

Petrus - Monthly Round-up (Eric McArthur ©)

A handy round-up of essential monthly tasks and tips for the beekeeper, kindly written by the late Eric McArthur MBE, a seasoned and well respected West of Scotland beekeeper and honey producer. Please respect the copyright of this document.

January

Is your sheet of 1" thick polystyrene in place under the hive roof? This will help contain 'wild' heat loss from the colony. This month is notorious for its high winds/gales. It is essential that the beekeeper visit out -apiaries after high winds to ensure that hives are intact. Bees are pretty tough and resilient and can even survive the hive turning over so long as the queen is undamaged, which is usually the case. An exposed colony in a 'breached hive' may survive prolonged exposure if the weather settles fine but rain, frost and snow will kill the surviving bees within a short period of time. Go the extra mile – your bees are worth it! Watch out for tell tale 'mouse signs' – bread crumb sized debris on the ground under the entrance does not auger well for the welfare of the colony and the mouse has to be got out. An old fashioned trap baited with the 'old favourite' bit of cheese placed on the frame tops will generally solve the problem. Do not place the trap outside at the hive entrance – your victim will be a blue tit or robin! Promise?! On a cold day lift the roof off and have a quick look at the frame tops, if you can see bees your bees are hungry and need candy or sugar bags or better still a frame of honey place flat on the frame tops. If the beekeeper neglected to do any oxalic acid treatment against the mite in December, any late afternoon in January when the ambient is above freezing is good for the oxalic acid fumigation procedure. Once brood rearing commences oxalic acid effectiveness is greatly diminished.

February

Crocus and snowdrop will show this month and the bees will work them if the weather is right and hopefully be allowed a good cleansing flight. Hive activity at the entrance should be closely observed for early pollen intake – pollen being carried tells the beekeeper not only that so far the colony has survived but that there is a 'stirring' queen inside. This event will gladden the heart of all beekeepers who observe it. It does mine anyway even after 40 years. Be warned however – the bees still have a way to go before they are out of the proverbial 'wood'. The January advice regarding candy or sugar bags holds good for February also. This is the time to start thinking about the needs of the coming season; jars, labels, foundation, additional brood boxes/supers. If the beekeeper did not employ the 1" thick polystyrene board under the hive roof at the start of the winter, doing it now will help conserve colony heat and benefit brood rearing. Continue to watch for mouse activity. It is still not too late to scrape the queen excluders clean. The brace comb removed should be collected and saved for recycling. The deposits of propolis on the excluder should also be collected separately and reference made in the literature as to how this substance can benefit the health of the beekeeper, family members and friends. Monitor the hive floor insert.

March

The weather will still be a bit 'iffy' for regular bee flight, normally, at the start of March, but as the month progresses with a bit of luck weather-wise the bees will get out to the crocus and 'pussy willow'. I get really frustrated sometimes (quite often actually!) when the willow catkins are dehiscing and the weather is so bad that the bees can't get out to it. If the willow pollen is denied the bees, this can affect colony development quite dramatically and result in colony build up occurring on the early summer nectar flow and at the end of May the hives are bursting with bees

but the beekeeper gets no surplus honey. Observing activity at the hive entrance is sufficient to tell the beekeeper all that is required about the colony for this time of year. No unnecessary internal inspections should be undertaken in March. However mid March is the optimum time to commence feeding a light solution of sugar syrup. This will help the bees to maintain/increase brood rearing and safeguard against stores shortage as the queen increases her rate of lay. Once feeding is begun it must be continued until the bees are flying freely on the first nectar flow. By the end of March the bees should be well on the way to assured survival. Any colony not gathering pollen when other stocks in the same apiary are should be noted and observed closely, externally. Do not be tempted to handle foundation or move stored supers around cold. Beeswax does not take too kindly to vibration or touch unless the temperature is 10 C+. Voice of experience here! Try it at your peril!

April

The colonies should now be 'gladdening' our beekeeper hearts as they continue to build up. Any colony not performing as the 'apiary norm' should now be entered on the first bright, warm day. If recently queenless but otherwise quite strong, that is with the bees covering at least three deep frames, then by judiciously entering one of the 'better' colonies and removing a frame containing sealed brood, open brood and eggs and shaking the adhering bees back into the parent hive, this frame may be donated to the failing colony and with luck could produce a current year queen by early May. A litre of 1:1 sugar syrup given at the same time will not be refused by the bees. Insert a replacement comb in the 'donor' colony and close both hives up. Both colonies should be subdued using the minimum of smoke, prior to carrying out the described operation. Push your luck and learn in the process! Your bees are tougher than you think! Around mid April the first super or supers with drawn comb should be in place over a queen excluder. April can occasionally be a surprisingly bountiful month and I have experienced to my cost, the penalty for leaving the empty super used to 'house' the winter feed in place in 'bountiful' late Aprils. The bees build new comb like a Cretan maze in this 'free space' and fill it with the early honey. It is a messy wasteful job cutting this comb and honey out. Caught out once the beekeeper rarely allows 'lightning' to strike again. Better safe than sorry! Floorboards can be cleaned/replaced without too much disturbance to the bees around late April, lightly smoke each colony to let the bees know you are coming to call!

May

At the start of May despite what the 'regressive' beekeepers say, all strong colonies, viz: colonies with more than seven frames occupied by the bees, should have at least three supers on. The first super really should be fitted with drawn comb, the two above may be fitted with drawn comb or foundation. The drone sacrificial comb should be placed in the brood chambers of colonies by beekeepers who wish to employ this biological method against the mite. In my opinion a colony of bees commences swarm preparation as soon as it begins to feel prosperous, viz: well fed and breeding apace, by beginning drone rearing – late March usually. The bees, I feel gauge the space available for expansion very early in colony build up, anticipate hive congestion and almost preset the 'swarm trigger' period from this assessment. I invariably re-queen my strong colonies with a current year queen around the end of May/early June and by giving the bees 'plenty' of room for expansion/storage ahead of this time, do not have any 'congestion swarm' problems. Take a note of the number of brood frames occupied by the bees in a healthy, thriving colony around the start of the first week in May and then recheck that colony perhaps 7 -10 days later – it will be bursting with bees as a result of the 'population explosion' which occurs as the brood reared in early April emerges in successive waves. This phenomenon never ceases to amaze me even after decades on beekeeping. Bee warned! Once my current year queens are in place, around late may/early June, after any early honey is removed swarming is an event which happens to other beekeepers. So saying, in a long period of settled weather in May swarming can occur earlier than expected, so

be vigilant. The Seven Day Inspection procedure from mid May onward is the best method to keep tabs on colony intentions. Monitoring for mite fall should be routine from now on.

June

June used to hold all the horrors of the 'Texas Chain Saw Massacre', for me and perhaps many other beekeepers in areas where there is now no clover, due to the 'June Gap'. Currently I even look forward to this once feared phenomenon. After the early honey has been removed I now treat my bees with a three cycle 20 ml, 60% formic acid fumigation treatment, starting around early to mid June. First I ensure that the bees have a good complement of stores available, feeding heavily where necessary. I use a simple design of fumigator which holds a 6"x 6"x 3mm thick flat kitchen sponge onto which, once the fumigator is placed in the hive is trickled 20 mls of 60% formic acid using a plastic veterinarian syringe. A flat piece of plywood forms a lid forcing the fumes into the brood chamber. This procedure is performed every three days over a period of 9 - 10 days. This treatment kills the bulk of the mites still in the brood cells and at a stroke reduces the mite burden on the late summer bees. Carried out correctly the procedure is safe, quick and extremely effective. Of course the beekeeper using this method must do the 'homework', use the recommended protection and fully understand the application and safety aspects of the treatment. Swarming is now a real threat. The June Gap is also a good time to make 'shook' swarms, since most colonies will be bursting with bees, which have little to do. Properly carried out the 'Shook' swarm procedure will eliminate the swarm urge and provide the beekeeper with the young queens now understood to be essential for successful over-wintering in the face of Varroa.

July

The June Gap is past, hopefully beekeepers took full advantage of the opportunities offered by the June Gap for swarm prevention, queen rearing and treating against Varroa. This month offers the beekeeper the chance of obtaining lime, willow herb and Himalayan balsam honey which makes an excellent cut comb product. If swarming was delayed due to poor weather in early summer, keep your guard up. The bees might just outsmart you yet! Give the colonies plenty of storage room. In a settled July during a lime flow the supers can fill at an astonishing rate. Even four super on each strong colony can be too few. The downside to this is that sometimes the bees are reluctant to seal the comb. Keep your eye on hoarding progress. The beekeepers who shied clear of using either 'drone sacrifice' or formic acid in the earlier part of the season and who do not migrate to the heather must now employ some form of anti Varroa treatment after the late summer honey has been removed. Whatever treatment is used bear in mind the potential 'resistant mite' problem. Some form of treatment must be used, now, otherwise the consequences could be dire for bees and beekeeper.

August

The heather moors in some areas especially those to the West of Glasgow suffered massive devastation due to the predations of the heather beetle. Some recovery is now becoming evident but there will be a long haul back to the level of the 'good old days' for some of us. Going to the heather is really a worthwhile undertaking. Most new beekeepers once tasting heather honey are hooked for life. The experienced gained from the challenge of heather beekeeping will enhance dramatically the beekeeper's knowledge and ability to work bees well. Going to the heather will highlight beekeeper strengths and weaknesses and drive home the truths regarding Murphy's Law – viz "What can go wrong will go wrong"! Poor attention to all sorts of detail will come back to 'haunt' the beekeeper on the day and even thereafter. Only very strong colonies should be considered as 'productive' or 'surplus producing' at the heather. Moderated colonies at the heather

will in reasonable years gather enough stores to allow the beekeeper to save on sugar feeding. Strong nuclei will benefit from the late pollen and continue to rear the brood which will produce the bees that will carry the colony through the winter providing they are sufficiently well fed after they come back from the heather. The need to feed on returning from the moors cannot of course be overstated. It is essential that all colonies especially weak colonies or nuclei are protected against wasp attack from late August until early October. Entrances must be located in line with the middle of the cluster inside the hive and sized such that the bees can defend them easily. All gaps at badly fitting equipment interfaces: Floor/brood box/super/crown board/roof must be made 'wasp tight'. You have been warned!!

September

Heather bees should ideally be back in the over-wintering apiary by mid September. The ling nectar flow usually stops around the end of the first week in September. The surplus honey should be removed around the middle of the second week and winter feeding started by the 14th September – in the ideal world! The time scale mooted is a bench mark to work from. The bees will tell the observant beekeeper when it is time to go home. On a bright day on the moor in late August/early September the beekeeper may observe that there is little or no activity at the hive fronts – the flow is over. The bees know they are on the moor to work, holidays lazing about in the sun do not figure in the honey bee modus operandi. The amount of stores – pollen and honey which should be available to the over-wintering bees once feeding is finished is not an exact science – 30 – 40 lbs but it is of critical importance and the beekeeper should always err on the safe side. Bearing in mind that unless an early frost puts paid to late flowering nectar/pollen bearing plant bees will continue to rear variable amounts of brood during September and even into November in favourable years. 10 – 15 lbs of sugar in syrup backed up with a slice of fondant, block of candy or 4 – 5, 1 kilo bags of sugar, which require to be thoroughly soaked will not go wrong. I always check my sugar bag feed again around the end of October and usually find that all the sugar is gone and only the shredded paper of the bags is left. The colonies in need get another 4 – 5 sugar bags. Continue to monitor for wasp intrusion into any hives. Close the entrance in way of the cluster down to a pencil size hole, just big enough to allow one bee to pass. This will give the bees the chance to defend themselves against even the fiercest attack may just save the bees from being destroyed.

October

The wasp threat should by now have diminished and the colonies will be preparing for the long haul through to April next season by forming a more or less stable cluster. Pollen gathering will continue spasmodically until the first frost kills the late sources. Apart from ensuring that the bees have candy, fondant or sugar bags available to them the beekeeper can relax and do any other tasks without a time scale: pressing heather honey, extracting flower honey, chopping up the late summer honey comb to produce cut comb. There is always something to keep us busy. The 'mouse guard' beekeeper should have these in place by the end of the month. The more progressive beekeeper will have full width 7.9mm high entrances through which even the head of the smallest shrew will not pass. Mice must be kept out of bee hives!! Around the end of October I perform my first late autumn anti Varroa procedure using my own design of copper pipe fumigator applying a measure of approximately 2g of oxalic acid dihydrate crystals. The fumigator is inserted into the heat protected hive entrance which is then blocked. The pipe is then heated for around 90 seconds using a needle flamed blow lamp. The gas kills the phoretic mites (the adult female mites on the bees!). Mites in any late brood cells are not killed. These are dealt with as adults in the late December fumigation treatment. November after high winds. That extra trip after storms can be vitally important in the event of hive damage/displacement. It is a bit late in the day now to comment on hive location but the beekeeper who has done the homework will have hives shielded from the prevailing wind,

exposed to the south for winter sunshine, not located in a misty hollow, which will become a frosty death trap for the bees as winter progresses, the hives will not be located under the branches of large trees which could drip, drip all winter like some fiendish Chinese torture on the hive roofs. It goes without saying that the hives themselves should be weathertight. A piece of 1” thick polystyrene sheet under the hive roof will not go wrong in conserving heat. Beekeepers of more than a couple of seasons experience will already have noticed that after a moderate snow fall and the thaw sets in a rounded hole will appear in the snow on hive roofs – but not on hives which are fitted with the poly sheet!! Check the insert for mite fall! The ‘drop’ should average not more than 1 mite per day; if more fumigate again.

November

A weekly routine winter visit should be made to out apiaries from now on, especially after high winds. That extra trip after storms can be vitally important in the event of hive damage / displacement. It is a bit late in the day now to comment on hive location but the beekeeper who has done the homework will have hives shielded from the prevailing wind, exposed to the south for winter sunshine, not located in a misty hollow, which will become a frosty death trap for the bees as winter progresses, the hives will not be located under the branches of large trees which could drip, drip all winter like some fiendish Chinese torture on the hive roofs. It goes without saying that the hives themselves should be weathertight. A piece of 1” thick polystyrene sheet under the hive roof will not go wrong in conserving heat. Beekeepers of more than a couple of seasons experience will already have noticed that after a moderate snow fall and the thaw sets in a rounded hole will appear in the snow on hive roofs – but not on hives which are fitted with the poly sheet!! Check the insert for mite fall! The ‘drop’ should average not more than 1 mite per day; if more fumigate again.

December

Rather than used the oxalic trickle method, which of course can only safely be applied once in late December. I now do a second fumigation procedure around mid December. My main reason for this is due to my sugar bag feeding method. Trickling would mean removing all unused/partly used bags: because fumigating from above would not be very effective due to the gas condensing on the sugar bag canopy. Fumigating at the entrance eliminates this problem and allows me to supplement any depleted ‘canopy’ without disturbing the bees. Usually by around the third week in December the bees in many colonies have scooped the bulk of the sugar given in October. A winter supplement of candy or perhaps three sugar bags, after the late December fumigation, which only requires the paper of the bags to be wetted, will usually see the bees through until late March. Continue to check for mouse activity at hive entrances.

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Alexander Eric McArthur 1935 – 2021, known to all as ‘Eric’, champion of beekeeping and of all things environmental, a great influence to many, awarded MBE for services to beekeeping.