

Another cold wet week, another hive online ... but Swarming has Started!

Thanks to **Donna and the Mid State Beekeepers Association**, SC008 in Lexington, SC is online. We're still getting the glitches out but we are starting to get good data. Thanks!

Nectar flow is definitely starting around Sharpsburg, GA (near Peachtree City). Steve, GA005, reports gaining 2.5 pounds of nectar on warm sunny days.

Unfortunately, for most of us, cool temperatures, wet weather and high winds limited the nectar flow.

Although it seems strange that swarming would occur with little nectar flow, swarming has been occurring as far north as Fayetteville, NC.

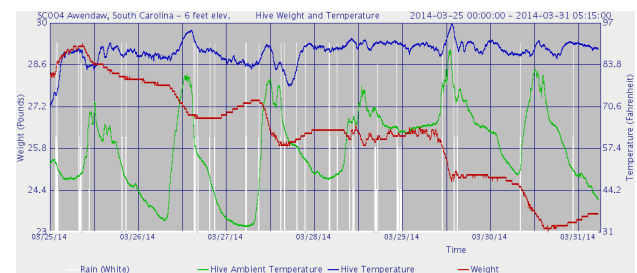
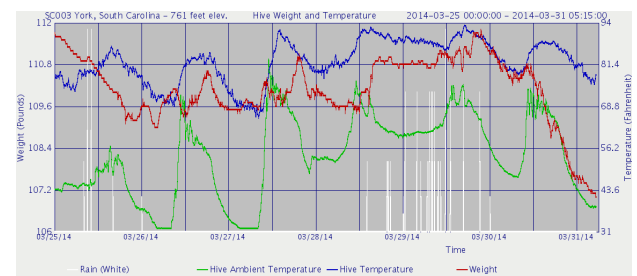
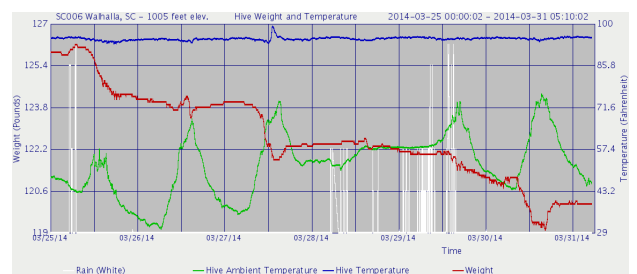
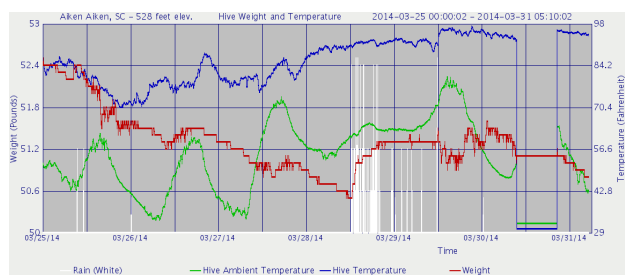
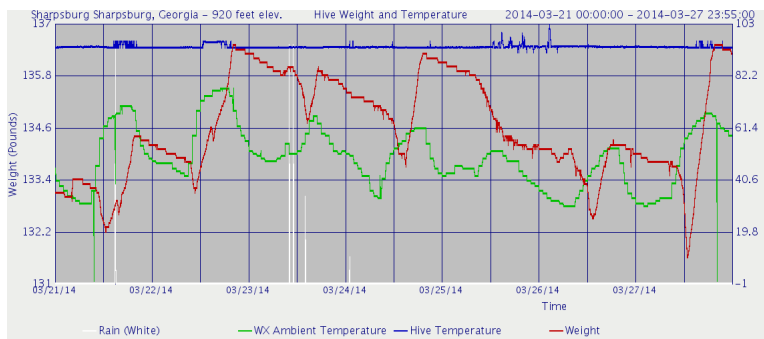
Fortunately, Danny and Donna, SC006 in Walhalla, observed their scale hive swarming, captured the swarm and documented it with pictures. This is the first time we've been able to observe a swarm on one of our scale hives. The details of the swarm are presented on the next page.

A video of Danny capturing the swarm is on YouTube:

<https://www.youtube.com/watch?v=DPp94Ye8abQ>

Currently, data sampling and logging occur every 5 minutes. We hope to change this to sampling as fast as we can, normally logging every five minutes, but when an anomaly is detected, switch to a hyper logging mode where all changes are logged.

By sampling more often, and analyzing audio from the hive, we hope to both predict swarming and alert the beekeeper when a swarm is occurring.



Q. How much does a swarm weigh?

A. This one was about 10 lbs.

On March 27th, Donna and Danny, Walhalla (SC006), reported, “Our bees swarmed and the weight dropped several pounds. Luckily we caught the swarm and put them in another hive. This will probably impact honey production on the scale hive.”

We are limited by the scale's 1/10 lb resolution and by the fact we only log every 5 minutes, but the 10 lb drop is quite obvious. In addition, there is some interesting data that occurred before the swarm.

Below right are two graphs of the swarm, one showing weight and temperature, the other weight and humidity. Note how the hive temperature started to rise before the swarm left, peaked just after the swarm left, and then slowly returned to normal. The hive humidity also rose well before the swarm left the hive, even though the outside humidity was dropping.



Below is a detail of the weight/temperature curve just before the swarm left. It is interesting to see the “oscillation” that occurred before the swarm. Starting at 11:18 through 11:48, some bees left and came back, until about 11:53, when they started leaving. Was this the start of the swarm? Perhaps some bees trying to persuade the other bees to follow? From about 11:53 until about 12:48, or a little more than 45 minutes, there was a fairly steady loss of bees. The hive lost a pound (about 3,000 bees) falling from 123.1 to 122.1 lbs. Then, just before the swarm, from about 1 to 1:30, the “oscillation” can again be seen. Was this weight fluctuation due to some bees coming back and leaving, trying to encourage other bees to leave, or trying to make up their mind?

This is just one sample but with more hives on scales, perhaps we will gather enough data to predict swarms.



Illustration 2: Weight detail just before the swarm.

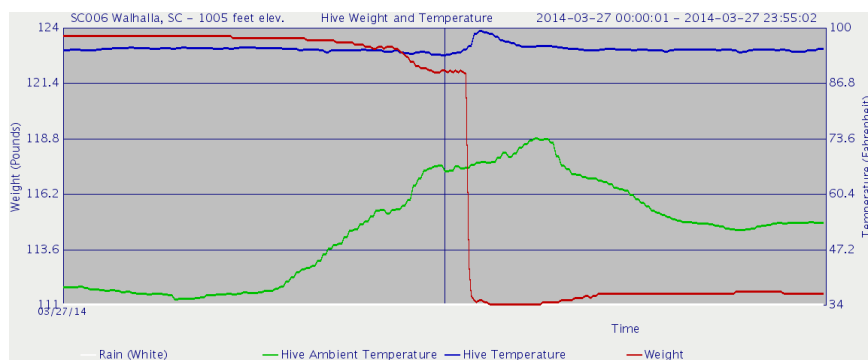


Illustration 1: Hive weight and temperature.

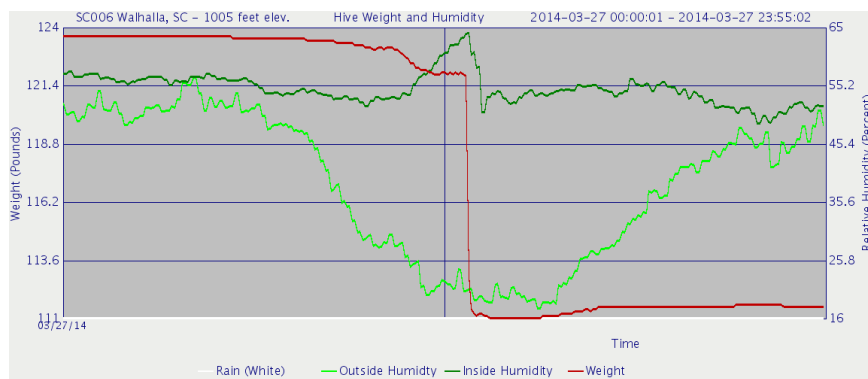


Illustration 3: Hive weight and humidity.