

# The Traveling Beekeeper



## SUMMER SPLITS

by Dr. LARRY CONNOR

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### Introduction

When I was a graduate student in the later 1960's my major professor, Dr. E.C. Bert Martin, taught his students that only big strong colonies are suitable for wintering. Smaller colonies should be stacked up and combined, so the combined populations would insure winter survival. Bert wanted a minimum of 60 pounds on each hive, and was happy when we could provide 90 pounds of honey. This often meant we wintered in three-deep hive bodies. Winter losses, in these pre-mite days, were between ten and fifteen percent, especially when we supplied upper ventilation on these big colonies.

Last summer I visited with Paul Kelly, the beekeeper for the University of Guelph, Ontario. He routinely winters colonies in a single deep hive body, using Canadian Buckfast queens. True, the hive body is chockablock full of honey, but this is much less than Martin's two or three hive bodies.

In December of 2010, I visited with Mike Palmer, a northern Vermont beekeeper, who winters 'double-doubles'. These are ten-frame boxes divided with a solid board, providing room for four frames of honey, bees and a young queen. Another identical four-frame hive is on the mirror side of the hive body. Both hives are then given a second hive body, also split down the middle, so each colony winters on just 8 frames of bees, bee bread, and pollen.

Then, there are the beekeepers who ship bees to California for almonds. Quite often they make splits in the summer and early fall, build them by feeding, and move the colonies to the almonds in the fall, where they continue to be fed as needed.

Let's discuss some of the aspects of making summer splits.

### Mid summer splits have advantages

The second month of summer, from mid July to mid August, is a great time to make new colonies from production colonies ap-

proaching the end of their main summer nectar flow. There are a number of advantages of making new colonies at this time:

The worker bees in the colony have finished (or are about to finish) the summer nectar flow. Clover, spotted knapweed, and other plants have ended or are about to end their bloom period. Late summer and fall

flowers such as knotweed, goldenrod and aster, are not yet in flower, but will be useful in boosting the strength of the new colonies.

This provides an ideal time for you to replace queens that have served you well (maybe) with a younger queen. The old queen may have overwintered with the hive, or been provided in a package, nucleus or swarm that you added to your colonies. She may be less than six months old, but you plan to replace her.

Locally produced queens, with strong tolerance against varroa mites, with survivor adaptations for your area, are likely to be available from local queen producers.

The resulting pause in the brood cycle will break the cycle of varroa mite reproduction, and reduce the need for chemical treatments.

Starting at the middle of August, all colonies work to focus on their winter needs. In northern states and Canada we know that we need to have healthy vigorous worker bees that will, in turn, produce a strong, healthy, mite free, and well fed population of 'fat' or 'winter' bees going into the summer months.

### There are disadvantages, of course

Making splits during mid summer is hard and hot work. There is no doubt about the vast amount of human energy it takes to perform such a chore. Here is a short list of disadvantages:

- The work is hot (oh, I mentioned that).
- In some places the main nectar flow is NOT over (example: goldenrod in parts of Pennsylvania). In that case I would NOT make splits if I wanted the bees to make a surplus of honey.
- Other locations may experience an extreme dearth (complete lack of incoming nectar) and this is a perfect time for robber bees (workers from other colonies), wasps, yellow jackets, hornet, and other insects to ROB your colonies during and after the splits are made.



This three-deep, 8-frame hive can be left 'as is' for the winter. But the chance of making new colonies for the next season, for almond pollination, and for a break in the brood pattern, make it possible to make mid-summer splits, after the main nectar flow is over. This could be two or three colonies, depending upon the resources inside. Of course, the beekeeper must make sure the divides have adequate winter stores.

- You seek a balance of reduced nectar income with an opportunity to remove honey and return to the apiary to make colonies for the next season, or for migratory purposes for almond pollination next year.

### The chore of finding the queen in a number of colonies

A strong colony in the spring has just a fraction of the bee population of a colony in mid summer. Finding the queen bee in a large colony, in an effort to replace her, can frustrate the most experienced beekeeper. I recall a prominent New York State beekeeper lamenting the afternoon he spent trying to re-queen a dozen strong colonies during mid August. After hours of hot, frustrating work, he found no queens. If you want to remove a queen and make splits, I have three suggestions:

#### A. Split now, de-queen and re-queen four or more days later

You may be better suited to make the split without finding the queen. At least four days after you make the split, inspect each new split for eggs. The colonies without eggs do not have a queen and you should introduce one. The colonies with eggs have a queen. In this smaller hive, find her and replace her. Instead of inspecting a huge colony, you now may have one-half or one-third of the bee population that the full colony has, depending on how many splits you have made from each colony. Search out the old queen, remove her, and install a young, laying queen as a replacement. At this time of the season, I am reluctant to use virgin queens or queen cells, because of the risks of mating, but they are an option.

#### B. Don't look for the queen but install a new queen anyway.

Wow! some beekeepers are quite content to install a fresh laying queen into a split without finding the old queen. When you factor in time and energy needed for some beekeepers to find a queen, it may be efficient to install a mated queen and hope the that best queen wins. There is strong evidence that young, vigorous queens are well accepted by colonies and the old queen is 'decommissioned' by the workers in the colony. But there remains some risk. By marking the new queens, you can find out how well this system works for you in your system of management.

#### C. Bring on the bee blower and queen excluder entrance traps.

Make queen excluder entrance traps for colonies (do this in the winter before if you are organized). These should consist of an insert that contains a piece of queen excluder material. Or Duct tape or staple a piece of excluder material on the entrance, making sure there are no 'leaks'. Place the trap on the entrance of each hive or split. Then remove all the frames in the hive and either use the bee blower or shake the bees (shaking is fine for small operators who do

not want to spend the money on a bee blower). Direct the bees to the entrance of the hive so the workers, drones and queen will crawl back into the hive. Thirty to sixty minutes later you can search for the queen at the entrance of each hive and eliminate her before introducing a new queen.

There are some beekeepers who combine re-queening with honey removal. This means all the bees in the honey supers AND hive body are completely blown out of the hive and as the honey is removed, a new queen is installed in the hive. This is total emersion beekeeping—like jumping off a ship to learn to swim—but if you are completely beesuited and duct taped properly, you can get a lot done in a short time period.

Add another person, maybe another truck, and you can make splits at this time too. I'd put half the brood and a new queen into each hive body, and then return in the evening to move one box of bees and brood to a new hive stand or pallet and truck them away. Enjoy!

#### Making the splits themselves

It is your choice how you actually make these summer splits. Again I have several options for consideration:

- A. Equality—sort each frame so the splits are equal. This is like sorting candy for kids. Each split gets the same number of frames of brood, honey and partially filled combs.
- B. By the box—simply divide a two or three box hive into two or three splits. Make sure that there are bees and brood



Drones (and a few workers) mass at the front of a hive. When shaken in front of a section of queen excluder material, the drones are unable to return to the hive. Look through the mass of drones to find the queen, and either kill her or put her into an observation hive for your kid's Show and Tell at school!

in each hive body and equalize if they are out of balance.

- C. Unequal splits—make five-frame nucs and leave the stronger colony behind. Some beekeepers want their increase splits to be a certain size, like four frames of brood, two frames of bee bread and honey and the rest frames of honey. The rest of the colony may be much larger. You may also combine bees and brood from several colonies to obtain the result you want. It is your decision.

#### Split management

My bias is to leave these new colonies with lots of frames of honey and bee bread. This is like giving each of your kids a big bank account when they leave home, but unlike your kids, the bees will be pretty careful stewards of their resources. Given the choice, I have found that colonies with surplus frames of honey always do much better than new colonies that are stripped of honey and rely upon sugar and protein feeding. Frames of honey often contain honey-covered bee bread, stored pollen.

That said, continue to feed as needed to make sure the colonies are packed with honey. If you medicate for Nosema (this is not a recommendation), this is often the time you conduct this treatment.

Spot check a few colonies for varroa mite loads, just to make sure that the levels are low. I use the powdered sugar roll because it does not kill the bees.

**Dr. Connor will offer a three-day queen rearing course August 24, 25 and 26 in Galesburg, MI. For information and registration data email him, or register on the website [www.wicwas.com](http://www.wicwas.com). Pre-enrollment is required and space is limited.**

***Bee-essentials: A Field Guide* by Dr. Connor may be ordered from your favorite bee supply dealer or directly from Wicwas Press, 1620 Miller Road, Kalamazoo, MI 49001. The price is \$29.95 postpaid in the United States. If you live outside the US, please email [LJConnor@aol.com](mailto:LJConnor@aol.com) for a quote payable via PayPal. Or check out the [www.wicwas.com](http://www.wicwas.com) website for PayPal purchase. This full color book is ideal for use in bee classes and training programs, so contact Dr. Connor for quantity discounts to bee clubs.**

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