



South Tipperary Beekeepers' Association

Fact Sheet no. 6

Management of Nuclei to Turn Them into Productive Colonies

Turning nuclei into productive units means having them at full strength by mid-June ready for the main honey flow. Early summer nucs will not be strong enough to collect a main crop but could be built up for the heather flow. The only nuc which can build up naturally to a full sized colony in time for the main flow in June/July is one that has been over wintered. The productive colony will have a maximum size brood nest the end of May early June which will produce the maximum foraging force three weeks later. The number of adult bees in the colony will be twice that of brood and the amount of brood is approximately equal to 20 times the daily egg laying rate of the queen. A good prolific queen is very important

Egg/day	Total brood	Adult bees
1000	20,000	40,000
1500	30,000	60,000
2000	40,000	80,000

The three ways of managing nuclei to ensure it is at peak strength is as follows:

1. Brood expansion

Brood spreading: should only be practiced by an experienced beekeeper as it can put bees under stress to keep all the brood incubated. It involves taking a frame with a small patch of brood which will be located on the outside frames of the brood nest and placing it between two large brood patches so that the bees will lay up this area. It can result in chilled brood if the weather changes suddenly which is likely in spring when most of the practice is undertaken. Under no circumstances should an empty comb be placed in the brood nest to encourage the queen to lay in it. Not only will this split the brood nest in two but this comb may not be ready for the queen to lay in.

2. Natural expansion by feeding or natural flow

Natural expansion depends on weather and more importantly the "income". Colony explosion that takes place when a nuc is on the rape is unbelievable. The important aspect at this stage is to prevent the bees from storing honey in the brood chamber in large slabs preventing the queen from further expansion. This can be achieved by using a dummy board to restrict the size of the brood chamber and a super with a queen excluder for honey storage. If there is no flow then no super is required and feeding (slowly) should be resorted to just enough to keep the colony expanding without them storing it. Care is needed to evaluate when a flow is on and when a super is needed. During early spring flow like Oilseed Rape the queen can reach her peak very quickly and build up rapidly. If feeding is required and supers are in place it is important to make sure syrup is not stored and later extracted.

3. Augmenting from established colonies.

Certain colonies will build up too quickly with the added danger of swarming. This can be suppressed by removing some brood and possibly bees and adding to a smaller colony. This can be a great method of building up a nuc. All must be disease free. Important points are:

Only emerging brood should be added, one frame at a time, emerging brood are not as susceptible to temperature variations as younger brood and there is only a limited number of bees to incubate it. In an over wintered nuc the little colony will be balanced and there will only be enough nurse bees to deal with its own brood, any addition will put it under stress leading to Chalk brood (*Ascosphera apis*). This problem can be offset by the addition of bees spraying both lots lightly with thin syrup to prevent fighting

Start to super when all but the last two frames are covered with bees otherwise swarming may be an issue.