September 2013

BEELINE

Pollinating by hand-
a future without pollinating insects

Fancy a good ole Bees Knees Up?

photo by Awo Subris

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Autumn is fast approaching,

if it isn't already here and we need to think about settling the bees down for winter. If there is any honey to take off it should probably have been done by now and the sticky empty supers should be put back ABOVE the feed hole in the crown board so that the bees can come up and clean them out and put the honey they retrieve down in the brood chamber where it will be used through the winter. If you have some part filled super frames they are unlikely to be filled up now unless we have a wonderful warm spell and the balsam and ivy are flowering so it is probably as well to put your super UNDER the brood chamber now, it will give the bees something to eat in the winter and prevents the queen going up and laying in there early in the Spring before you get the chance to look in!

Of course queen excluders can come off – if there are no supers on there is nothing to exclude her from and don't leave supers with honey in them on top of the hive with an excluder, bees will not go through them in winter and so can starve with a plentiful supply available above a QX!

Feeding with sugar syrup or Ambrosia should be done if the bees need topping up and don't forget that feeding should be finished by the end of October, after that the air is too moisture-laden for them to successfully evaporate the water off in order to store it properly. If it is stored too "wet" it will ferment and make them sick over the winter, although with Ambrosia this is less of a problem.

If you are making up sugar syrup for your bees it should be 2Kg to 1Litre of water (or 2lb to a pint) at this time, the reason being that there is less water for the bees to evaporate off so you will be giving them less work to do.

It is still a little early to put mouse guards on as they tend to scrape pollen off the bees legs but they should be put on as soon as the really cold weather starts and please don't think that by reducing the entrance you will keep them out, a mouse can get through a really small hole and a reduced entrance is still like an open door to them!

The debate rages as to whether you should secure your hives against gales with straps, in my view this only makes it easier for thieves to steal them and shouldn't really be necessary .... it's up to you.

As a last note, I would just say that a small colony is unlikely to survive a hard winter, so you might want to consider uniting. Better to have one decent sized colony that makes it through and can be split into two in the Spring than two little weak colonies that both die out ...

Sue Chatfield

Barn dance at East Riddlesden Hall for all to enjoy -see back page for details

Will we have fruit in a future without bees?

A fruit is essentially a plant ovary with embryos (seeds) inside. It's how plants reproduce. Bees and other pollinators serve as plant sexual surrogates by spreading pollen (plant sperm) around to flower ovaries. These flowers have to be pollinated to begin to create the plant embryos that will become apples. Some plants are self-pollinating, and can fertilize themselves without any bees involved, like grasses. But others, like fruit trees, require cross pollination with varieties that are not closely related to produce fruit.

So it's certainly true that loss of bees and other pollinating insects would limit our fruit choices. But what would happen if bees went away all together? We already know what raising fruit without honey bees looks like. In a remote area in China, humans pollinate 100% of fruit trees by hand. People swarm around pear and apple trees in spring, replacing bees as pollinators. In the early 1990s, farmers of the Hindu Kush Himalayan region, an area spanning parts of Nepal, China, Pakistan and India, realized that apples could be a major cash crop. Their land was mountainous and hard to farm, so fruiting trees were ideally suited to the region. A major shift occurred from subsistence farming to fruit crops. In some areas farmers quadrupled their income.

With that early success, farmers found that certain varieties of apples and pears sold better than others. As new orchards went in, more and more of the same cultivars of apples were planted. And that is when things started to go wrong.

Clearing marginal forested lands for more agriculture destroyed nesting and food resources native pollinator species needed. The problem with insects as commercial pollinators is that they can't just appear for 2 weeks, pollinate your plants and disappear. They have to have something to eat the rest of the year, and a place to live. Farmers planting new trees in their orchards made an economic choice: plant more trees that make marketable fruit. The consequences of that choice were that fruit set was poor. Most of the trees they planted were the same variety, so were self-sterile.

So farmers added a few polliniser trees–trees that serve as pollen donors. Polliniser varieties don't have pretty fruit, which means that farmers give up income if they plant them. The recommended mix of fruiting trees and pollinizer trees in orchards is 70:30. In most fruit orchards in this region, less than 10% of the trees were pollinizer varieties. Pure polliniser variety also must bloom at the same time as your fruit variety–pollen needs to be used while it is fresh and can't be stored. So even with plenty of bees, fruit production was very low, and in some areas crops failed completely. (continues next page)

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An economic decision made by farmers was to spray pesticides often to have better looking fruit, which commanded a better price. A perception that the problem with poor fruit production was caused by pest insects also encouraged more spraying. Just as in cultivar selection, this had unforeseen biological consequences. Poor pollination due to pollen incompatibility was made worse by killing off pollinating insects. In 1999, the problem of poor fruit set was widespread throughout the Hindu Kush regions of Nepal, China, Pakistan and India. Hand pollination was widely practiced through this region. However, by 2011, only apple growers in the Maoxian region of China were still hand pollinating.

In Nepal, India and Pakistan the government and NGOs provided support to help promote using native pollinator species, and training and education about managing pollination. Planting of native host trees that provided nectar to support colonies was encouraged. Bees are now an important part of local economies, and hand pollination is now rare.

In China, officials promoted and offered training in hand pollination, rather than offering information about native pollinators. That's not the only reason hand pollination persisted, though–100% of apple crops in the Maoxian region are pollinated by hand because it makes economic sense. By using humans as pollinators, the number of polliniser trees that have to be planted can be minimized, and valuable land isn't used up for unproductive trees. Fruit set is also much higher with human pollinators - and people power seems to cost next to nothing. A person can pollinate 5–10 trees a day, depending on the size of the trees. Farmers pay their human pollinators US $12–19/person/day. The cost of renting a bee colony for pollination in 2010 was US $46.88/day.

Why are bees so expensive in Maoxian? Honey bees are still present–up to 50% of the Maoxian fruit in 2011 also kept honey bees. Bees are still viewed as primarily a honey producers species in this region, so the connection between bees and pollination is not strong. Farmers in this region of China are uninformed about the effects of pesticides on bees–half of apple farmers surveyed did not know that pesticides would kill bees. The Maoxian region also sprays pesticides more often than other regions where pollinators have recovered. Most Maoxian beekeepers will not rent their hives to orchards, since the pesticide sprays continue during bloom season and they risk losing their entire hive.

The story of hand pollination in China illustrates what a failure to understand natural ecosystem services looks like. Ecosystem services are things the earth does for us for free: Oxygen is produced, water is filtered, carbon monoxide is captured and plants are pollinated. When parts of an ecosystem are removed it ceases to function.

This winter (2012-13) the US reported 31% of hives losses, not through Colony Collapse Disorder or poisoning - most of the bees starved. A summer of drought reduced honey storage, combined with odd winter weather stressing colonies. It doesn't help that corn, soybeans and golf courses are not nutritious food sources for honey bees.

Source: *http://membracid.wordpress.com/2013/06/19/will-we-have-fruit-in-a-future-without-bees/*

Receipts

Honey & walnut tart

Preparation time 20 minutes
Cooking time 30 minutes
Ingredients
150g plain flour
75g butter, in 1/2cm cubes
50g soft brown sugar plus 2 tablespoons
1 teaspoon ground cinnamon
3 tablespoons cold water
150g honey
125g butter, melted
2 eggs
50ml double cream
150g shelled walnuts

Method
Preheat the oven to 180C/ gas mark 4.

Place the flour in a large bowl and rub in the butter using your fingertips until there are no lumps of butter and the mixture resembles breadcrumbs.

Stir through the 2 tablespoons of sugar and cinnamon then lastly the water until the mix comes together into a ball of dough.

Roll the dough into a rectangle and use to line a 35 x 12 cm loose bottomed tart tin. If you haven't got one like this a 20cm in diameter will be fine. Prick the base with a fork, line with baking parchment then weight with baking beans and bake blind for around 15 minutes. Remove the paper.

Whisk together the honey, butter and the eggs along with the cream and the 50g sugar. Stir through the walnuts and carefully pour in to the pastry case. Transfer to the oven and bake for 25-30 minutes until golden and puffy.

Leave for 10 minutes to cool

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Dates for your diary

Wednesday 2nd October **ABKA AGM** at Keighley Rugby Club. Pie and pea supper available on order 7.30pm
Friday 29th November **7.30 for 8pm ABKA's Knees Up**
Tuesday 3rd December **first of ABKA Winter Talk series for members TBA**

Come and do your own waggle dance at

ABKA's BEES KNEES UP

Swirling, laughing, merrymaking, real ales, superb ploughmans with local cheeses & good bread & fruit cake all included in the ticket price of £15 per person.
Dancing to the Spinning Jellies, beer and bar by Old Bear Brewery.
Start 7.30pm for 8pm, ends when you've had enough or 11.30pm.

Friday 29th November at the superb Airedale Barn, East Riddlesden Hall
Not just limited to beekeepers, bring friends and family along.
Tickets on sale at the AGM

I'm not just being lazy and reusing this message! But once again a HUGE thank you to everyone who turns up when requested to help with various jobs on behalf of the association's bees and the committee's next bright idea. We have a lovely active membership and YOU are what makes it all possible. So **THANK YOU**.

It's been a good year. Did you know that ABKA's two apiaries should yield over 100lbs of honey this year. We'll sell some of it in the shop at East Riddlesden Hall and see how that goes.
ABKA gave 6 nucs to beginners this year and restocked bereaved beekeepers with a further 6 colonies. We are going into winter with 12 good colonies between the two apiaries.

NUCS AND HIVES FOR SALE
NUC WITH RED MARKED QUEEN £130
HIVES WITH RED MARKED QUEEN £350 FLOOR OPEN MESH, BROOD BOX, QUEEN EXCLUDER, SUPER, CROWN BOARD, FLAT ROOF. Telephone Fred Martin 01274404599 or mob 07791732179.

Thanks to our chairman James, who has generously donated his petrol strimmer for the grass maintenance around the hives.

Is it just me...

Decided this year that I wouldn't bother with those rubbish marking pens for queen marking. Instead following advise from beekeepers better than I, to use Humbrol, and a really garish pink at that. I keep written records so in theory I will always know what age they are (pah!) Hence, I splodged an almighty dollop of lurid pink onto to ungrateful queen - (and also on a few other stragglers so it looked like I had 6 or 7 queens in the colony). Brilliant. She suddenly became bleedin' obvious.
So one afternoon when I thought I might demaree them I went down t'apairy to find quite a few bees flyin' about. I sat down with sage patience and decided calmly to wait. Then more came out of the hive, and more, and more. And OMG I eventually got it. They were swarming.
My calm demeanour changed into major flap mode. I decided it might be a good idea to run around for a few minutes as if my bee suit was on fire!
But then, lo! I saw her. Adorned like a cheap 80s disco dancer in pink lurex. My queen crawling about on the outside of the box.
I caught her in a jar. Unbelieveable eh? The rest has gone down in personal annals of beekeeping history and myth. Did my splits, put her back. Lay down in the grass feeling light headed and ever so slightly smug....

Cheers Ed