



Flowers for Healthy Bees

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Database is platform for information

- Literature search at international and NZ level
- Cultivated and crop plants to add to database
- Validate data for NZ
 - botanists
 - beekeepers
 - farmers
 - regional councils



Need to know for the Bees



- High protein pollen
- Or good nectar
- Accessible nectar/pollen
- Attractive to bees
- Seasonal progression
- Non-toxic to bees

Need to know for the Beekeepers

- Timing of flowering in relation to honey flow
- Quality and quantity Honey (good taste, non-toxic)



Need to know for the farmers

- Differs for arable, pasture, or tree crops
- Migratory *versus* permanent apiaries?
- Growing conditions needed by plants?
- Practical, cost-effective, multi-purpose plants



Need to know about weeds

Weed problems
are not wanted:

- Agricultural
- Environmental

Useful solutions:

- Natives
- Cultivated spp.



Bee Friendly High Country Farms

Three criteria for **bee health**

1. Spring building up pollinator population
2. Autumn preparation for over-wintering
3. Bee forage all year round
4. **No competition for clover pollination**
5. **No weeds**
6. **Financial or multipurpose for farmer**

Bee Friendly High Country Farms

Six criteria for management

1. Shelter for bees
2. Water for bees
3. Fencing to protect the hives in apiary
4. Road access to apiary year round
5. North facing site
6. Good clover cultivars for honey

Herbs to retain

- Dandelion
- Borage, Vipers bugloss
- Lotus
- Cat's ear
- Chicory
- Plantain
- Subterranean clover
- White and red clover
- Brassica (very good pollen)

Shrubs to consider

- Lucerne
- Lavender (Sep – Dec)
- Rosemary
- Hebe (native) some are winter cultivar
- Viburnum spp.?
- NZ Flax (native) (Nov-Dec)
- Gorse (don't remove if allowed)
- Broom (don't remove if allowed)
- Coprosma (flowers in August early spring)

Native Trees to consider

- Beech (honey dew)
- Cabbage Tree (Oct-Dec) **Overlap with clover**
- Five Finger (June – Aug) winter
- Fuchsia tree (Jun – Jan)
- **Kamahi (Dec – Jan) good honey**
- Kowhai (?)
- **Manuka & Kanuka good honey**
- Matagouri (hard on sheep, weedy)
- **Westland Quintinia (Oct-Nov) overlap clover bad taste**
- Pittosporum

Exotic Trees to consider

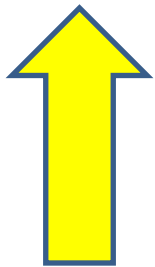
- Willow (weeping, pussy, matsudana) spring
- Eucalyptus (autumn & spring flowering)
- Tree Lucerne
- Almond (spring)
- Apple (spring)
- Pear (spring)
- Plums (spring)
- Cherries (spring)
- Ornaments--

Weeds wont work (legislation)

- Pine (poor pollen 9 %)
- Heather (prohibited weed on NPPA list)
- Gorse and Broom (unless it is already there?)
- Crack Willow (prohibited weed on NPPA list)
- Hawthorne (Canterbury environmental weed)
- Some doubtful like wattles (need research)

Seasonal progression - No Gaps

Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Spring build up			Clover pollination		Summer		Autumn preparation for winter			Over-wintering		



Protein
Rich
Pollen



Target
Crop for
pollination



Protein
Rich
Pollen



Conclusions

- To Maximise clover pollination
- Early spring & Autumn protein-rich pollen is vital
- Multipurpose plantings,
- “Beekeeping started last season”
- Do the right thing early on -- in the autumn & spring to get good clover pollination