

# Sustainable Beekeeping....

Steven Page

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Most beekeepers are not sustainable; they purchase nucs or packages each spring to replace winter losses. This is expensive and prevents the creation of local, sustainable honey bee genetics. The true cost of a package or nuc can escalate when some die during the winter before producing any honey. If only half of these young colonies survive until next spring the cost per a nuc or package doubles.

A beekeeper with only a few hives may experience the disheartening loss of all their colonies. No honey will be harvested for a year and they must start over purchasing nucs or packages if they can find them.

The current or traditional methods that the beekeeping books teach do not account for the difficulties we experience. A book may teach Varroa mite control but not how to thrive in spite of Varroa. Most are teaching beekeeping from a time before the combined effects of:

- Varroa Mites
- Numerous diseases
- Colony Collapse Disorder (CCD)
- Small hive beetle
- Short lived queens
- High pesticide use

There has to be a better way.

If you have bees you can make more bees or more accurately, colonies can be used to make more colonies. All beekeepers have the resources in their colonies to become sustainable.

In the south winter losses average one third. During the summer make enough splits to begin winter with one and a half times the number of colonies required for honey production in the spring. If six colonies are required for spring honey production, begin winter with ten. For example, begin the winter with six production hives and four nucs.

After losing two production hives and two nucs during the winter, a 40 percent loss, the two remaining nucs are used to replace the dead colonies restoring production hives to six. There is no need to buy colonies because of winter losses. In May, splits can be started to replace the nucs bringing the total number of colonies up to ten again.

## **Overwinter Nucs**

“Almost every emergency of management can be met by putting something into or taking something out of a nucleus, while nuclei themselves seldom present emergencies.” E. B. Wedmore, **A Manual of Beekeeping**

Overwinter nucs in double nuc hives. A double nuc is a 10 frame deep super with a division board separating each side into a 4 frame nuc. The bottom board is divided providing separate entrances for each colony and each side has an inner cover. A ten frame telescoping cover fits over the inner covers to keep the weather out. The two colonies share warmth thru the common wall enabling winter survival. Place honey frames next to the division board. Feed overwintered nucs very early to prevent starvation.

Overwintered nucs can be used to replace dead or queenless colonies; they also can be used to strengthen weak production hives with a frame or two of brood.

If losses are less than expected, nucs not used to replace dead production hives or dead queens in the spring can be; supered for honey production, used for splits or sold at a premium on March 1.

An overwintered nuc moved into a 10 frame deep on March 1 has enough time to build up and produce a honey crop during the main nectar flow.

## **Reduce Swarming and Increase Honey Production**

Production hives are eight or ten frame hives used for honey production. In early February (Atlanta area) start Nectar Management procedures to prevent swarming and increase honey production.

In mid-March, a week before swarm season starts, make a split with the queen and two frames of brood from each production hive. Notch young worker larvae on one frame in the hive enabling the colony to raise a new queen. Finding the queen may be difficult but this artificial swarm will prevent swarming and increase honey production. No other splits should be made prior to May 15 because removing brood from a production hive will reduce honey production.

The main nectar flow, in the Piedmont of Georgia, lasts for eight brief weeks in April and May requiring strong production hives to produce the honey crop for the year.

## **Create New Colonies**

“As Mark Twain might have said, ‘the difference between queens you buy and queens you raise yourself is almost the difference between light and lightning’.” Kim Flottum author of **Better Beekeeping: The Ultimate Guide to Keeping Stronger Colonies and Healthier, More Productive Bees.**

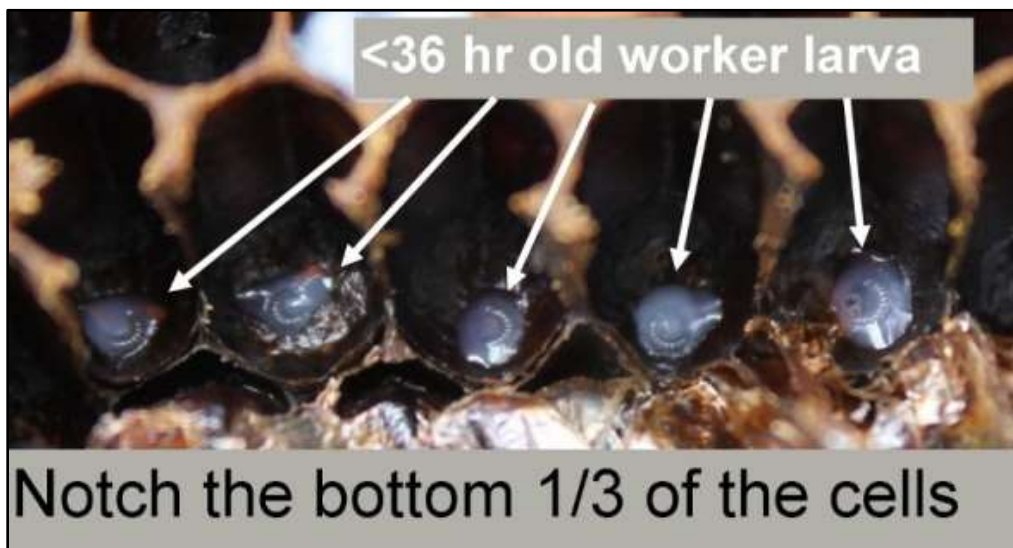
“Novice beekeepers can raise the best queens in the world”. Mel Disselkoen author, ***OTS Queen Rearing***

As the end of the nectar flow approaches in late-May the large amount of brood in the production hives can be used to establish new colonies in empty hives and nucs.

Use a production hive with good attributes such as gentle bees, good honey production or any other quality you like. You will be creating your own survivor bees for your location. Assure that the hive is strong by checking for a minimum of 6 deep frames of brood. A strong hive will raise strong emergency queens. Do not use weak colonies.

The first step is to make a split with the queen and two frames of brood. Move this split to another beeyard to prevent robbing. Feed the split.

This makes the hive queenless encouraging the colony to raise queens. Check each of the four or more remaining deep frames of brood for young, less than 36 hour old, worker larvae. Notch about 12 cells of young larvae on each frame. Notching removes the bottom third of a cell all the way to the foundation enabling the colony to create a vertical queen cell. Don't touch the larvae while notching. Wait seven days.



Seven days after notching inspect the hive for queen cells. Using two frames of brood make up splits. Set up the nucs in the same beeyard and be very gentle with frames containing queen cells to prevent injury to the developing queens. Remove all but the two largest queen cells from each split to reduce the number of battles the virgin queens must endure. Feed the split and after 30 days inspect for a laying queen.

Many beekeepers have heard that emergency queens are poor quality because they are raised from old worker brood or the queen doesn't get proper nourishment in the horizontal cell. Some experts don't see problems with emergency queens, including Jay Smith, Moses Quinby, C. C. Miller and Mel Disselkoen.



An emergency queen raised in July 2014

### **Controlling Varroa Mites**

Raising emergency queens and making splits is an effective IPM (integrated pest management) method without using chemicals to kill mites. Making splits physically divides the mites into two or more colonies reducing the number of mites per colony. Raising emergency queens creates a period of no brood being capped. Eight days after the new queen starts laying mites enter the first cells that will be capped. The mites are trapped in the capped cells. The mites will starve in any cell with more than 3 mites.

## Summer Queens

In mid-June start raising queens to requeen every colony with a summer queen. Queens mated after the summer solstice (on or about June 21) will lay prolifically into the fall enabling the colony to enter winter strong. Raising summer emergency queens will knock down the mite population while they keep worker population up preventing mites from overwhelming the colony.

Select a strong colony (minimum of 6 deep frames of brood) with good qualities that you want to replicate and preserve. You are selecting to establish your line of survivor honey bees for your area.

Find the queen and make a split with the queen and two frames of capped brood. Move the nuc with the queen to another bee yard and feed. Preserve this queen until you have queen cells in the hive then dispatch her as she was mated before the summer solstice and her reduced laying will allow the mites to overwhelm the nuc.

Inspect each frame of brood in the deep super and find young larvae, less than 36 hours old, and notch up to 12 cells on each frame.

Find a frame or two in the super above the deep super and notch some young larvae cells. These queen cells will be used to requeen the hive.

Seven days later use each deep frame with queen cells to requeen other hives in the bee yard. Eliminate all but the two largest queen cells on each frame to reduce the number of battles the queens must fight. This also reduces the potential for afterswarms from the hive.

Inspect another hive, find the queen and dispatch her. Install a frame with two queen cells in the hive. Inspect each hive 30 days later and check for a queen or eggs.

Leave two queen cells in the hive that raised the queen cells to requeen the hive.

By the end of July complete the introduction of queen cell frames into hives so the queens have concluded mating flights in August. Delaying can result in poor mating as the number of drones available diminishes as fall approaches.

## **Become Sustainable**

To become sustainable, a small beekeeper will need to purchase enough equipment to keep three or four production hives and two to four nucs. An apiary containing less than five colonies total may be too small to be sustainable. Instead of buying nucs or packages each spring an investment in equipment, which will last for decade or more, will allow a beekeeper to establish a sustainable apiary. All new colonies, purchased or made from a split must be fed sugar syrup during the summer to grow strong and survive winter.

This method has a name, the **Coweta Beekeeping Method**, sustainable beekeeping in the south.

Goals – Sustainable beekeeping resulting in increased honey production and profits, and reduced expenses and swarming.

Techniques- Adapting the methods developed by various beekeepers including.

- Mike Palmer – Vermont, overwintering double nucs, making splits and queens
- Walt Wright – Tennessee, Nectar Management, more honey, less swarming
- Mel Disselkoen – Michigan, on the spot queen rearing.

The Coweta Beekeeping Method is untested for now; some parts have been used in prior years. The entire method will be implemented in 2015 with results reported in 2016. Modifications will be made as needed.

Isn't it time we all became sustainable beekeepers.

**Footnotes** - Further reading and videos.

**A Better Way** by Mike Palmer  
Bee Culture, September 2014, page 59

**The Sustainable Apiary** by Mike Palmer  
57 minute video  
<http://youtu.be/nznzpiWEI8A>

**Overwintering nucs**  
<http://www.virginiahoneybee.com/content/overwintering-nucs>

**Queen Rearing in the Sustainable Apiary** by Mike Palmer  
1 hour 11 minute video  
<http://youtu.be/R7tinVluBJ8>  
Notes <http://honeydrunkapiaries.blogspot.com/2014/01/queen-rearing-in-sustainable-apiary.html>

**OTS (On the Spot) Queen Rearing: A Survival Guide for Beekeepers Worldwide**  
By Mel Disselkoen  
<http://www.mdasplitter.com/index.php>

Nectar Management by Walt Wright  
<http://www.beesource.com/point-of-view/walt-wright/>

**How to raise a few good queens** by Michael Bush  
<http://www.bushfarms.com/beesafewgoodqueens.htm>



The bullet points.

- The word for the 2015 is “Sustainability”. We must become sustainable. Buying nucs and packages to replace winter losses is expensive and not sustainable. These replacement colonies must survive a winter before they can produce their first honey crop.
- Use overwintered nucs to replace dead hives or dead queens and to strengthen production hives.
- Extra overwintered nucs can be sold at a premium on March 1 or supered for honey production.
- Reduce swarming and increase honey production by using Nectar Management two months before the main nectar flow and make a split with the queen a week before swarm season.
- Emergency queen production using **OTS Queen Rearing** is simple and kills Varroa mites
- Colonies can be used to make more colonies. Two weeks (May 15 in the Atlanta area) prior to the end of the spring nectar flow start raising queens and making splits to fill all empty equipment. This knocks down mite loads.
- Requeen all colonies with summer queens from mid-June into July for high brood production and to kill mites.
- Plan on winter losses. Enter winter with 50% more colonies than needed for honey production in the spring. If you need six hives in the spring enter the winter with ten, six production hives and four nucs.
- Overwinter nucs in double nucs made out of 10 frame deep supers. They share heat thru the division board increasing survivability.