



SOUTHERN WOODS

PLANT NURSERY



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Info 26: SMART FARMING FOR HEALTHY BEES

Bee Friendly Land Management

To ensure the future of farming, all farmers need to play their part in protecting the honey bee. The bee is one of the hardest workers in horticulture and agriculture; about \$3 billion of our GDP is directly attributable to the intensive pollination of horticultural and specialty agricultural crops by bees. In addition there is a huge indirect contribution through the pollination of clover, sown as a nitrogen regeneration source for the land we farm. This benefit flows on to our meat export industry through livestock production and sales. Incidentally, there is compelling, but not definitive evidence that the use of the nicotine-based neonicotinoid class of pesticides is part of the reason for the worldwide decline in bee numbers. These systemic insecticides accumulate in the bees and have caused massive numbers of bee deaths. Twenty three of these nicotinyl pesticides containing clothianidin, thianetoxam, and imidacloprid are in use in New Zealand.

The beekeeping industry is facing some of its biggest challenges with increasing bee pests and diseases. This is of great concern because, in terms of the food we eat, about a third of the calories and three-quarters of the diversity rely on bees for pollination.

The most important issue leading to a bee crisis in NZ is declining floral resources and the subsequent scarcity of quality pollen, which leads to bee malnutrition. The key to good bee health is a continual supply of diverse pollen and nectar from natural sources.

Bees consume pollen as a protein and vitamin source and nectar for energy. While gathering these resources, they move pollen from one plant to another thus benefiting the farm by pollinating crops. Availability of quality pollen resources is critical during spring when beekeepers are building up bee populations for pollination services. Any shortfall leads to protein stress that weakens bees making them more susceptible to diseases and pests (e.g. varoa mite); it also dramatically slows the queens' breeding output and this results in low field strength and under-performing pollination services.

Today, farmers can reverse this trend by choosing bee-friendly trees and shrubs for planting in waterway margins, windbreaks, field edges, under pivots and also on roadsides. Fortunately a number of shelter and erosion control plants have abundant flowers to feed bees so selecting multi-purpose plants is smart farming for healthy bees.

This fact sheet will help you provide pollen that these vital creatures need.

Native Trees & Shrubs for Bees

Native plants are the best choice to increase “on-farm” biodiversity and benefit both the honey bee and the environment.

Common Name	Botanical Name	Life Form	Max Height (m)	Month of Flowering
Cabbage Tree	<i>Cordyline australis</i>	Tree	15m	Oct-Dec
Five-finger	<i>Pseudopanax arboreus</i>	Tree	8m	Jun-Aug
Hebe	<i>Hebe</i> sp eg. <i>gracillima</i>	Shrubs	Various	Various
Lancewood	<i>Pseudopanax crassifolius</i>	Tree	6m	Nov-Dec
Kanuka	<i>Kunzea ericoides</i>	Tree/Shrub	15m	Sep-Feb
Shining Karamu	<i>Coprosma lucida</i>	Tree/Shrub	4m	Nov-Dec
Kohuhu	<i>Pittosporum tenuifolium</i>	Tree	6m	Oct-Jan
Koromiko	<i>Hebe salicifolia</i>	Shrub	3m	Jan–Feb (Apr)
Lemonwood	<i>Pittosporum eugenioides</i>	Tree	10m	Oct-Dec
Manuka	<i>Leptospermum scoparium</i>	Tree/Shrub	5m	Sep-Mar
Matagouri	<i>Discaria toumatou</i>	Tree/Shrub	5m	Oct-Jan
Narrow-leaved Lacebark	<i>Hoheria angustifolia</i>	Tree	10m	Dec-Mar
NZ Flax	<i>Phormium tenax</i>	Shrub	Up to 5m flower stalk	Nov-Dec
Ngaio	<i>Myoporum laetum</i>	Tree/Shrub	8m	Jul-Apr
North Island Broom	<i>Carmichaelia australis</i>	Shrub	2m	Oct-Feb
Pink Tree Broom	<i>Carmichaelia glabrescens</i>	Shrub	3m	Dec
Scented Broom	<i>Carmichaelia odorata</i>	Shrub	3m	Dec
South Island Broom	<i>Carmichaelia arborea</i>	Tree/Shrub	3m	Dec-Jan
Southern Rata	<i>Metrosideros umbellata</i>	Tree/Shrub	15m	Nov-Jan
Tree Fuchsia	<i>Fuchsia excorticata</i>	Tree/Shrub	12m	Jun-Jan
Weeping Kowhai	<i>Sophora microphylla</i>	Tree	10m	Sep-Nov

Non-Native Trees and Shrubs for Bees

Exotic plants are good choices because many are multi-purpose for farming and have excellent pollen and nectar.

Common Name	Botanical Name	Life Form	Max Height (m)	Month of Flowering
Apple	<i>Malus x domestica</i>	Tree		Sep-Nov
Bottlebrush	<i>Callistemon splendens</i>	Shrub	2m	Oct
Grevillea	<i>Grevillea</i> spp ‘Clearview David’ or ‘Victoria’	Shrub	Various	Various
Horse Chestnut	<i>Aesculus hippocastanum</i>	Tree	36m	Oct-Nov
Lavender	<i>Lavandula stoechas</i>	Shrub	1m	Sept-Dec
Pear	<i>Pyrus communis</i>	Tree		Sept-Oct
Rosemary	<i>Rosmarinus officinalis</i>	Shrub	1.5m	Sept-Nov
Tree Lucerne	<i>Chamaecytisus palmensis</i>	Tree	5m	May-Oct
Blue Gum	<i>Eucalyptus globulus</i>	Tree	40m	Sept-Dec
Ribbon Gum	<i>Eucalyptus viminalis</i>	Tree	40m	Jul-Apr
Silver Dollar Gum	<i>Eucalyptus cinerea</i>	Tree	15m	Dec-Feb
Snow Gum	<i>E. pauciflora</i> spp. Niphophila	Tree	18m	Sept-Nov
Swamp Peppermint	<i>Eucalyptus rodwayi</i>	Tree	15m	Mar-Jun
White Ironbark	<i>Eucalyptus leucoxylon</i>	Tree	30m	Mar-Nov
Yellow Box	<i>Eucalyptus melliodora</i>	Tree	30m	Dec-Feb
Weeping Willow	<i>Salix babylonica</i>	Tree	25m	Aug-Sep

To match the plants to your site, contact Southern Woods: info@southernwoods.co.nz

The plants listed above are examples of good Bee Plants that are not on any list of pest plants (weeds) for Canterbury. See our website for further examples and guidelines. Although some plants are good for bees, they are on pest plants lists because they are invasive. Planting them would be detrimental to farmers or to the environment and in some cases even illegal (eg

Unwanted Organisms list). Lists of pest plants change regularly so it is best to consult your regional authorities.

1. **Canterbury Regional Pest Management Strategy** is listed at <http://www.biosecurityperformance.maf.govt.nz/> Plants listed in the strategy must not be planted for various reasons. Contact your Regional Council (Phone 0800 324 636) or www.ecan.govt.nz for advice about your area. For example, do not plant:

Blackberry (*Rubus fruticosus*) – Shrub
Flowering Currant (*Ribes sanguineum*) – Shrub
Gorse (*Ulex europaeus*) – Shrub
Hawthorn (*Crataegus monogyna*) – Tree/Shrub

Scotch Broom (*Cytisus scoparius*) – Shrub
Spanish Heath (*Erica lusitanica*) – Shrub
Sycamore Maple (*Acer pseudoplatanus*) – Tree
Thyme (*Thymus vulgaris*) – Shrub

2. **The National Pest Plant Accord (NPPA)** is listed at www.biosecurity.govt.nz/nppa Plants listed on the NPPA are unwanted organisms under the Biosecurity Act 1993 and cannot be sold, propagated or distributed even though some are high value bee plants. For example, do not plant:

Crack Willow (*Salix fragilis*) – Tree
Grey Willow (*Salix cinerea*) – Tree/Shrub

Lantana (*Lantana camara*) – Shrub
Scottish Heather (*Calluna vulgaris*) – Shrub

3. **The Department of Conservation (DOC) Weed List** contains around 20 high value bee plants that are aggressive environmental weeds. To protect the environment, please consult a DOC weed expert for your situation www.doc.govt.nz/conservation/threats-and-impacts/weeds/docs-weed-work/