

## *Lecture -4-*

### **STARTING A BEEKEEPING:**

As a beginner, you may start beekeeping by purchasing (buying) colonies from a local beekeeper. Normally a bee colony with 5 frames full of bees having sealed brood and unsealed brood, especially with eggs and young queen should be used to start hiving. Following tips may be useful to our:

- 1. Make preparations:** Before setting up an apiary, you should be ready after proper training, buying new equipment, assembling new hives with the help of an experts or trainers.
- 2. Start small:** Two or four colonies are ideal number for a beginner to keep for one or two year. Expand the colonies as you gain experience.
- 3. Execute work:** When the package of bees arrives, your hives should be on the site. Prepare a work schedule and follow carefully.

The suitable season for starting beekeeping agrees with mild climatic conditions and availability of honey bee flora in plenty. Normally, spring (February-April) and (September -November) seasons are the best periods to start beekeeping.

### **Establishment of a beehive:**

A new beehive may be established by following ways:

- Capturing a swarm of bees.
- Purchase a packaged bee colony.
- Using of nucleus.

#### **1- Capturing a Swarm of Honey Bees:**

To establish a bee colony, bees can be obtained by transferring a wild nesting colony to a hive or catch a passing swarm of bees to occupy it. Collecting honey bee swarms in the spring is an excellent way to replace winter losses, strengthen weak colonies, or start new ones.

#### **2- Purchase a Packaged Bee Colony**

The easiest and the best way to start beekeeping are by purchasing a packaged bee colony from an established beekeeper or a reputed supplier. A package consists of about 3000- 4000 bees. It has a cage with a young mated queen and two or three worker bees to care for her.

### **3- Using Nucleus**

A nucleus, popularly known as “nuc”, is a hive of bees include two to five frames of comb instead of the standard 10 frame in a standard hive and smaller in size. A nucleus usually consists of brood, honey and pollen, a laying queen, and each frame has adult bees.

### **Division of Colony:**

A colony can be divided when it has a large population of bees, brood and appears overcrowded. The main reasons for dividing colonies are:

1. To increase the number of productive hives.
2. To reduce the size of colonies to discourage swarming.
3. To control mites.
4. To gain income from sale of nucleus colonies.

Avoid making divisions during the honey season because it will reduce the amount of honey produced and to be harvested. Make divisions after the honey flow to increase colony numbers. The best time to divide a colony is when the bees are ready to swarm and the bees are trying naturally to reproduce.

### **The steps of dividing a colony:-**

- 1- Prepare your new hive first – clean it and by rub it with some beeswax or propolis so it smells familiar for the bees.
- 2- Put on protective suit and have the smoker lit.
- 3- Always choose a big healthy colony to divide and check it has brood, eggs, pollen and honey.
- 4- Put the new hive next to the overcrowded hive.
- 5- From the big healthy colony, select a comb with queen cells, remove it from the hive and break all the queen cells except the biggest capped two. You need two just in case one gets damaged.
- 6- Transfer the comb with the 2 queen cells into the new hive.
- 7- Also transfer one or two other combs with a lot of sealed brood and a little unsealed brood. The sealed brood is very important because more brood means adult bees will emerge very quickly in the new hive. Also sealed brood are stronger and can survive better than unsealed brood.
- 8- Also transfer one or two combs of food comb with lots of sealed honey and pollen.

9- You can make a division without queen cells as long as the new colony has female worker eggs and larvae in the combs transferred. From the very young larvae they will be able to make new queen cells within a few days and raise a new queen.

10- Include bees on all the combs you transfer and brush or shake in bees from 2 or 3 other combs as well. Include the bees sitting on the brood combs as these are nurse bees that will soon produce royal jelly for the new queen. These are very important to feed and warm the brood also.

11- Check very thoroughly that you do not have the old queen on the combs you move or brush off. She must remain in the old hive or mother colony.

12- Remember to put the brood combs in the middle and the honeycombs on either side to insulate the brood nest. The framing combs feed and help the bees to keep the brood warm.

13- These bees will become a new colony. Most of the adult bees will remain in the old hive and continue to make honey.

14- The bees will look after the queen cells in the new colony and a new queen will hatch out. The first queen to hatch out will destroy the other queen cells.

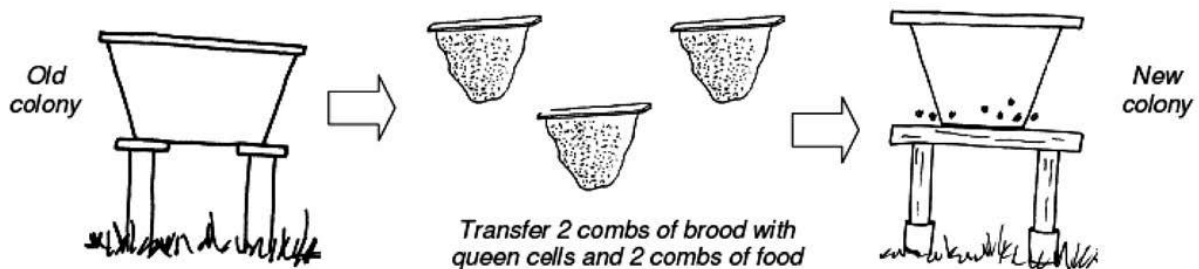
15- Wait until dark then move the new hive to a site at least 2kms from the old site if possible.

16- If you don't have a place to put the new divided colony 2 kms away then you must move both hives 1m either side of the old location. This will ensure that some returning bees go into the old hive and some into the new.

17- You will need to feed the bees in the new hive, as they will not know where to go and get food in their new place. A small colony can become weak very quickly.

18- If you see the queen or brood after 3-4 weeks then this has now become an established colony.

19- Alternatively, place one hive on top of the other but with different direction of entrances.



## **Uniting Colonies:**

We have seen how to divide a colony but sometimes we may also need to unite colonies. Beekeepers unite colonies in order to enlarge a colony and improve their yield of honey or surviving the dearth. If a colony fails to produce surplus honey for 2 seasons, or if it weakened by repeated swarming, then it can be strengthened. Two weak colonies can be combined to make one strong colony. One large colony collects more honey than two smaller colonies. A colony can be united either with another colony or with a swarm.

**Uniting Colonies** – Combining two or more colonies to form a larger colony.

### **Uniting a colony with another colony:**

The steps of uniting a colony with another colony:-

- 1- In the late afternoon, check which colony has the youngest and healthiest queen. Remove and kill the queen from the worst, most aggressive or least productive colony.
- 2- Leave this colony for 24 hrs. they will now be missing the queen and ready to accept a new one. They will also be less likely to fight as there will be no smell on them of the dead queen after 24 hours.
- 3- In the evening catch and cage the queen from the other colony in a queen cage and place the hive near to the queenless colony. You will have to move it slowly and gradually over a number of days (1m per day) so as not to lose any foraging bees. Alternatively always choose the location of the stronger colony.
- 4- Smoke both hives thoroughly so that their familiar smells are covered.
- 5- The cage will protect the queen should any fighting start. But to prevent bees fighting also dust them with flour or spray with sugar water – they will be busy cleaning themselves and will not fight!
- 6- Place the queen in her cage in the queenless hive next to the brood nest.
- 7- Transfer all the top bars with combs and bees into the hive. Smoke each comb as you do so. Alternate combs from the different colonies as you do so until all the brood combs are united and then add the honeycombs at the sides.
- 8- Completely remove the empty hive.
- 9- Release the queen when you see that there is no fighting between the 2 united colonies.
- 10- Close the occupied hive and leave the united colony undisturbed for the next few days. Any further disturbances may cause the bees to abscond.
- 11- If you did not find either queen or do not know which one is the best then you can still unite the colonies. Leave both queens in the hive and the stronger one will

kill the weaker one. Smoke heavily and watch them keep smoking them for an hour or so until they settle down.

### **Uniting a colony with a swarm:**

The steps of uniting a colony with a swarm:-

- 1- In the evening time catch a swarm and if you can find the queen then cage her.
- 2- Open the hive, remove the old queen in a cage and kill her later.
- 3- Smoke the bees and place the new caged queen from the swarm near the brood nest.
- 4- Shake the swarm into an empty part of the hive.
- 5- You may leave both queens in the hive to fight and the stronger one will survive.

You can also increase a honey producing colony by partially uniting it. Top bars with capped brood (without bees) can be added from other colonies but the receiving colony must be able to occupy the combs and keep the brood warm or they will die.