trees from June to August before the buds open. Soak the lower end in water for up to a week prior to planting and put in the ground by spade or crowbar to about 20 – 50cm deep. Stakes and wands can be harvested yourself or supplied by nurseries. Keep weeds and long grass from smothering them for the first few years and they will grow quickly with minimal loss. Fence out stock or use plastic protector sleeves and keep cattle away.

To maximize the benefits of willows, firstly decide what you wish to achieve (erosion, shelter) then the size of the willows (shade), suitability to location (stream banks) and climate (coastal zone salt laden winds).

New Zealand has three main willow sizes

1. Tree willows grow to 20m tall with a single trunk up to 90cm in diameter. They are used for shelter, shade, erosion control, fodder and riverbanks.
2. Basket willows grow as medium sized shrubs with multiple stems and are used for shelter, bee pollen, bank stabilization and erosion control.
3. Shrub willows are small trees with multiple stems and stout branches. They are used for shelter, bee pollen, bank stabilisation, bird habitat and erosion control.

Southland has three distinct climate zones

1. The coastal zone is dominated by cold salty winds. Tree willow clones like Moutere, Matsudana and shrub willows like Glenmark and Pohangina are suitable.
2. The intermediate zone has a temperate climate with few severe frosts. Tree willow clones like Moutere, Matsudana and Tangoio are suitable.
3. The inland zone has extremes from dry warm northerly winds to severe frosts. Tree willow clones like Moutere, Matsudana, Tangoio and shrub willows like Glenmark and Pohangina are suitable.

Willows for erosion control

Tree willows Tangoio, Matsudana, Moutere and Hiwinui, plus the shrub willow Glenmark are suitable for Southland.

Willows for shelter lines

All of the clones are an option depending on shelter requirements like height, minimal trimming and proximity to infrastructure like roads and lines. You can mix the various willow clones or add evergreen trees as well.

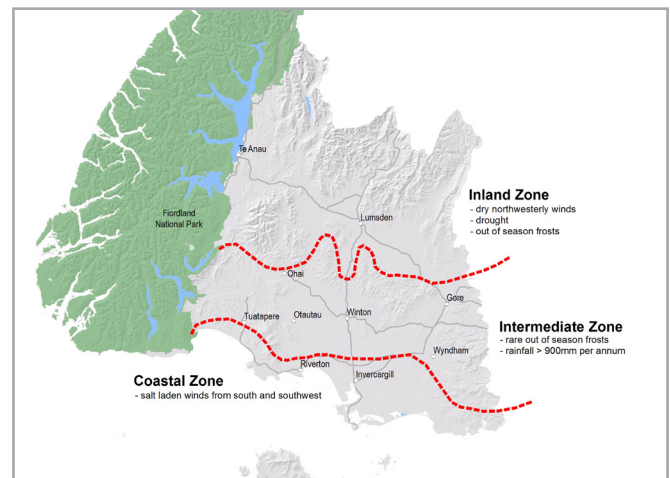
Willows by waterways and ponds

Tree willows Moutere and Hiwinui, plus shrub willows Glenmark, Booth, Holland, Irette and Pohangina are suitable for Southland.

Willows for stock food

All of the clones are an option except Pohangina, which is less palatable. The best option is the Japanese fodder willow which is very palatable to stock, but avoid planting this along a waterway or near a wetland as it grows vigorously and will require control.

Southland's climatic zones



More information

- Polar and Willow Research Trust – www.poplarandwillow.org.nz
- Environment Southland factsheet *Riparian Plants for Southland* – www.es.govt.nz
- DairyNZ – www.dairynz.co.nz
- Beef + Lamb – www.beeflambnz.com.

Further assistance

For advice and planting plans to suit your specific needs, call us to arrange a free visit by Environment Southland's land sustainability team on 0800 76 88 45.