

# Seasonal Tips and Reminders April 2007

Remove Mouse Guard & adjust entrance size.  
Install Varroa Floor.  
Monitor the daily Varroa mite drop rate.  
Make first brood nest checks – Care: don't chill the bees!  
Keep an eye on Alighting board activity.  
Look for white bee pupae, or bits of them - a sign of brood killed by chilling.  
Provide water close to the hives – but not under the normal flight path.  
Get your Comb Replacement policy organized.  
Start your Hive Records.

I've much to tell you about, because April is the month which sets trends that last the season right through.

My bees are pretty active now: and have been collecting water from the wet gravel tray I've provided in the apiary. My strong colonies have brood nests nearly ready for supering: and in warmer locations some beekeepers already have supers on.

After a reasonably wet winter the local Chalk Streams have begun to flow again; so we ought to be less at risk of a drought this summer. In the last month, we've had a real mixture of weather; some amazingly hot days, but lots of cold ones in between. Looking back at my notes from April last year, I would say we are about a month ahead in the flowering cycle: and Spring is well underway. In terms of bee-forage, the Crocuses and Hazel are spent; Daffodils, Prunus and Cherry-Plum going over; the Sallow catkins at about peak; and Blackthorn now in flower. Bumblebee queens are nest searching, although this will continue for some weeks yet: and *B. terrestris* is much the commonest species.

If you haven't done it yet, the first job will be to remove the mouse guard, then adjust the entrance to an appropriate size. Also remove any matchsticks you used to prop open the crown-board for ventilation. Clean and replace the floorboard - A Varroa Screen Floor must now be the norm. Use it to make a check for level of Varroa infestation by natural mite drop down. Follow the guidance given in the DEFRA booklet 'Managing Varroa' PB10859, which has a large picture of a single Varroa mite on the cover. The NBU Beebase database is full of information on this and many other topics. <http://beebase.csl.gov.uk/> (Note- Don't put in www. or you'll get an error message!)

Hopefully mite levels will again be low in the colonies this spring. If you haven't started already, make 2007 the year you move to Integrated Pest Control, to maintain mite populations at manageable levels with minimal use of control chemicals. Open mesh floors are now an essential part of Varroa control: as are frames with removable drone brood areas.

Although I know some people have inspected their colonies in March, on one of those scattered remarkably warm days we had, April is the usual time that really active Beekeeping gets going .... weather and temperature permitting. But, at a time of very variable weather, what does this mean? The late Harold Aplin, who kept bees for 60 years or more, used to say "Wait until you can be comfortable outdoors in rolled up shirt sleeves". I guess for a woman beekeeper, this means a lightweight blouse!

The underlying meaning is that the beekeeper should be alert to rapid temperature loss – and it's consequences. Think of things from the bees' viewpoint: there you are in a large house, with no central heating, and it gets pretty cold most nights. You're just managing to keep warm if you stay quite close to each other; and if it gets cold, you huddle together. Then some bright spark comes and takes the roof off – so all your meagre heat reserves whiz up into the sky ..... that is not global warming, its global freezing! So, dear beekeeper, work fast, keep the colony open for just a short time, and so minimise the risk of chilling brood due to heat loss. Chilled brood = colony hold-back. (Waste due to dead bees + food to produce them + fewer new bees to help

grow the colony: so longer to get to a number strength at which honey surpluses can be achieved.) A sure sign of chilling is the presence of white bee pupae, or bits of them at the hive entrance, or on the alighting board.

When you make a brood chamber examination for the first time, limit yourself to a check on about five frames. Keep your eye out for the queen. With a small brood nest you're much more likely to see her. (So it could be a good time to mark the queen – she'll be much easier to spot afterwards.) Look also for eggs, larvae, and the presence of stores. The overall hive weight alone is not enough, since brood weighs nearly as much as stores. If the colony seems low on stored honey (at the tops of frames, and on the outer combs) feed them some sugar syrup. At this time of year the balance of adult bees to brood is very one-sided, and they can't bring nectar back to the hive as fast as they use it.

Get planning your Comb Replacement activities, because clean comb means healthier more productive bees. As a minimum, remove about three of the old Brood Frames, and replace them either with new drawn comb, or more likely with new frames of worker Foundation. Put these at the side of the broodnest, with a stores comb outside them. Be careful not to split the brood area.

Even better, but much more risky in changeable weather, do a complete comb change: by putting a brood box of foundation over the brood chamber, then feed the bees copiously. After one week the bees should have drawn at least some of the foundation, and the queen will be up there laying. (Check!) Now you have a dilemma: save the brood in the old frames, or scrap it as part of the IPM Varroa control.

To save it, but keep the varroa, put a queen excluder under the new box, to trap the queen there. After another two to three weeks, all the brood in the original box will have hatched, so that box must be removed. Shake any adult bees off the combs back into the colony. Then scrap these old combs. Do it soon, because if you forget them wax moth is sure to get in! Thornes are now promoting Steamer units which can be used to recover the wax.

If you scrap the old frames with their brood, you'll greatly reduce the Varroa: but knock back colony strength appreciably – however, with a good late spring nectar flow, you may get some honey; and in any case the colony will be much stronger for the main summer nectar flow.

As soon as the broodnest starts to expand towards the outer combs, put on a queen excluder, and a first super above it. If the weather is changeable, put the super over a sheet of newspaper. Prick a few holes in it to help the bees chew it away so they can occupy the extra space as soon as they need it. This super will preferably have mainly drawn comb; and is added not only to give honey storage space, but also to cut congestion, and make bee-room in the brood chamber.

Take care when handling frames of drawn comb in cold conditions, since beeswax is then very fragile. When you start to get stored supers and frames back into use, it's important to check them over and to cull those with old or badly shaped comb. It's also a good time to check that the Frame Runners, or Castellations are positioned correctly in the box. The frames should all align correctly and have the correct Bee-space below (for bottom bee-space), or above (for top bee-space) the frames.

April is the month when population dynamics have huge effects on a colony. Once things really start, we're likely to get a sudden rush of bee forage - with flows of nectar and pollen. An active colony in April will be foraging hard for pollen, water and nectar just as soon as it is available. We need continuing warm weather to get the maximum effect, but expect a sequence of useful flowers from Sallow and Blackthorn, Dandelion and trees like Cherry and Plum, then Sycamore and Horsechestnut. At the

hive entrance look out for Dandelion pollen (strong yellow) and greenish pollen from trees like Sycamore. Brick red pollen will be from Horse Chestnut, although it's usually May before that is in flower. The Oilseed Rape is just starting to colour-up, so I expect it will be mid month, and perhaps May before a rape nectar flow starts.

Then, as the first super starts to fill with honey, you'll smell the aroma from the nectar as the bees fan at the entrance ..... a lovely time to sit beside a hive, listen, watch, relax and wonder.

Clive Hill

## Recent Event Reports

### 30th March 07 Norman Hughes – Beekeeping: An observational team sport

Norman began by dismissing the image of beekeeping as a solitary past-time: the beekeeper 'at one' with his bees. The gathering of the High Wycombe Association sat in front of him was proof that it was indeed a 'team sport'.

Through observation, early man went from being a simple 'honey hunter' to a proper beekeeper. Observations of swarms occupying a new cavity lead to a realisation of the benefits of providing a man-made cavity. Initially these cavities were made from sections of trees such as willow, to mimic the wild bee's choice, later replaced by straw skeps brought by Anglo-Saxon's in the 4th century.

The early or 'prime' swarms were better, as they would provide the season's crop. Later castes were also collected, as they could be 'grown on' and combined at the end of the season to over-winter as the source of next season's prime swarm. A strong colony going in to winter should mean a strong colony coming out.

Skeps were harvested for both honey and wax. The over-wintered colony would have been on new comb last year, and the prime swarm on new comb this year; both of these would be harvested at the end of the season. The castes would be on new comb this year, and would over-winter and be harvested next year. This way of managing swarms and colonies meant that no comb was likely to ever be more than 17 months old. These days, Norman suggested, some combs were more likely to be 17 years!

In 1852, Rev. Langstroth introduced moveable frame hives as a way of taking honey without killing bees. Beekeepers had now become responsible for changing combs, not the bees.

It has been recognised that fresh comb can help reduce disease build-up in a colony, and can also lead to larger bees. New comb has cells of full size, while an old cell is reduced in size each time it is used by the lining that each new bee produces, and future bees can only grow to the size of the cell that they are in. One method of achieving fresh brood comb was to identify two brood frames at the start of the season that were to be changed, work them to the outside of the nest during the season, swap them for new foundation at the start of the next season, and work them back in to the middle of the nest over the next few months. It would take 5 – 6 years to replace the brood frames this way, and this was the thinking until recently. Alternative methods have since been proposed that are more immediate. Over the last decade both the Bailey method and Shook Swarm have been developed to allow all the brood frames to be replaced in one hit: both methods are carried out early in the season, late March to early April.

The Bailey method involves placing a new brood box with foundation directly above the old box, with no queen excluder. A feeder is placed above the new brood box to mimic a 'flow' and encourage the bees to draw the new foundation. After about a week of feeding, the queen should be laying up in the new box. Insert an excluder to act as an 'includer' under the new box, and wait three weeks for any brood in the old box to hatch. When all hatched, the old brood box can be removed and the old combs

rendered for use or exchange. It is important to keep feeding the bees.

The Shook swarm was originally developed as a treatment for mild cases of EFB. Firstly find and cage the queen, to keep her safe. Then, frame by frame, shake bees from the old box in to a new box full of new foundation. Do not forget to reintroduce the queen! In Norman's view however, this method is too much of a shock and he would not recommend it, stating that even when used as an EFB treatment, a queen 'includer' is generally used to prevent the colony from absconding.

As an aside, Norman recommended that a full brood box should never be set down directly on to grass, as the queen was likely to disappear in to it and never be seen again!

He also suggested that caged queens have the ability to 'faint' or 'feign death' as on several occasions having marked queens, they remained motionless and he believed that they had died, only to come back to life later when they thought he wasn't looking.

Norman suggested that man beekeepers are only interested in finding the queen on their inspections, and that an opportunity to check for stores, proper brood development or degree of inbreeding is missed.

Norman went on to talk about inbreeding by stating that beekeeping, and therefore genetic diversity, was at its peak during WWII, when a sugar allowance was granted to beekeepers for bee feeding. Since the end of rationing, there has been a decline in the number of colonies, drones, drone congregation areas and therefore the bee gene pool. Inbreeding has increased and this can be seen in the hive.

Norman produced a picture of a brood comb with a good spread of stores, pollen and an even brood pattern, but the brood had a number of empty cells. He went on to describe the combinations of genes that a queen would use when fertilising her eggs from sperm from the numerous males that she mated with, and showed how some of the eggs laid in worker cells would actually be drone eggs. Worker bees patrolling the brood would be able to sense that these eggs were wrong for the cells and would remove them, leading to gaps in the brood.

Norman explained that having a daughter queen mated with drones from the same queen could have up to 25% empty cells on a brood frame, and that grand-daughter queens could produce up to 50% empty cells: possibly up to 25000 less worker bees in a season.

He suggested that any Association where its members experienced significant loss of workers this way should consider starting a queen-breeding program to introduce more diversity in the genes.

Talking of diversity, to round off the evening, Norman described the phenomenon of 'drone congregation areas' as an area where drones from up to 250 hives gather. Virgin queens come to mate before returning to their hives. These areas seem to persist year after year, and Norman described one such area in Gormanston, Ireland, where the Irish beekeepers hold their Annual Summer School. There is apparently one such congregation area in the HWBKA region.

In response to requests from the floor, Norman finished with a few nuggets for the new beekeepers in the audience: -

90% of bee cells in the brood will be workers, with 10% drones. Eggs are laid concentrically from the centre of a frame outwards. At one point, the centre will be capped with eggs around the outside. If no eggs are found around the outside, the queen has stopped laying and you should ask yourself why? Perhaps a change to colder weather? It was suggested that the outer brood could have become chilled and died if the bees contract the nest in cold weather, and so the space may be the result of workers removing dead brood from the outer cells.

And finally . . . 'Bees don't come home to die. Any dead bees in the hive are likely to be ones that you have squashed'