

# A Spring Primer

All the management tricks you need to get from Winter, to honey flow.

Jennifer Berry

Standing outside the other day (back in February) I could smell Spring in the air. It was still cold and grey but a wind was blowing from the south and the air was filled with an aroma of greenery. Beekeepers can identify with the scent of Spring. During these past icy, Winter months (OK, not that icy in Georgia) I've been leafing through numerous seed, plant and beekeeping catalogs in anticipation of working with nature once again. And now it is just a few weeks away! Red maple is blooming, the bees are getting anxious, and so am I. Soon we will see clover, tupelo, blackberry, tulip poplar, and gallberry in full bloom, summoning our bees. But with my joyous anticipation also comes a sense of urgency. I didn't quite complete all my Winter projects and now Spring is almost here. I still have boxes and frames to construct and wax to melt and honey to sell and, and, and. But Mother Nature waits for no one and neither will the bees. They are ready to hit the sky in search of nectar, pollen and new home sites. So ready or not, get your veils on and let's get to work!

Successful overwintering is a result of proper Fall and Winter management. But that's neither here or there now. What we need to do is concentrate on problems at hand. Due to the above-average temperatures experienced by most of the United States in early Winter, food reserves may be below average. Not only were the bees more active over the Winter months but brood production is on the rise in anticipation of the upcoming nectar flow and swarming season. This is a critical time of year for your colonies so it is important not to make the mistake of assuming they're OK.

In the late Winter months, brood

rearing has begun, but not without a price. Large quantities of the food reserves are consumed during this time. The colony has to keep the brood area at  $35^{\circ}\text{C} \pm 1^{\circ}$  ( $95^{\circ}\text{F}$ ). This takes energy, and energy ain't cheap. Thus, the proper placement and amount of food is critical if the colony is going to survive. It is crucial that you check your colonies this month for honey and pollen supplies and location. If it is still too cold to enter the colonies, lift them from the rear to determine the weight. If the colony feels light (that is, you can tip it forward easily with one hand) feed a 2:1 sugar syrup solution directly on top of the cluster with either an inverted bucket feeder or gallon baggy. Don't count on Boardman entrance feeders or hive top feeders in cold weather since the bees are unable to leave the cluster to feed. And don't be skimpy



*Tulip Poplar is an early source of flavorful honey.*

on syrup. Think in terms of gallons per colony, not quarts. (Actually, think in terms of pounds of sugar. Eight pounds is about the equivalent of one deep frame of honey, and you'll need *at least* that in the north.) During this time of year our lab gets numerous calls about colony death. Upon inspection we usually find that it was simply starvation. The worst case scenario is to find that a colony starved even with 30-40 pounds of

honey still in the super just out of their reach. Sharp drops in temperatures or prolonged cold weather can separate the cluster from the honey supplies and they die. That is why it is necessary to put food right next to the cluster. Not only is honey being consumed, but pollen as well. If pollen loads were light last year (and they were in a lot of places), don't forget pollen patties. With brood rearing in full gear, pollen supplies are in high demand. It's probably safer to feed a pollen supplement patty and have the bees ignore it because they have plenty than to seriously curtail brood rearing due to a lack of protein.

Now for the next hurdle and probably the most frustrating: swarm management. Here in the Piedmont region of Georgia we can experience swarms as early as February, but they usually begin at the commencement of the Spring nectar flow. I've seen too many of my bees hit the trees over the years, so I take this pretty seriously. Plus, with a queen breeding operation, you really don't want your breeder queens flying away with all the goods.

Once the temperatures allow, go through each of your colonies and assess their condition; food quantities, queen quality and overall strength of the colony. Keep records of each colony's condition.

If the colony is weak and the queen poorly performing, it is best to combine that colony with another, unless you have a queen in the mail, so to speak. If the queen is poor, replace her as soon as possible. Requeening is one method of swarm control even if the old queen is still doing well. A fresh new queen with her new aroma will sometimes confuse the bees into thinking they have swarmed. But remember, swarming



*You can let the colony raise its own queen.*

is the colony's way of reproducing. To swarm means to survive and all creatures big or small are inherently programmed for survival.

Another way to discourage swarming is to equalize colonies or produce splits. After your inspection, you'll know your colonies' conditions, especially since you kept records. Strong colonies are the first to hit the trees. Swarming cues like a large population, congestion, reduced laying space for the queen and a nectar flow are all they need. Take three to five frames of bees and brood (make sure you have enough bees covering the brood, and you don't take the queen) and add it to a weaker colony. Or, if you're ready to expand, put the frames into a nuc box or a single deep and move the bees to a new site; otherwise the forager-aged bees will fly right back to their original colony leaving only house bees to cover brood and do the work.

If queens are unavailable, let the colony re-queen itself. Sometimes a beekeeper finds himself with too many bees, so selling frames of bees and brood is a great way to reduce numbers. Since bees move up in the Winter months, hive body reversal or adding empty supers may alleviate some of the congestion. This is only a temporary solution and will not stop the urge to swarm.

OK, if you don't have extra boxes, don't want to expand, and don't know anyone else in the bee business, there is still hope. Cutting queen cells on a regular basis is probably your best strategy against swarming. Actually, here at the lab we cut queen cells in all of our breeder colonies once a week. However, we still lose bees to the trees.

One quick note, while making your assessments, this is a great time to cull out old combs and replace with new foundation. Put a date on your new frames so you can keep track of their age.

Let's see, you've tackled your colonies' needs and desires so now it is time to deal with diseases and pests. They come in all shapes and sizes, from all parts of the world, and depending on where you live, some or all need to be taken seriously. They can be a major obstacle, but with patience and good management you can win the battle.

With all the concern about *Varroa* mites we sometimes lose sight of other issues; one being the tracheal mite. We haven't seen the colony losses like in years past, but tracheal mites can still pose a threat to your colonies. If you haven't already done so, now is the time to treat with oil extender patties: two parts sugar to one part vegetable shortening or oil. If you have only a few colonies to treat, make up small patties about four inches in diameter and one inch thick. Place these on a piece of wax paper and put in the middle of a two-story colony, just to one side, or the top of a single story colony.

If there are large numbers of colonies to treat, it may be easier to fill a bucket with the mixture and purchase an ice cream scoop for just this purpose. Take wax paper and

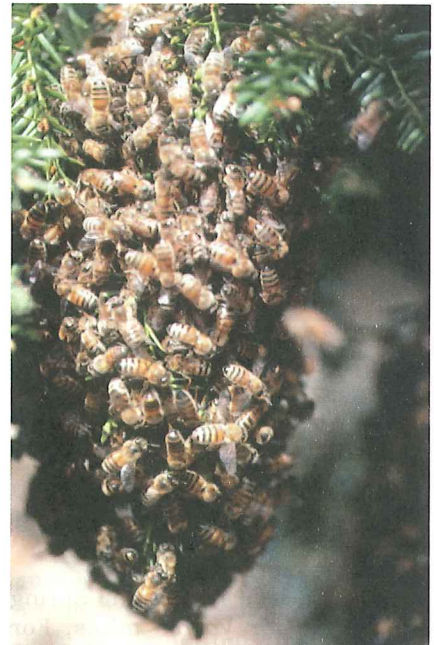


*Tracheal mites invade the breathing tubes and cause all manner of problems. Grease patties help.*

pre-cut them into six-inch squares. Place one square on top of the frames in the brood chamber. Scoop out one large serving and place it onto the pre-cut wax paper.

While the bees consume the sugar, oil from the patty will adhere to their bodies. The oil acts like a shield, and the tracheal mites are unable to recognize suitable young hosts. Oil patties are acceptable for prolonged treatment since the oil will not contaminate honey supplies, but remove them during the warmest part of the Summer as they can get messy. Resistant stock has also helped ease the pressure of tracheal mites but don't rely on that solely.

Some recommend that you treat

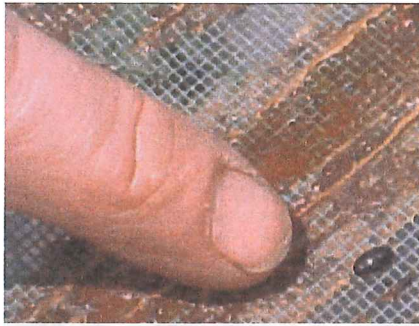


*A swarm with an expensive breeder queen leading the way is an expensive lesson.*

with Terramycin (for AFB and EFB) and Fumagilin-B (for Nosema) this time of year. This is a practice that we avoid at the lab. We occasionally see European foulbrood (EFB) but usually refrain from treating with chemicals. We start by removing and destroying the infected frames and adding some healthy brood. If the queen is failing, out the door she goes and in with a new. As far as Nosema, I've never seen it here in Georgia. Not that it doesn't occur, it's just very rare to see outbreaks here in the south, but watch for it in the north.

However, rumors of that new strain of Nosema that was first identified in Europe, and now here, have us reexamining our attitude toward Fumigillin treatments. We'll have to see how it shakes out, but treatment is still not on our must-do list. Yet.

One thing we do have is small hive beetles. Our southern cohorts have a more difficult time with these pests than we do in the northern and central regions of Georgia. (Not to say we don't have the little vermin scurrying around in every colony.) At this point, we don't employ any kind of small hive beetle control, other than keeping our colonies healthy and queenright. There are several traps on the market which work well in reducing beetle numbers but will not completely eliminate them. This is OK. Colonies can withstand a certain number of beetles. At this time, there is only one chemical approved for use



*Small hive beetles are a nuisance. Traps work pretty well, with the right bait.*

in honey bee colonies for the control of small hive beetles. But remember, chemical controls are expensive, eliminate the problem only momentarily and can leave contamination behind for years.

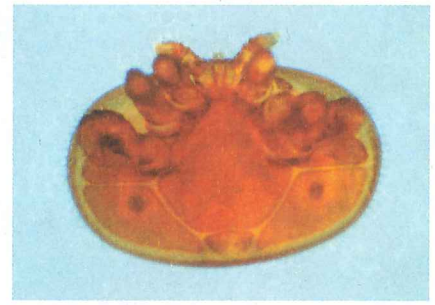
Finally, let's review our Spring procedures for *Varroa* mites. For years, just like in disease control, it was recommended to treat your colonies in the Spring and Fall for mites. Understandably, you don't want to allow the overwintered mites to gain a foothold now that brood rearing has commenced. However, why waste time and money if the mite population hasn't reached the economic threshold (ET). Simply, the ET is a number which represents the population of mites that should trigger action from the beekeeper. The ET is the cornerstone for all Integrated Pest

Management (IPM) practices. Sticky boards are placed into each colony for 24 hours to derive this number.

In the Southeast we consider the ET a 24-hour mite drop of 60-180 mites depending on the size of the colony – small to buster; this is the mite level that warrants a treatment. For now, no matter where you are, if you use that ET and treat if above it, you'll probably be OK. *Varroa* are tricky, watch those numbers. It's always advisable to use an ET derived as closely as possible for your particular region, if available.

There are chemical and non chemical methods for reducing mite populations. The most common non-chemical ones are bottom screens, drone trapping, powdered sugar, and resistant queens. These all help in reducing mite populations inside your colonies; however, resistant queens are likely the key. With the constant pressure of *Varroa*, honey bees have had to adapt in order to survive. This natural adaptation has been amplified with the help of queen breeders who select stock that's resistant to *Varroa*. This is a subject we could go into greater depth about, but let's leave it for now.

By April you should be experiencing either a top-notch nectar flow or be gearing up with your bees. To me, Spring is the best time to be a bee-



*Varroa mites fall off bees, and are captured below and can be counted on a sticky board, under a screened bottom*

keeper. Working outside, anticipation of the honey crop, challenges to face, warm breezes, flowers peeking out, exercising off our winter stores, gardens eager and ready, bees in a tizzy, landscapes coming to life, glorious sunshine. OK, I know, how many more clichés can I think of? It's been a long Winter, so let's get out and enjoy this 2007 Spring season. See ya! **BC**

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