



The 50 SARE colonies, set up in 5 horseshoe configurations of 10 colonies each.

## Project Update, June 2013: Installing 50 Packages

### A Comparison of Strength and Survivability of Honey Bee Colonies with Conventional Versus Northern-Requeened Packages

by Erin MacGregor-Forbes, Master Beekeeper

#### SARE FNE 12-756

After months of building equipment for the SARE project, on Friday, May 17th, we finally installed the 50 package colonies into their new hives in Jefferson.

There are aspects of beekeeping that get more or less important, depending on the scale of the apiary. In this case, installing 50 package colonies at one time, in one place, carries a particularly high probability for drift between colonies. The bees in the packages are not fully committed to their “colony” yet, and their queen is still not fully accepted as the head of their newly formed group. So when the bees are shaken into their respective hives, particularly those bees that end up in the air will often drift from the intended hive to another. Also, when the bees are orienting to their own colony and beginning to forage, they can become confused upon return and end up in the wrong hive. This leads to unequal colony strength, as some colonies

gain population from the drift while others lose population.

So to minimize this drift, we arranged our 50 colonies into 5 horseshoe configurations of 10 colonies each (within each, colonies face east-south-west). We will work the colonies from the back sides of the horseshoes, out of all flight paths; the rear horseshoes are up an incline, so even though there are

bees flying behind us, they are up higher in the air and so we are out of their way, too.

We also painted the colonies with simple but bold hive markings to help the bees distinguish their hive from the remaining colonies. In order to have consistency in the equipment, all hives are painted the same base color of dark purple, with the hive markings of each being different enough that the bees can recognize home easily.

Our colorful horseshoes of beehives had been set up in the yard for about two weeks prior to the installation of the bees as we prepared the yard and got ready for the package arrival. We didn't want to have to do everything on package delivery day, and the appearance of the painted hives created quite a stir in our new neighborhood in Jefferson, Maine. The hives are clearly



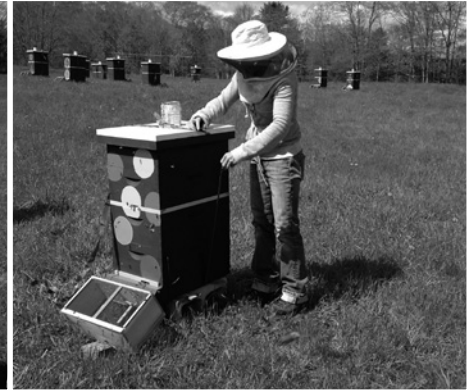
Packages being created in Georgia! LEFT: frames of bees are pulled from oodles of strong colonies to be shaken off into packages. RIGHT: packages of bees are waiting to be assembled with a caged queen and sugar syrup can each.



After making space by removing three frames from the upper hive box, we pull out the queen cage and feeder jar from the package...

...so that we can shake the package of bees into their new hive.

After the bees settle in, the caged queen is nestled between the two middle frames, the three previously removed frames returned, the inner cover added, and feeder pail added (protected by two more medium hive bodies) before covering and ratcheting the colony.



visible from a fairly busy road, and we had quite a number of neighbors and others stop by to ask about the colonies. Everyone was very curious and excited for the arrival of the bees.

On package installation day, Cindy Bee and I began installing the packages around 10AM. The weather was sunny and cool, at near 65 degrees, with more wind than we'd have liked, but you have to work with what you've got. We installed each package into two eight-frame mediums equipped with undrawn wired wax foundation by removing about half of the frames from the upper box, installing the queen cage in between the middle frame and the next one out, and then shaking the bees into the empty space left by the frames we'd removed. Then we carefully replaced the frames and added a one-gallon feeder can over the inner cover, protected by two more medium boxes. Each hive was then strapped together with a ratchet strap to protect from high winds.

We had two helpers on installation day who assisted us by setting up and punching the holes in the feeder cans, setting out the packages ahead of us, and strapping and cleaning up the scrap wood strapping from the packages. Their help was sincerely appreciated and kept the day moving at a good solid pace. It took us nearly five hours to complete the installation, even with the help. By the end of the day we were

exhausted, but very happy to see all of the colonies safe and fed in their new homes. Caring for package bees is stressful for beekeepers; the first priority is always to keep them safe during transport and get them to their new hive as quickly as possible to ensure they do not run out of food while still in the package. It was a huge relief to finally have the bees installed in the equipment and beginning to draw comb and forage.

We checked the colonies two days later and removed the queen cages from the packages, seeing to it that the queens had been released from the cages. We briefly checked colony status to make sure that they were building up and accessing their feeder cans, and when we saw the queens, we marked them red, the proper color for 2013. One week later we refilled all feeder cans with a second gallon of 1:1 sugar syrup and marked the remaining queens that we hadn't seen on our first check. At this point we also rotated frames in the boxes, bringing the majority of the drawn frames with brood down to the lower box, but keeping one brood frame in the center of the top box. We surrounded that with the undrawn foundation that had been in the lower box. This reversing-style manipulation encourages the bees to draw-out the foundation, and do so more easily than if the foundation were below them. We found all colonies to be queen-right, with brood in varying stages — some building faster than others,

but all drawing comb and storing food resources.

Our next steps will be to continue feeding and to add additional boxes of undrawn foundation as the colonies need them. We will feed them constantly until they have substantially drawn-out four 8-frame medium boxes.

In the third week of June, our Northern-Raised Queens will arrive, and we will randomly select the 25 colonies to be re-queened. We will remove and cage the queens in those colonies, allow them to be queenless for 24 hours, and then install the northern-raised queens in cages. This replacement of half the Italian package queens with the northern-raised queens marks the beginning of the comparison piece of our project. (The removed queens will be shipped to Kentucky for use in a beekeeping project being run by Tammy Horn at Berea College.) We will then continue to track all the colonies equally, and see if there is any difference in strength and survival between the two groups.

To learn more about our project and see more photos of the colonies and their progress, follow OverlandHoney on Facebook. We will continue to post articles in *The Bee Line* throughout the project, and the final results, as well as more information, will be available on the SARE website, nesare.org. 🍯