

A Simple System combining Expansion and Queen Rearing

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I am currently following a system of springtime beekeeping that allows me to produce nuclei for expansion of numbers (or for sale) and at the same time forms a good chunk of my queen rearing. I used this system for about 30% of my 200+ colonies in 2009, and a bit less in previous years. There is nothing particularly unusual or groundbreaking about it. All the methods I use are well known tried and trusted techniques learned originally from various other beekeepers. My only contribution has been to combine a few simple methods in the optimum way to satisfy my own objectives. My management system may well change in future as my objectives change. I hope this brief summary will be helpful to anyone with similar objectives:

Objectives (ranked according to personal priority)

- Expansion of colony numbers without severely denting overall honey yields
- Stock improvement
- Low/zero dependency on bought queens
- Some nuclei for sale mid-season
- Easier management of swarming

Phase 1: Early season management

This is “business as usual”. My locality is dominated by oilseed rape and all colonies will inevitably be within easy reach. With 3 successive cool and wet summers behind us, the importance of my spring honey crop has increased as it has proved reasonably reliable, so I definitely want to take advantage of the rape flow. Therefore healthy colonies are simply given supers and inspected periodically for signs of swarming, although in common with most beekeepers, I do not have significant swarming problems until the end of the rape flow.

The only additional task at this phase is to configure apiaries so that colonies are in groups of three wherever possible. The reason for this will become apparent. A treble hive stand is ideal.

Phase 2: Taking nucs

Before the rape flow is totally over I will take a 4 frame nucleus, with the old queen, out of each of the 3 colonies on a treble stand. These are given an extra frame of foundation/drawn comb and put into a 5-frame box and moved to distant apiaries and fed. Any particularly good, bad or aged queens are noted for special treatment later, and are excluded from those available for sale.

Most of these nuclei will be ready for upgrading to a full brood box quite quickly (1 week or less). So those allocated for sale must be moved on to their new owners asap. The nucs sold will obviously have a 2nd season queen, and this is contrary to some beekeepers expectations. However, my own view is that she is a much better prospect than a recently mated youngster who runs the risk of early failure or developing into the mother of nasty bees, neither of which I would want to inflict upon a new beekeeper. In any case, I would not feel confident enough to produce new mated

queens in time to head a May nucleus, though I'm sure it can be done by those more skilled than I. Whether it could be achieved consistently is another matter.

The majority of these nuclei should go through the rest of the summer without offering to swarm. But those that do try will at least have been delayed and hence my workload is spread and more manageable. In 2009 these nucs typically produced a summer crop of 20lb to 30lb of honey, in spite of a wet July.

Phase 3: Creating a cell-raising colony

The original colonies on the treble stand are now queenless and missing 4 brood frames each. If National that leaves 21 frames in total. The next step is to unite the 3 colonies to form 1 very large queenless colony as a cell raiser in the middle of the hive stand. The 21 brood frames are mixed together into 2 brood boxes and a dummy also put in to fill the last gap. All the supers are placed on top in a random sequence. Fighting has been virtually non-existent when I've used this uniting technique. The key thing is to use at least 3 colonies, the theory as explained to me being that bees in a minority will not behave aggressively. Whatever the reason, I've found the method works. Other methods of uniting the bees may of course be substituted here.

I will now leave the bees alone for about 3 days, at which point unwanted queen cells are removed, brood frames may be rearranged slightly, and some supers cleared and removed to leave a manageable working height.

Phase 4: Producing queen cells and beyond

My own preferred method has been to graft into plastic cups in 2 rows on a single National frame, but I don't see this as a key success factor. Any valid method will do once the cell-raising colony has been established. What is key for me is that I'm repeating this procedure in 3 or 4 out-apiaries, grafting while seated in the car – I find working in good natural light much easier.

For these purposes the breeder queen(s) will be the best available from the apiary, now in a nuc and left behind when all the other nucs were removed a few days earlier. This is mainly for convenience, but it's also become apparent to me that some apiaries consistently have better honey yields than others, just because the forage is better. So queen comparisons within apiaries seems fairer.

When queen cells are ripe the whole colony will be broken back down for mating, either 4 equal splits or else 3 splits plus 3 2-framers for extra queens. Extra brood frames are given to fill boxes, remaining supers are removed and a feed given.

The objective is to get most of these splits back into honey production before the end of the season, and a target of one more super each is realistic, but depending very much on the apiary.

Time-permitting, spare queen cells are also given to colonies of poor or aged queens which are removed several days in advance. (However, I would like to attempt induced supersedures in future).

Other Considerations

Leaving supers of rape honey on the cell raising colonies obviously runs the risk of crystallization. However, in reality it's only been a minor problem. Most of it remains totally liquid, perhaps due to the warmth of the congested colony. An alternative could be to clear all the supers at grafting time and provide a 3rd brood box instead, but I haven't actually tried it this way.

Time management is a serious consideration around the middle of May. I couldn't physically adopt this system of management for all my bees, but squeezing a good chunk in before I'm swamped with swarm control and extracting does help to alleviate things later. However, if I decided I was willing to sacrifice more spring honey, I could start the process earlier and move more apiaries into this management system, hoping for payback with a good summer crop.

Failed queens are an issue. Too many fail to mate or else fail soon after mating. In 2009 I would estimate a 25% overall failure at least. However, once past the initial failure stage, I'm not getting significant intermediate failures. I am now factoring all this in by creating more splits than I want, and by doing the lion's share of queen rearing early in the season, supplemented by a trickle thereafter, I am circumventing the problem. I generally don't persevere with failures or even suspected failures – the bees are shaken out and find homes elsewhere in the apiary, and likewise good frames are donated to other worthy causes in the same group of bees.

Note from Roger Patterson:-

Chris Broad is a commercial beekeeper living in Worcestershire. At one time he was the secretary of Worcestershire BKA. Chris is a thoughtful beekeeper who keeps around 200 colonies.

He sent me the above text some time before I had time to put it on the website in September 2015. I asked him for permission and if he had updated it in the meantime. His emailed response is interesting and apart from the removal of a private sentence was as follows:-

Hi Roger,

Yes of course you can use the article. It was interesting reading it and since then I've carried on doing similar things but with other variations on the theme as well. My biggest change has been to switch entirely to poly Langstroth and adopt a minihive for queen rearing where 2 frames end to end fit nicely in a Langstroth medium box. Wintering the minihives has proved very successful, to the point where the survival rate is actually slightly better than the full Langstroths, and making Langstroth nucs with these in April. But the underlying theme is the same i.e. expansion by splits as early in the season as possible (with either a queen or queen cell) which really keeps the swarming to a manageable level – in fact the swarming is certainly under 10% for those overwintered minihive queens and overall we are consistently under 50% swarming now which is a huge change from when I first started.

I would like to embellish that text if I have time one weekend, but it may or may not happen in the short term so don't wait for me. It still stands as written.

All the best

Chris

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