

Computers, Beekeeping and Nectar Management 2013

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When June arrives each year I am already looking forward to and planning on the spring nectar flow arriving in nine months.

Some of my observations and results of nectar management of my hive scale hive. My hive scale hive sits on a scale with a temperature sensor in the brood area and an outside temperature sensor. The three readings are recorded every 5 minutes. The hive scale has been operating since April 2012. More information is available at <http://www.hivetool.org/> my hive scale is GA005.

My hive scale is located in Coweta County southwest of Atlanta. Our spring was late with cool and rainy weather. We had snow flurries on March 27.

On March 29 our main nectar flow started and continued until May 31. With the exception of bad weather days, my hive gained weight every day for two months. Some days the bees added ten to twelve pounds. During the main nectar flow the net increase in weight was 220 pounds topping out at 392 pounds.

I harvested 144 pounds of honey off this one hive. At \$8 per pound, the total retail sales from this one hive is over \$1,000.

How did I get this hive to produce so much honey? Nectar management...

This hive started the year weak. In February I added three frames of capped brood and fed the hive to get the population up to a critical mass. They responded accordingly and started raising brood preparing for the nectar flow. After the population grew I started nectar management manipulations of the brood and honey frames. The nectar management manipulations should have been done about February first but the hive was too weak. Due to the late start I accomplished the manipulations multiple times opening up the honey cap allowing the workers to store nectar and the queen unlimited comb to lay in.

They responded by growing the colony well past 50,000 workers. There was brood in the deep and three shallow supers. After adding multiple supers during the main flow the hive ended up taller than me with one deep, eight shallow supers and one medium super. The top super was not used for honey storage. Inspecting this hive was a joy as every super was full of bees. Forget about finding the queen, she was somewhere in four supers. If I found eggs I knew she was there and viable.

It is important to stay ahead of the bees. For each ten pounds of nectar collected the colony produces five pounds of honey. If the weight increases by ten to twelve pounds each day, they can make a shallow super of honey in as few as five days. Considering that the nectar flow in the piedmont of Georgia last for six to eight weeks adding supers before the bees run out of storage is important.

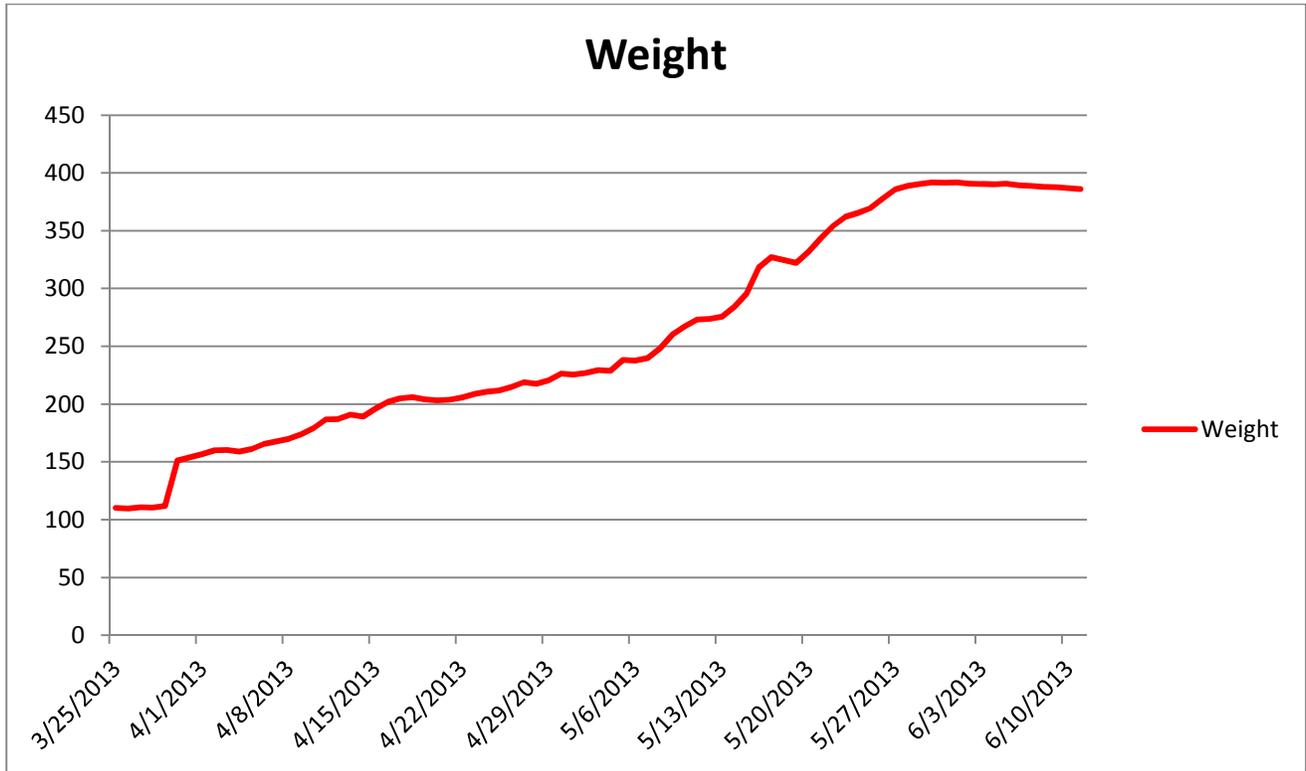
I have been working on perfecting nectar management for a few years now. Based on my climate with apple trees blossoming in early April, the first manipulation should be completed about eight weeks prior or about February first. The hive will require a deep and three shallow supers for this manipulation. One of the shallow supers should be full of honey. All frames must have drawn comb. The deep super with the cluster is moved to the bottom board. The next two shallow supers each have five frames of honey and five frames of empty comb. The frames alternate full and empty both horizontally and vertically. The last super of empty drawn comb goes on top. The colony no longer has a honey cap and plenty of empty comb for eggs and nectar. No honey was removed from the hive it was just repositioned.

The colony continues to prepare to swarm but with so much empty comb they should not be able to completely prepare and hopefully abandon the goal of swarming in April.

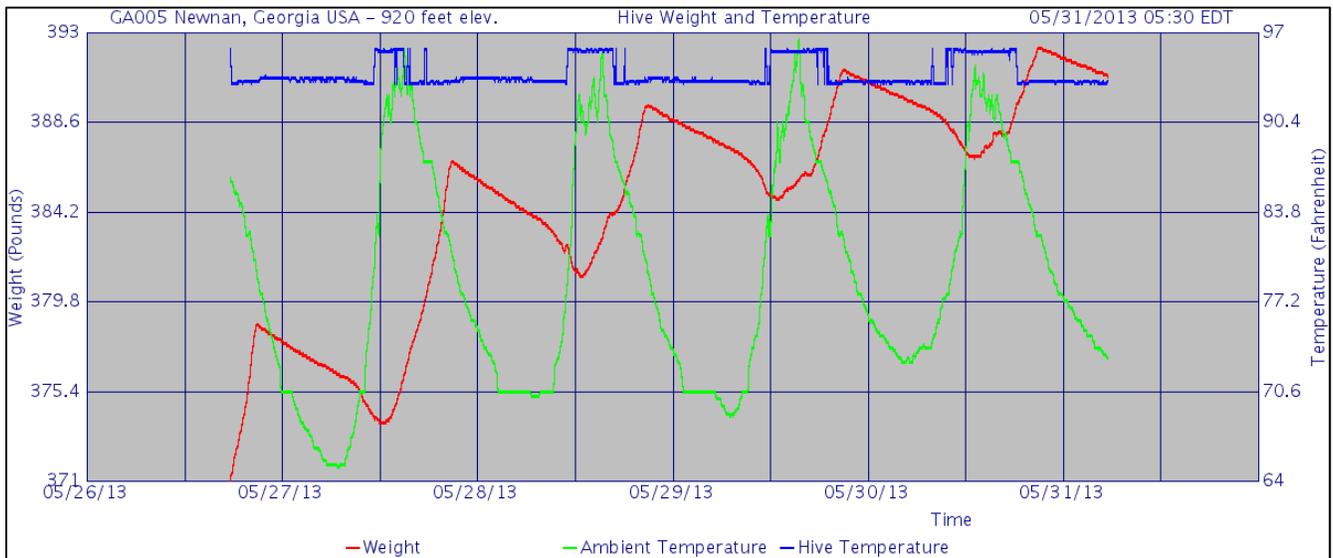
As spring advances add supers to stay ahead of the colony.

In late April or early May a shallow super of capped brood is moved to the bottom of the hive with the deep just above. After the brood emerges the colony will store pollen in this bottom super. The pollen will be used to raise the fall workers resulting in an empty super for the following February.

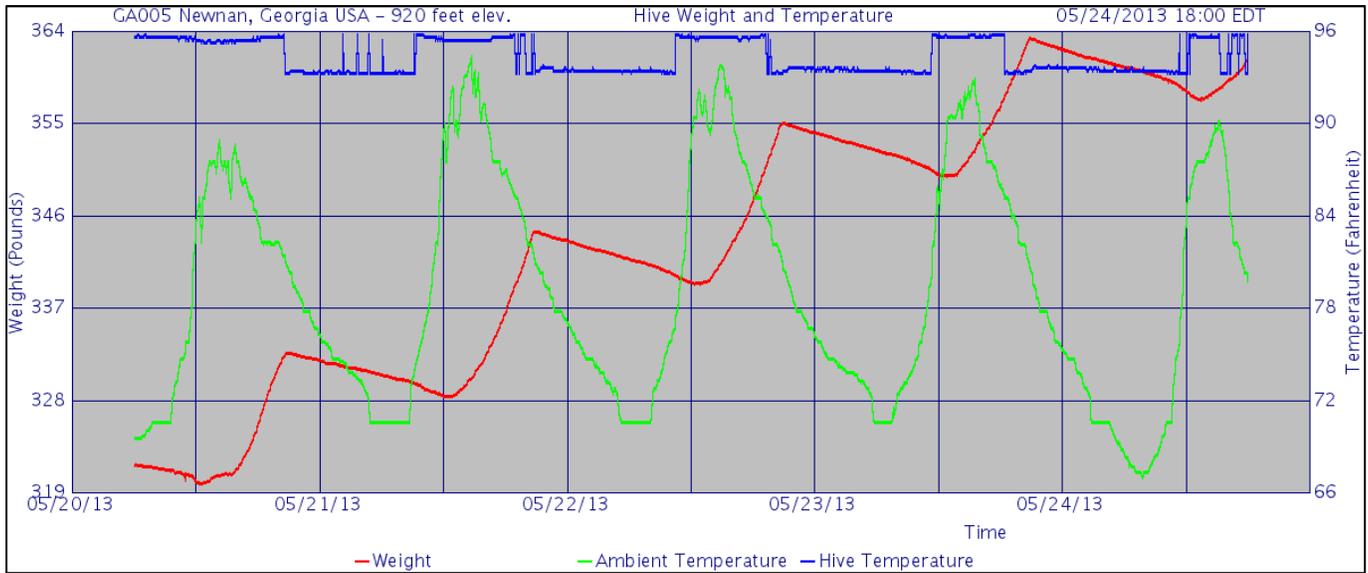
The main nectar flow.



The last four days of the nectar flow. May 27, about a 12 pound increase.



May 20 12:00 noon, weight 320 pounds, May 23 sunset, weight 363 pounds.



A stepladder is required for hive inspections.

