



Go to your fields

and your gardens

And you shall learn that it is the pleasure of the bee to gather honey of the flower

But it is also the pleasure of the flower to yield its honey to the bee...

For to the bee

a flower is a fountain of life

And to the flower

a bee is a messenger of love

And to both

- bee and flower -

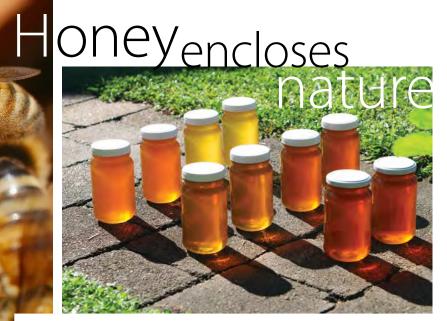
the giving and receiving of pleasure

is a need and an ecstasy

KAHLIL GIBRAN







Its origin is the nectar of the flowers encompassing the richness of the soil, the freshness of the air and the energy of the sun.

The flowers from which the bees sipped the nectar give the honey its distinctive colour, characteristic aroma and unique flavour... for us all to enjoy.

How do bees make honey?

As the sun rises and the temperature at the entrance to the hive reaches 16°C, the field bees leave the hive to scout for nectar over a 5km radius from the hive. Some check out the sources of the previous day; others criss-cross the area to pick up the faintest scent of nectar (a bee's sense of smell is 90 times more sensitive than that of a human). Some will even alight on my morning drink, which contains a small amount of honey!

Having located a generous flower the bee alights on it to seek out the nectar usually deep within the flower. In doing so the bee disturbs the pollen grains on the stamens of the flower. This sets in train the valuable service to the plant of fertilisation of the fruit and seeds for future generations of plants. Each day the 12,000 or so forages that bees make from each hive distribute a massive amount of pollen.

The bee now sucks the nectar up through its tongue which is hollow like a drinking straw. This is stored in its honey stomach. Numerous flowers are visited to fill the stomach. I have observed one bee visiting 32 macadamia flowers in one minute.

The bee cannot head home yet. Her body is covered in pollen grains, which provide a valuable mineral and protein food for the larvae back in the brood of the hive. So she rapidly combs the pollen into baskets on her back legs and, loaded with nectar and pollen, heads in a bee line for home.

On reaching the hive she quickly enters to give her bounty to the colony. The pollen is dropped off for the workers to store to feed the brood. The nectar is transferred to many workers, tongue to tongue. The bees consume some of the nectar for their own needs and the rest is stored in cells for future needs. of the colony. During this transfer, the hive bees get information about the source of the nectar - taste, aroma, colour and the direction and distance it was found. More bees now know where to find it.

Now the nectar must be changed to honey. The water content is about 80% and if left at that level it would ferment. As the bees handle the nectar they add enzymes. These enzymes enhance the food value of the honey. The temperature in the hive (38°C) and the fanning of the bees wings evaporate the water until it is lowered to between 16% and 20%. This is now honey and can be safely stored and capped for future needs. It is interesting to note that a hive of bees needs 125kg of honey and 30kg of pollen a year for their own needs.

Capped honey is referred to as ripe and is extracted to be marketed for human consumption.





To collect just **1 kilo** of honey, honeybees will need to:

- make approximately 150,000 flights
- If y between **250,000 to 450,000 km** (True! that's the equivalent of more than 10 times around the World!)
- visit more than one million flowers

A single frame from a hive:

- has **2,500 hexagonal cells** on each side (5,000 cells in total)
- can hold up to 3 kg of capped honey

A strong productive beehive:

- has between **30,000** and **50,000** bees
- in one year, can produce around
 60 to 100 kg of honey, depending on seasonal changes.

Honey can only be produced by bees. In the process of changing nectar to honey, bees add enzymes which aid digestion and they evaporate 75% of the moisture content. The plant origin of the nectar will give the honey its character - distinctive colour, aroma, flavour, density and granulating tendency.

Honey is a complex food. It contains:

- Natural sugars: 25 different sugars including Fructose, Glucose, Levulose, Trehallose, Meletoze, Dextrose and many others that aid human digestion. Many of these sugars are not in nectar but are added by the bees during ripening.
- Natural acids: including Gluconic, Citric, Malic, Formic.
- Minerals: including Potassium, Sodium, Calcium, Magnesium.
- Vitamins: including Thiamine, Ribroflavine, Folic Acid.
- Proteins: including Amino Acids, Carotene, Mannitol.
- Enzymes: including Invertase, Diatase, Catalyse, Phosphatase, Glucose Oxidase. These enzymes are added by the bees to predigest the honey. On entering the human digestion system these enzymes add their energy to aid digestion.

Honey is a unique food. It is a living, instant, energy-building food containing many substances necessary for life.

Honey is the oldest sweet known to mankind. It has a fascinating history as a food and for medicinal uses. And there is still more to be discovered. Recently specific honeys have been found to have stronger antibiotic properties which kill pathogens resistant to other cures. Other components remain unknown and untraceable.

Honey improves the taste of food. Add some to your food and drink and see how flavourful they become.

Honey will granulate as sugars crystallize. It retains its qualities. To liquify it, warm it gently but not over 45° C.

Look for local honey producers at Farmer's Markets or in smaller food stores.



All honey

Too much pollen in honey is mostly an aesthetic concern. A high pollen content gives honey a cloudy appearance and can also give it a stronger taste.

All honey contains yeasts...

To prevent the growth of the naturally-occurring yeasts and the subsequent fermentation of the honey, the water content of the honey should be below 19 per cent. Such honey is said to be mature or ripened. Nectar that has a water content above 19 per cent is called green or unripened honey. Yeasts cannot grow in ripe honey because of osmotic imbalance; there is no water available to the yeast cells for growth.

After collecting nectar from flowers, honeybees reduce the moisture through evaporation. Once the bees have ripened the honey, they seal (cap) the cells of the comb with wax. Use only honey comb that has most of the cells sealed for harvesting honey. This is the beekeeper's assurance that the honey is ripe and will be self-preserving.

Sweet as...

When bees make honey, they add a special enzyme that divides the sucrose in nectar into separate glucose and fructose molecules. Our bodies can absorb these two simple sugars directly. Table sugar is sucrose, in which glucose and fructose molecules remain bonded together. Your stomach has to use its own enzymes to separate the bonded molecules before you can use the sugar's energy. This gives honey a healthier Glycemic Index than sugar. (The Glycemic index measures the negative impact of a given food on the blood-glucose level.)

Storing...

Store honey in a sealed container. Do not refrigerate. Honey is hygroscopic; it absorbs moisture from the air. If left exposed in humid environments, the moisture content will rise and the honey will ferment. Ripe honey stored in closed containers in cool places will keep for long periods.

Monofloral honey...

Monofloral honey is a type of honey which has a high value in the marketplace because it has a distinctive flavour or other attribute due to its being predominantly from the nectar of one plant species.

While there may never be an absolute monofloral type, some honeys are relatively pure due to the prodigious nectar production of a particular species - such as macadamia, blue gum, iron bark, clover, citrus - or there may be little else in bloom at the time.

Beekeepers learn the predominant nectar sources of their region, and often plan harvests to keep especially fine ones separate.

Monofloral honeys are kept in separate storage and labeled separately.

Poly-floral honey...

Poly-floral honey, on the other hand, is produced when honeybees have access to more than one flower and they collect nectar from different flowers and deposit in their hives. This is the most common here in our Wide Bay region.

Blended honey...

natural and tasty as any of

Sometimes, another type of honey is also available that is known as blended honey. Blended honey is simply a mixture or combination of different honeys from the same or different areas, and can be just as



Macadamia plantations produce a unique, slightly darker honey that proves to be very popular.



Native bee honey



Honey produced by Native Stingless Bees (sometimes known as 'sugarbag') has been a highly prized bushtucker treat of the Australian aboriginal people for thousands of years. It has great spiritual and mythological meaning and was often given as gifts or traded as a valuable resource.

It has a uniquely Australian taste, which comes from the resins of the trees the bees have been working. It is a rare delicacy as a native beehive produces only relatively small amounts of honey each year (around 1 to 1.5 L per strong hive).

Unlike honeybees, stingless bees will not store their honey in frames. They prefer to store honey in small pots of the resinous nest building material 'cerumen'.

Each of these pots contains a few milliliters of honey and all of these need to be pierced and drained when harvesting honey from a native box of native bees.

A honey super can be added to the top of a native bee box to allow extraction of honey, although it is still a labour intensive exercise.

Native bee honey was used by aboriginal people medicinally to 'clean out the gut' and for mouth ulcers as well as being used as an anti-bacterial straight onto cuts, burns or grazes.

If you get a chance to try some native bee honey you are essentially tasting what indigenous Australian were tasting thousands of years ago.

Native bee honey was seen as a much prized bush food and is often given as gifts.

Native bee honey is extremely nutritious due to the pollen in the honey and other compounds also present. Eating pollen proteins can reduce your sensitivity to allergens as long as you survive the pollen itself. The protein content makes the honey almost a perfect diet food and I found that I had heaps of energy, mental alertness and didn't feel hungry one time when I ate nothing but sugarbag for 3 and a half consecutive days in the desert.

The flavour can vary from a bittersweet honey to almost indistinguishable to ordinary bee honey but invariably, it is thinner and darker. The flavours are very volatile and heating sugarbag will reduce the taste complexity a great deal. It's best used in chilled dishes eg sugarbag ice cream or whipped cream, or just chill it and pour into tiny chocolate cups; top with whipped cream and some shaved chocolate and serve as a minature cappuccino dessert.

There are many types of native bees found in Queensland. A careful eye and great tracking skills enable Aboriginal people to follow native bees back to their nests high in hollow trees. The tree was usually chopped down and all the contents of the hive were removed and placed in a paperbark container.



by Roland Robinson (1913) and Percy Mumbilla

From the hollow trees in their native home them fellows cut the honeycomb.

On honey and little white grubs they fed, 'cause them young bees was blackfellers' bread.

That's why they was so mighty and strong in their native home in Currarong.

An' them old fellers' drink was honey-bul; honey and water, a coolamon full.

Naked through the bush they went, an' never knew what sickness meant. Them native bees could do you no harm, they'd crawl all over your honey-smeared arm.

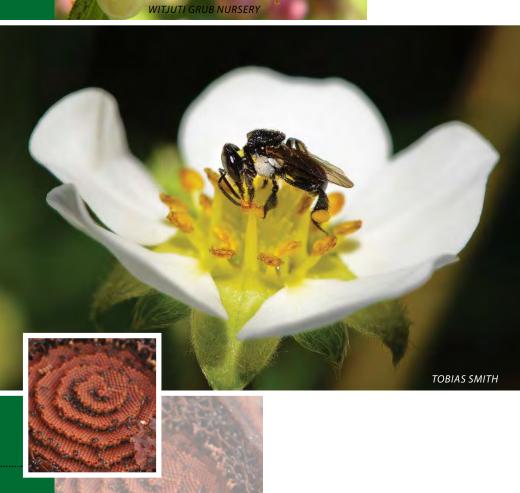
But them Eyetalian bees, they'd bung your eyes right up. When we was young we used to rob their honey-trees. Savage! They'd fetch your blood. Them bees would zoom an' zing an' chase a feller from Bombaderry to Bodalla.

Well, old Uncle Ninah, old Billy Bulloo, old Jacky Mumbulla, King Merriman too, them fierce old fellers, they're all gone now. An' the wild honey's still in the gumtree bough.

Roland Robinson is deeply interested in the legends and customs of the aboriginals, and these are the actual words of an aboriginal, Percy Mumbulla, put into verse form.

Coolamon: a wooden drinking vessel for carrying water. **Honey-bul**: a mixture of honey and water from banksias flowers or native bees' honey.









Be a Tosser!



Honey Dressing:

for fresh garden seasonal salads

1 cup virgin cold-pressed macadamia oil $\frac{1}{2}$ cup lime juice (or apple cider vinegar) 1 tablespoon raw local honey 1 teaspoon sesame oil 1 teaspoon sesame seeds

1 teaspoon cumin seeds

1 teaspoon organic cinnamon powder

1 teaspoon orange zest, finely grated

1 teaspoon fresh cracked black pepper Season, to taste

Chilli, finely sliced, to taste

Tosser of a Salad:

- 1 cup avocado, diced
- 1 cup green apple, diced
- 1 cup cucumber, seeded and diced
- 1 cup carrot, julienned
- 1 cup orange, skinned, seeded, diced
- 1 cup capsicum, diced
- ½ cup Australian low-salt feta cheese, diced
- ½ cup sunflower seeds, lightly roasted
- 1 tablespoon local macadamia nuts, chopped
- 1/2 cup fresh corn kernels, raw (if tinned, drained)
- 1 cup rocket, fresh, chopped
- 2 teaspoons mint, finely chopped
- 2 teaspoons parsley, finely chopped

Topping:

1/4 cup local fresh parmesan cheese, grated or shaved Onion rings, sliced thin Lime zest, finely grated

Combine all salad ingredients in a large bowl. Toss lightly.

Pour honey dressing over salad just before serving.

Top with cheese, onion rings and zest.

Serve with a smile, devour with humour, and enjoy the freshness of our great Valley!

In a jar, combine all dressing ingredients and shake well. Taste, and adjust for sweetness/tart. This makes a lot of dressing. Store in the fridge for later.

Honey Marinade:

...for kebabs, grilled chicken

1 cup white wine vinegar 2 tablespoons lime juice 2 cups macadamia oil 1 tablespoon raw honey 1 teaspoon wattle seed or cracked black pepper quality salt, to taste

In a shallow frypan, gently heat sliced lemon myrtle leaves and wattle seeds/pepper, so that the

Remove from heat and add all remaining ingredients except the macadamia oil. Allow to cool slowly.

Once it has cooled, slowly whisk

Granulated Honey (Candied):

The granulation of raw honey is the natural process of pure honey. It is simply that the natural sugars in pure, un-processed honey will crystalise, sometimes within a few weeks, sometimes it takes many months.

If you love it and can't get enough, that's fine. If you want to convert it back to runny-honey, simply leave it out in a closed jar in the sun, or gently warm it, for it to return to its runny state.

Never heat honey above 45 °C. Don't store honey in the fridge for long periods. Honey is best stored in a glass container in a cool, dark cupboard.

Drizzle pikelets with candied honey and fresh seasonal berries...





6 fresh lemon myrtle leaves

natural oils are released.

in the oil.



Honey Bread:

3 cups plain flour, sifted
3 teaspoons baking powder
1 cup macadamia nuts, chopped
Pinch of salt, to taste
³/₄ cup raw honey
2 eggs, lightly beaten
³/₄ cup milk
3 tablespoons butter, melted

Alternate recipe for Honey Bread: Same as shown, but... use only 1 egg, 1 full cup milk, and no butter.

Mix together all dry ingredients. Combine remaining ingredients separately, then gently fold into flour mixture. Pour into a greased and floured loaf tin.

Let it stand for approximately 1 hour. Bake (180C) for 45 to 50 minutes, or until cooked to your own testing methods. Makes one loaf.

Brandy or cognac, whisky Raw honey 2 sprigs fresh rosemary

Mix brandy and honey to the proportion of 60:40.

Pour into two glasses, place sprig of rosemary in each.

Leave it stand in the fridge for a few hours (or overnight), stir regularly with sprig.

Don't drink it. Instead: sip it by the spoonful, over a long period of time. Nibble on the rosemary. Should last the full duration of a good movie.

Grilled Lime:

In a pan, place lime wedges, lemon myrtle leaves and kaffir lime leaves, all tossed in your favourite oil. Add a big dollop of butter, and a healthy drizzle of honey. Grill until cooked through and toffee-ised. Leaves should be crunchy and edible. Squeeze with lime juice just before serving.







Try a Comb Sandwich:

Try a simple comb honey sandwich. Select a seedy, freshly baked and crusty loaf. Butter well, and add slices of comb honey. The protein in the bread breaks down the wax (which is perfectly edible) and makes it easier to digest. If you can't get any fresh comb honey, then get cosy with a beekeeper!!!

Beekeeper's Buttery Banana Bite...

SANDWICH:

- 8 slices crusty wholemeal or sourdough bread, toasted
- 4 local bananas, just-ripe, peeled and sliced
- 1 tablespoon macadamia/almond meal nutmeg, fresh ground

HONEY BUTTER:

- 1/2 cup unprocessed local honey
- 1 tablespoon lemon/lime juice, fresh
- 1/2 teaspoon lemon/lime rind, finely grated
- 2 tablespoons butter, soft
- 1/2 cup local ricotta cheese, smooth

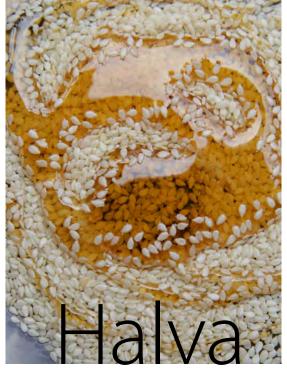
In a saucepan (on low heat), simmer honey, lemon juice and rind for 2 minutes. Remove from heat, stir in butter until melted, and stir in ricotta cheese. Cool.

Spread the Honey Butter evenly over 4 slices of toast, add banana slices, and sprinkle with macadamia and nutmeg.

Top with remaining 4 slices of toasted bread.



Beekeepers bee warned: remove face-veil before devouring!



Valley Halva:

- ½ cup unprocessed local honey
- ½ cup tahini paste
- 2 tablespoons liqueur (Malibu or Cointreau)
- 1/2 teaspoon natural vanilla extract
- 3 drops sesame oil lightly toasted sesame seeds extra honey to drizzle

Combine first 5 ingredients, mix well. Pour onto flat plates, and spread out.

Sprinkle over the sesame seeds. Don't over-mix, it is best if the seeds are only half combined, in a swirl pattern. Drizzle over extra honey.

Place plates in the freezer, until mixture sets. Best overnight.

Remove, and eat as a 100% natural toffee ...if you consider Malibu to be natural...

Heat up fresh pineapple slices. Drizzle with a lightly heated mix of raw honey and Malibu or Cointreau.



Eggie Toast
with Honey Spread

EGGIE TOAST:

- 3 eggs
- 5 tablespoons milk
- ½ teaspoon cinnamon
- ½ teaspoon sesame oil Bread slices, as required Salt, to taste

HONEY SPREAD:

Unprocessed local honey Soft unsalted butter

TOAST: In a bowl, beat eggs, milk, cinnamon and sesame. Place bread slices, one at a time, into egg mix. Turn bread over to make sure it gets fully soaked. In a fry pan, fry each side of bread on medium heat, until browned. Keep hot.

SPREAD: Spread the hot toast generously with the mix of honey and soft butter (proportions of 50/50).

Ginger and lime drink: Grate fresh ginger.
Steep with just-boiled water. 5 minutes. Strain.
Pour into cups.
Add slice of lime and teaspoon of honey to each cup. Top up each cup with hot water. Drink as an alternative to tea / coffee.



Comb Honey is a delicious natural food at the peak of nutrition and flavour. It is the only sweet that is neither made nor processed by man.

Put Comb Honey on anything you wish to sweeten, or simply eat it as is. The pure, unaltered flavour is a true treat.

The wax won't hurt you; in fact, though it has little known nutritional value, it is good for you in so many ways. It is your guarantee that the honey mingled with it is the perfection of what honey should be.

- Cut or bite a piece off and chew it, and enjoy the energy. The wax can be chewed until no flavour is left, then either spat out or swallowed.
- Eat it with a spoon as a companion to tea or coffee.
- Crush the Comb Honey in water to use as an ingredient in the making of mead or beer.
- Best of all: spread the Comb Honey generously on a thick, lightly toasted and buttered slice of sour dough (or other) bread. Too good!
- Or you can simply chop and strain it to enjoy the purest honey of all.

Nature's Chewing Gum!



In ancient times, for the first month after a wedding, the father of the bride provided honey-mead to the groom, to ensure a successful union. Since the months were originally lunar-related, this passage became better known as the honey-moon.

More on Mead...



What is mead?

Mead is an alcoholic drink made by fermenting honey, water and yeast. It is the oldest alcoholic drink known. It was brewed by monks, and was popular with the Anglo-Saxons and featured in their court feasts.

Mead is flavoured by the nature of the source from which the bees obtained their nectar.

- Brush Box honey will produce a table mead light in flavour and colour.
- Stringy-bark honey will produce a dessert mead stronger in flavour and darker in colour.

The aroma and flavour should persist in the mead. This is why I favour a darker honey with a distinct flavour. All honeys can be used for making mead.

Melomel - Mead with added fruit juices

Metheglin - Mead with added spices (a favourite in medieval times)

Mead is a dry wine. It should be served chilled like a white wine. Also a dry mead can be decanted and some honey added to make it a little sweeter.

Chill for an hour or so in decanter. Metheglin is best served warmed.

How do you make mead?

Note: extra ingredients and procedure for melomel is indicated in green.

Ingredients for 20 litres:

6 kg fresh honey

Rain water - taint free

Quality white wine yeast

Sugar, sultanas, pectonaise, metabisulphite

Optional (for melomel): 3 litres or 3 kg fruit juice or pulp

Preparation:

- The day before putting the mead down, start the yeast in warm water with
 1 tablespoon sugar and 1 tablespoon crushed sultanas. Stand in a bottle with a cotton wool plug overnight.
- Just before making the must, clean all equipment in water in which metabisulphite has been dissolved.

The Must:

- Mix the honey in warm water and pour into the fermentor. Fill to the required level.
- To make melomel, fruit juice or pulp is added at this stage. Use fruit in season apple, apricot, mango, grapes, grapefruit, mulberries, strawberries etc.
 Wash fruit with metabisulphite before pulping. Use only juice that is 100% pure.
- Mix in a cup of crushed sultanas. When the must is about 25°C add the started yeast.
- Seal and put air lock in place.
- Alcohol content of the finished brew can be estimated by measuring the sugar content with a hydrometer.

Racking:

- The brew will ferment vigorously for 4-7 days as the yeast feeds on the sugars converting them to alcohol and carbon dioxide which bubbles off. A sediment forms of dead yeast. After 7 days strain off the liquid and discard the sediment.
- Replace lost volume with honey and water mix. Rack again after 4 weeks, taking great care not to disturb the sediment.
- Discard sediment. When replacing lost liquid add pectinaise and clearing agent. After another 4 weeks the brew will be clear. Times will vary according to the temperature - longer in winter.
- Do not rack again but let it stand to work its way out up to 4 months.

Bottling:

- Bottle when brew is clear and has ceased bubbling. Wash bottles well and rinse in metabisulphite. Add 1/2 teaspoon white sugar and 50ml water to each bottle.
- · Crown seals may be used but corks are more socially pleasing.
- Avoid contact with air by using tubes for siphoning, do not disturb sediment.

HAVE PATIENCE FOR 6 MONTHS BEFORE SAMPLING. PEAK MATURITY IS AT 2 YEARS.
MEAD SHOULD BE DECANTERED, HONEY ADDED AS DESIRED, AND IT SHOULD BE
CHILLED FOR 2 HOURS BEFORE SERVING.



Showing your honey

The honey stand at the show always attracts constant interest from show patrons in the products on display and the beekeeping industry in general. Stewards prepare the stand to show entries, products and beekeeping activities to their best advantage. And manning the counter are experienced local beekeepers very keen to talk about apiculture and answer all the enquiries.

All in all it is a great way to promote our industry at all levels - the amateur with 2 hives to the apiarist with 1000 hives.

The central focus of this display is the entries section of nine classes of honey, comb honey and beeswax. And the success of this competition relies on the support of beekeepers and the quality of their entries.

Having entered our honey in shows over many years and observed many judges at work, we have gleaned the following guide for preparing quality show entries.

Be aware of judging criteria:

- Density: Measured on a refractometer; more dense honey scores high points.
- Aroma: Judged when the lid is removed from the jar.
- Flavour: The judge tastes a small sample.
- Colour: Judged in relation to allocated class, which ranges from:

• Light • Amber • Golden • Dark

- Clearness and Brightness: Cloudy dull honey loses points.
- Finish: Quality of jar; No imperfections; Appropriate air space under lidfill to 6mm of the top.
- Total score is judged out of 100 points (most points are allocated for density and flavour).

Select your honey:

During the year we all experience the excitement of producing a special honey crop - great flavour and aroma, very clear and dense. Right then is the time to put aside about 1.5 kg - make sure you select a frame of honey that is fully capped on both sides, and preferably gather the honey by hand, rather than mechanically extracted.

First drain the honey through a colander, then strain through muslin. Store honey in a glass jar in a cool, dark place. Avoid exposure to moisture, air and heat. Tag jars with date, and source/site.



Prepare your entries:

- Obtain the Show Schedule for Apiculture.
- A few weeks before the show take out your samples and decide which ones to entersome may be ready for the granulated class.
- Obtain 2 x 500g jars with white metal lids for each entry. They must be clear and unmarked, preferably new. Wash jars in hot soapy water, rinse & dry well.

Note : Sugarbag entries are single-jar entries, and can be in smaller $50g \, / \, 100g$ clear jars

- Fill jars, remove any blemishes and stand for 24 hours. During this time it's good to stand the jars in direct sunlight for an hour (no more) this seems to energise the honey.
- Skim off any froth until a space of 6mm from the brim (this is a requirement of the judges). Check and polish jar and lid. Make sure this is completed a few days before delivery to allow for final settling. Always keep the jars still and upright.
- Deliver to the steward on time.
- Also consider entering the whipped honey, comb honey and beeswax classes, but that is another story.

The floral sources and the bees have done their best to produce a quality honey and you have added your skill in preparing it to its best advantage. It can take only one hive and one proud beekeeper to produce a quality winning entry.

So go ahead and make the steward happy, and give the judges a hard time!

Document designed by Glenbo

for Valley Bees

Honeybee, honey and food photos by Glenbo

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