Queen rearing by Noel Power

This is a follow up of a course we ran a number of years with our more experienced association members.

Part 1 Starting Queen Cells in a Swarm Box

This is a method of starting cells used by many commercial queen rearers and it has worked better for me than any other method. One of its great advantages is that it doesn't need days or weeks preparation and it can be used any day you get the opportunity.

It fulfills the most important criteria in queen raising in that it ensures that plenty of nurse bees of the correct age are used and believe me it works every time.

Photo 1

Photo 2

Photo 3

The Swarm box is similar to a five framed nuc. I made my one so as it holds three national frames with spaces allowed in between them the two outside frames are of mostly unsealed honey and the centre one contains pollen. The space between the frames is about 22mm. This is where I will later drop in the frames of grafts which are about 20mm thick frames. Clearance of about 12mm is allowed at the outside of the food frames. I made the lid (crown board) in three pieces which are screwed in place as the box will be moved about a lot and needs to be secure. The lid is in three pieces as when it is charged with the young bees and when I put in the grafts I need to only take off the centre portion and this helps keep most of the bees in the box. The width of the centre portion is sufficient to allow access to drop in the frames of grafts.

The box should be 50mm. or so deeper than the frames. This bottom floor area should be well ventilated with wire mesh. This is very important as the bees will be closed in and not able to fly and need good ventilation.

I also fix two pieces of wood to the box floor under the frame side bars as on one occasion when I bumped the box on the ground the honey frames being heavy came away from their top bars, so now I support the side bars from underneath. This can also be prevented by using older combs which are not as soft as newly drawn out combs. Two further pieces of wood are fixed underneath the box to raise it up to allow space under the mesh floor for ventilation.

The frames that carry the grafts I make about 20mm wide not the full Hoffman width which is about 34mm. That way the bees don't build so much brace comb and the cells

don’t end up entombed in it. If you use an empty Hoffman frame for holding the cells then the bees see this as another space for a comb and will draw brace comb on it.

The entrance is a cut out of about 25mm high and about 200mm. wide near the bottom of one side. A sliding closure is made to fit over this and again it is held closed or open with a wood screw to keep it secure. (See slide arrangement in Photo 1)

A chute or funnel arrangement is built around the entrance which I have painted matt black. (Again see photo 1). When bees are shaken into this chute the older ones fly back to the hive they were taken from and the young nurse bees who haven’t yet learnt to fly and are house bees climb down into the darkness and enter the swarm box. Some people use some queen excluder over the entrance to prevent a queen and drones going in. This is a bit of a pain as getting the bee in takes for ever. The Queen will not accidently get in if you have caged her and a few drones will make no difference.

The box is first assembled with a frame of unsealed honey, a space for the graft frame, a frame of pollen (important as young bees feeding larvae need pollen) another space for a graft and then another frame of unsealed honey. (See photo 3) The lid is secured in place and a feeder of syrup is secured on top.

The beekeeper then goes to a number of strong hives and finds and cages the queens. Frames of open brood are taken from the centre of the brood nest from these colonies and the adhering bees are shaken into the chute which has the entrance open. (See photo 2) May be about three frames from about three separate colonies are used in this way. The older flying bees fly off and return to their parent colonies and the younger nurse bees climb down into the darkness of the chute and into the swarm box.

I usually aim for about the bees from about nine frames of open brood, or about 50 mm deep of bees in the bottom of the swarm box when I later jar it on the ground.

When all the bees have entered the box the entrance is closed with the sliding door and secured with a wood screw.

The frames of brood are of course returned to their respective colonies as are the queens.

The swarm box is now put into a cool dark place where they will realize they are hopelessly queen less and will gorge themselves with pollen and stores and get to an optimum state to start queen cells when they are given female larvae of the correct age.

This operation I usually carry out about 11oc in the morning. After lunch I begin the grafting. This will be completed about 2.30 pm. By then the young bees in the swarm box will be ready to receive the grafts.