FROM THE BEEHOUSE – AUTUMN 2014

With honey season behind us…looking forward

"It has been and interesting year for us here Beewise. Spring started wet with a lot of cloudy days and drizzle but then turned very dry with very good honey flows. We averaged more than 60 kg per hive over next 3 months. Perfect flying weather meant little rain and as a result ground flora did not grow. We had a good rest from mowing. The queens too where slow in laying eggs and nuc's where slow to expand this year. Patience was called for. Few SHB – thanks to the dry. They will turn up as humidity increases.

By the middle of summer we hope for some Eucalypts to flower but the season has been tapering off much too fast. There is little ground flora flowering and we generally can depend on Cobblers Pegs for a reliable supply of pollen and nectar. Not so far this year. But the rain will come and weed species will contribute their fill.

At time of writing (January) we had some exceptionally hot and dry days. I noted that Forest Red Gums are budding and even the Bloodwoods are developing buds – seems early.

If you take some honey off late in the season make sure that you leave plenty for the bees. Don't be greedy! Here is hoping for some summer rain and a plentiful Autumn. Speaking of weeds… here is an article on one of my favourites!"

BEEKEEPING WORKSHOP ANNOUNCEMENT!

We will be offering another one-day workshop on Beekeeping on ***Saturday, 29th March*** *at Lot 59 at Crystal Waters. We will be starting at 8.30 in the morning and will wind down around 1530 in the afternoon. The workshop will include theory of setting up a hive or two, bee behaviour, bee diseases and what to do about it, Honey harvesting - the processes from finding a suitable site to placing a hive to extracting Honey. On the day you will learn how to assemble frames and boxes, how to wire a frame and insert foundation...and, weather permitting, you will have a chance to see inside a hive and enjoy the sights, smells and sounds of bees. This is an interesting time in the apiary – we have just taken off some honey and the bees will still be busy.*

Group size is limited to approx 8 to 10 people.

Fee (includes notes and morning tea - please bring your own lunch) $ 80.00 (discount for juniors). In the case of rain, the workshop will be cancelled. More information will be sent out to participants about one week before the event. IF YOU CAN NOT ATTEND THIS WORKSHOP BUT WOULD LIKE TO BE INFORMED OF FUTURE WORKSHOPS, PLEASE LET US KNOW - THANKS!

Bidens pilosa

Cobblers Pegs or Farmers Friends (as the plant is commonly known around here), is not everybody's favourite. It is not exactly pretty but the nuisance value is the seed. The Velcro like attachments of the seeds on socks and indeed any clothing is a pain. The hook at the seed end is of course a cleverly designed mechanism to make sure the seed is carried not so much by people but just about any animal.

The spread of the “weed” is proof of the success of this mechanism.

But there is more to this plant!

In traditional Chinese medicine, this plant is considered a medicinal herb, called *xian feng cao*
Almost two hundred compounds have been isolated from *B. pilosa*.

As a beekeeper, my main interest in the plant is as a great honey and pollen provider!

About 80% of the honey harvested in Australia is from Eucalypts. In the second part of summer and into autumn we don’t have many reliable Eucalypts flowering. Also, the peak production of nectar in Eucalypts is at about 1 am. Any morning shower or storm will wash out the day’s supply of nectar leaving the bees short. Cobbler’s Pegs on the other hand will flower any time of the day and will open after a shower and indeed between showers.

A University of Florida publication says:

“Spanish Needles”, *Bidens pilosa* is found throughout Florida in disturbed soil. The plants are annual, and numerous flowering heads with white rays and a yellow centre are produced throughout the year, except where exposed to frost. It is an excellent nectar producer in late summer

http://entnemdept.ufl.edu/honeybee/extension/Beekeeping%20-%20Florida%20Bee%20Botany.pdf

Another reference has this to say:

Bidens pilosa is a simple, vertical, annual, short-living herb. It has a height of 30 to 120 cm. It blooms from early December to late March in Cuba. **Romerillo honey** comes from *Bidens pilosa* and occurs in Cuba. It is harvested from late January to early April. It has a yellow pale colour to yellow and flavour is delicate with a mild herbal aftertaste. It has quite a strong, aromatic odour. Romerillo honey is widely used in Cuba as protecting means of mouth and teeth against viral diseases. Then the stock of juice of *Bidens pilosa* plant is applied, leaves and Romerillo honey. This honey is also known as an excellent remedy used to enhance vitality.

http://www.corpo.biz.pl/miody-swiata.php?l=uk&p=3

Green Deane says:

Nearly anyone you ask about *Bidens alba* who knows it will say it’s a weed, not a pretty one, nor a useful one, not a nice one. Yet, honey production everywhere would be hurt without the *Bidens* family. In Florida, *B. alba* is the third most common reliable source of nectar.

http://www.eattheweeds.com/spanish-needles-pitchfork-weed/

A reference I always trust – HONEY AND POLLEN FLORA by Alan Clemson – says:

“Bees work this plant consistently to obtain small amounts of nectar and an abundance of salmon yellow pollen. It is of minor importance as a source of honey.

It is not uncommon to find combs filled with stored pollen gathered from this plant after favourable rainfall. Pitchforks is rated of major importance as a source of pollen for bees and is of special benefits as one of the last sources available before winter.

Here I find that about every second year we will get a surplus – honey to harvest. It is a very nice honey too. As Bidens will survive pretty well every kind of weather (it does get killed by a heavy frost) the plant is a good back-up for bees for pollen and honey here.

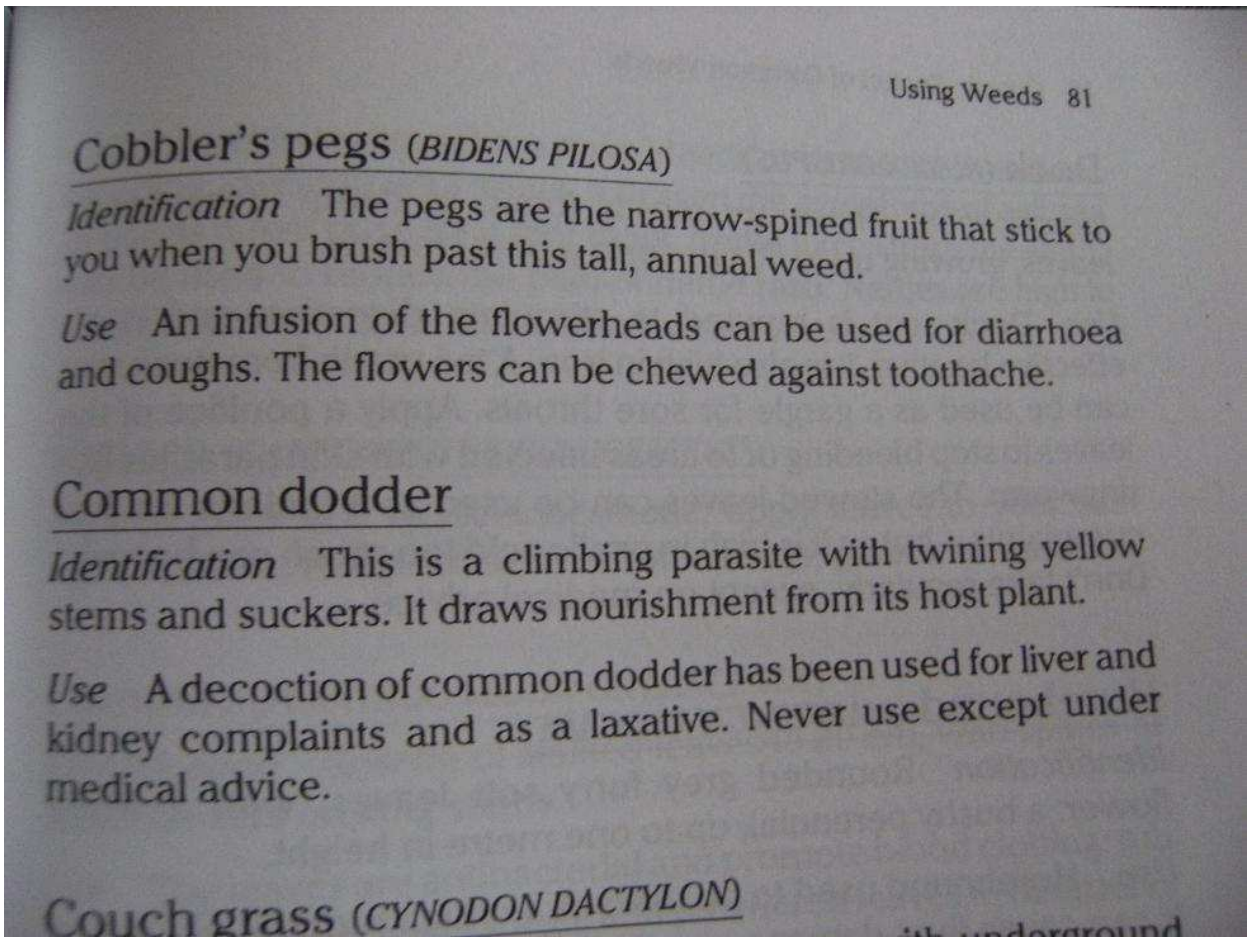
Bidens pilosa has been with us for a long time – Banks and Solander collected specimens. It will be with us for a while yet – better start to love it!

The plant is in use all over the world!

The leaves of *Bidens pilosa* have been eaten in times of famine in countries such as Africa, and have a strong flavour to them that many find unpleasant. The trick with many leafy edibles is to eat the leaves before the plant starts to flower. If you have ever tried picking loose leaf lettuce after it starts to flower, in the hope of getting just a few more leaves before the plant is inedible, you will know how bitter they can be. It is the same with *Bidens pilosa*, and while the leaves still have a definite flavour to them, they are more palatable when harvested before anthesis (flower growth).

B. pilosa has been eaten boiled in Mexico, and used as a tea in the Marquesas, China and by Texas Indians. Both *B. Pilosa* nad *B. chinensis* (alt. *B. biternata*) are sold in Java (young apical shoots), used to make wine in the Philippines (flowers or leaves, fermented with rice-sinitsit) and cooked and eaten (young shoots & older leaves) in Nyasaland.

Although I cannot find record of it, I am fairly sure I have come across some documentation about flour made from the seeds of *B. Pilosa*, if you know the source, please let me know.



Using Weeds 81

Cobbler's pegs (*BIDENS PILOSA*)

Identification The pegs are the narrow-spined fruit that stick to you when you brush past this tall, annual weed.

Use An infusion of the flowerheads can be used for diarrhoea and coughs. The flowers can be chewed against toothache.

Common dodder

Identification This is a climbing parasite with twining yellow stems and suckers. It draws nourishment from its host plant.

Use A decoction of common dodder has been used for liver and kidney complaints and as a laxative. Never use except under medical advice.

Couch grass (*CYNODON DACTYLON*)

Bidens pilosa has long been in use in traditional medicine, the heated crushed leaves applied as a poultice to wounds and boils, the leaf juice used for ear aches and eye complaints (the latter sometimes mixed with alum or lime), an infusion of the root for eye complaints. An infusion is also used for coughs and colic, with this plant also having use as an antidote to (unspecified) poison. The leaves have been used for jaundice, fever, hepatitis, diarrhoea, worms, pharyngitis, pneumonia and coughs in Brazil. The root is used to treat oedema and snakebite in India. Although I had regarded this little plant as a weed, a member of Bushcraft Oz forums recently made a most surprising revelation: This plant was actually collected in 1770 by Banks and Solander! They have the specimen in the Royal Botanic Gardens herbarium:

http://www.rbgsyd.nsw.gov.au/science/Evolutionary_Ecology_Research/Botany_of_Botany_Bay/plants/interesting_botany_bay_plants

By now you have probably fallen in love with this plant. Do not despair; you can buy seeds on ebay! Mind you a visit to Crystal Waters will provide you with enough seeds on your socks for a while!!

Honey bees demonstrate decision making process to avoid difficult choices

A new study on the metacognitive ability of honey bees suggests that they, like humans, avoid difficult decisions when they lack sufficient information to solve a problem.

Researchers from Macquarie University tested honey bees with a series of trials involving visual discrimination between targets inside a two-chamber apparatus. The bees had to learn a rule to match a combination of shapes

with nectar. A correct identification was rewarded with sweet nectar, but an incorrect decision resulted in a bitter tasting solution. Bees could also choose not to take the test at all and 'opt out'.

Researcher Dr Andrew Barron says the results showed that the more difficult the challenge, the more likely the bees were to 'opt out'.

"It's a highly debated topic, whether non-humans have the same abilities to gauge their level of certainty about a choice before taking action."

Co-author Dr Clint Perry says, "Similar metacognitive testing has been conducted with dolphins, dogs, and rats. However this study is the first to demonstrate that even insects are capable of making complex and adaptive decisions.

"The honey bees' assessment of the certainty of a predicted outcome was comparable to that of primates in a similar paradigm."

The size, shape, colour and positions of the targets were constantly changed during training so the bees had to learn a geometric rule to solve the task correctly. The bees demonstrated a high level of learning ability to solve the tasks, but when the discrimination of the targets was made harder the bees' behaviour changed.

"As we made it harder for the bees to assess the correct shape combination, the bees' uncertainty about the correct choice grew, and we observed an increase in the decision to exit the chamber and not take the test to avoid the chance of getting it wrong," said Dr Barron.

"This suggests that the bees were only taking the test when they were confident of getting it right."

The full study *Honey bees selectively avoid difficult choices they lack the information to solve* has been published in full by the National Academy of Sciences.

Clint J Perry, Andrew B Barron *Honey bees selectively avoid difficult choices.* National Academy of Sciences of the United States of America. http://www.pnas.org/content/early/2013/10/30/1314571110.abstract

Simple Small Hive Beetle (SHB) Diagnosis: *By Marc O Schaefer et al – American Bee Journal April 2010*

As part of a PhD thesis Marc used narrow strips of d-strips (corrugated advertising board – or coreflute) as SHB harbours. In his tests he used black and clear d-strips (with equal success). As we know bees chase the SHB constantly and the beetles always look for a hiding place where bees can's get to them. D-Strips/coreflute is the ideal material as the entrance is large enough for the beetles but too small for bees. Marc used this characteristic to attract SHB. By leaving the narrow strips of the material inserted in the entrance for two days then quickly taken out, resulted in beetles being trapped for a count.

Interesting for us beekeepers is the result which showed that the number of beetles trapped was an accurate indicating of the beetle population in the hive eg few beetles trapped meant a small SHB population and many beetles trapped a large population.

Use of this sample technique may well allow us to monitor SHB populations without having to open a hive.

Never too early to get ready for next season.

The season to do splits and make up nuc's has only just passed.

If conditions are ideal (and in 2013 they where far from ideal) I like to make the first splits as early as September. In an exceptional year I may have some swarms building even in August. 2013 was different. It rained for far to long for bees to build up and than there was no rain and I suspect a shortage of quality pollen. Still, I was able to make more than 20 nuc's with only very few failures.

I don't like making up more nuc's after about Christmas. We have to expect steady rain and there seems not enough time for a hive to build up before flowers become a bit of a shortage. Also as soon as we get some rain the SHB (Small Hive Beetles) start to build up and a hive with not enough bees does find it difficult to defend itself from an increasing number of beetles.

So, as soon as late summer I start taking down Catch Hives and start to clean up nuc boxes.

Sugar Soap is great stuff to get some of the dirt off. A bit of a soak and scrape followed by a good hose-out does the job. Any gaps can be fixed and the lids and edges re-painted. Nice to know the gear is ready for the next season.

This year - and I will do this when the temperature is lower - I will close up the entrance slots of some of the boxes and install closers. Like these:
http://www.mannlakeltd.com/beekeeping-supplies/category/page60.html#!productInfo/2/

It should make closing off nuc's a breeze and no bees should ever escape.

Nuc's – next steps:

OK – You have successfully installed your nuc. The bees have by now expanded their brood nest to the rest of your frames (to 8 frames or 10 frames depending on your brood box).

All has gone good so far. You have regularly cleaned out your SHB traps and the queen has expanded her brood area to more and more frames. Most of the frames will have some honey stored along the top bar and down the sides. The outer most frames are possibly full of honey. Pollen of different colour is interspersed throughout the hive.

All is normal. To get to this point from a 4 or 5 frame nuc will take from say 2 months to a few months. It very much depends on the weather and the honey flow.

Time to add the honey super.

The easiest way to do this is to simply add a queen excluder and a box of your chosen size full of frames with foundations. In most cases the bees will accept the new frames without much of a problem as long as there is a honey flow on and there is a need for them to expand.

It can happen that the bees just don't seem to want to move above the excluder.

I use this opportunity to take some of the older frames – generally the ones which where with the original nuc – and move them into the middle of the new box. They will contain capped and un-capped brood and there is no way the bees would ever abandon their babies. Make sure you are not moving the queen or a queen cell or you will have to deal with brood in your honey box. Don't forget to place frames with lovely clean foundation in this vacant space.

You will find that the brood will hatch over the next few days and the bees will fill the cells with honey. If the frames are past their best you will be able to replace them when you extract the honey.

At the time when you add all these new frames is also a rather critical time for the hive. You have just doubled the size of you hive and the same number of bees will have to defend a much larger space. This is the opportunity SHB have been looking for!! Make sure that you have two traps ready to reduce the numbers. It is also a good idea to make the entrance narrower. This is most important in areas where there a number of feral hives around which may look for a gentle hive they could rob.

A busy queen will lay 1000 to 1500 eggs a day and the critical period will only last a few weeks. By then the population will have increased and the bees can be expected to be able to defend any intruders.

Bee Friendly: A planting guide for European honeybees and Australian native pollinators.

This is an excellent publication and is available as a download for free. It is an excellent tool when choosing plants which are not just lovely to look at but are good for your bees. Some plants have amazing potential to increase honey yield and pollen collection. Have a look at this summary below:

Garden species selection

The following pages detail the native and exotic species that were chosen to represent a selection of useful bee forage for gardens. They are organised according to climate categories:

- cool
- temperate
- warm/humid
- hot/arid.

Cool climate garden species

The following table summarises the garden species selected for cool climates.

Plant type	Botanical name	Common name	Climate	Uses	Nectar	Pollen	J	F	M	A	M	J	J	A	S	O	N	D
HERB	*Lavendula* spp.	Lavender	C	G S U F	N	P	●	●										●
	Melissa officinalis	Lemon balm	CT	G S U F	N	p	●	●	●	●								●
	Origanum vulgare	Oregano	CT	G	N		●	●	●								●	●
	Mentha piperita	Peppermint	CT	G F	N	P	●	●	●									●
SHRUB	*Grevillea montis-cole*	Grevillea montis-cole	CT	G S U	n	p	●	●	●							●	●	●
	Ribes spp.	Flowering currants	CT	G F	N	p									●	●	●	
	Rubus idaeus	Raspberry	CT	G F	N	P	●								●	●	●	●
	Vaccinium corymbosum	Blueberry	C	G F	N		●	●	●	●	●						●	●
TREE	*Prunus lusitanica*	Portugal laurel	CT	G U	n	P										●	●	●
	Citrus limon	Lemon	CT W H	G U F	N	P	●	●	●	●	●	●	●	●	●	●	●	●
	Malus spp.	Apple	CT H	G F	n	P									●	●		
	Eucalyptus leucoxylon var. *Macrocarpa rosea*	Large-fruited yellow gum	CT H	G S U F	N				●	●	●	●	●	●	●	●	●	●

Note: The following abreviations are used to show where each species might be planted in a landscape unit other than the one in which it appears: G—garden; S—street; U—urban open spaces; F—farm or rural; N—relatively high nectar-producting plant; n—relatively low nectar-producing plant; P—relatively high pollen-producing plant; p—relatively low pollen-producing plant.

Rural species

The following pages detail the native and exotic species that were chosen to represent a selection of useful bee forage for rural areas. They are organised according to climate categories:

- cool
- temperate
- warm/humid
- hot/arid.

Cool climate rural species

The following table summarises the rural species selected for cool climates.

Plant type	Botanical name	Common name	Climate	Uses	Nectar	Pollen	J	F	M	A	M	J	J	A	S	O	N	D
HERB	*Fagopyrum esculentum*	Buckwheat	C	G F	N			●	●	●								
	Perovskia atriplicifolia	Russian sage	C T	G F	n	p	●	●	●	●								
	Agastache foeniculum	Anise hyssop	C T W H	F	N	P	●	●	●	●								●
	Trifolium repens	White clover			N	P	●	●	●					●	●	●	●	●
SHRUB	*Bursaria spinosa*	Sweet bursaria	C T H	G U F	N	P	●	●	●							●	●	●
	Banksia marginata	Silver banksia	C T	G U F	N	P	●	●	●	●	●				●	●	●	●
	Leptospermum scoparium	Manuka	C T	G S U F	N	P	●	●								●	●	●
	Daviesia ulicifolia	Gorse bitter pea	C T W H	G U F	n	p							●	●	●	●	●	
TREE	*Eucalyptus globulus*	Tasmanian blue gum	C T	U F	N	P	●	●				●	●	●	●	●	●	●
	Eucalyptus crebra	Narrow-leaved ironbark	C T W	F	N	P								●	●	●	●	●
	Eucalyptus macrorhyncha	Red stringybark	C T H	F	N	P	●	●	●	●								
	Eucalyptus bridgesiana	Apple box	C T	F	N	P	●	●	●	●								

Note: The following abreviations are used to show where each species might be planted in a landscape unit other than the one in which it appears: G—garden; S—street; U—urban open spaces; F—farm or rural; N—relatively high nectar-producting plant; n—relatively low nectar-producing plant; P—relatively high pollen-producing plant; p—relatively low pollen-producing plant.

More details here: http://milkwood.net/2013/01/11/bee-friendly-a-planting-guide-for-european-honeybees-and-australian-native-pollinators/

Now is the time to stock up now on beekeeping equipment and supplies!

Prices Quoted are for pick-up from "The BeeHouse" @ 59 Crystal Waters, 65 Kilcoy Lane, Conondale. Tel 54944741 to pre order.

Supers:

10 Frame full depth A grade:	$23.00
8 Frame, full depth A grade:	$23.00
10 Frame, ½ depth A grade:	$14.00

Nucleus:
(5 Frame, complete, A grade)
unassembled includes super,
lid and bottom: $40.00

Bottom Board:
Weathertex, Cypress Pine cleats,
Hoop Pine risers: $12.80

10 Frame Lids:
rims, 6mm Weathertex,
Metal cover, Metal Vents: $21.00

Frames, full Depth, Hoop Pine:	$1.20 each
Diatomaceous earth for SHB traps:	$2.00 each for small bag
Beetle Blaster Traps (SHB):	$2.00 each
Beetle Blaster Traps (SHB):	$18.00 (for 10)
American Hive Tool:	$8.00
Australian Hive Tool:	$17.00
Bee Brush:	$10.00 each
Frame Grip:	$15.00 each
Plastic Queen Excluders: (10 frame):	$10.00 each
Plastic Queen Excluders: (8 frame):	$10.00 each
Thick foundation, full depth: 12 sheets per kg	$1.40 each
Eyelets (3mm):	$2.50 (approx 250 per bag)
Eyelet Punch:	$5.00 each
Frame cleaner:	$10.00 each

Capping Scratcher:	$10.00 each
Smoker (Australian made):	$80.00 each
Smoker (Chinese made):	$40.00 each
Lemon Grass Oil:	
Small	$5.00
Large	$10.00
Nutrition Labels:	$3.00 sheet of 48
Electric Uncapping Knife (USA made):	$180.00
Frame Wire Crimper:	$16.00 each
Embedder:	$10.00 each
Nuc’s 4 or 5 frames:	$80.00 each

Bees available spring & early
Summer from our own splits & queens.