

Get Ready To

POLLINATE

This Spring

Jennifer Berry

If you're going to pollinate for money this Spring and Summer, you better be getting your bees in shape now.

While the cold January winds continue to keep colonies tucked in up north, our southern girls are beginning to stir. By the end of this month, if current trends continue, most of South Georgia will be seeing the New Year's first bloom, red maple. Even further south, beekeepers are gearing up their colonies for blueberry and citrus pollination. But January in the south can be a rollercoaster ride, weather wise. We can experience all four seasons in a 24 hour period. One day we are outside working hives in t-shirts while the bees are buzzing about checking out their new landscape. Then the next day icicles dangle down from lids and hive entrances.

It is just a few days past Thanksgiving (when I'm writing this), and finally Winter and rain have arrived. It is forty degrees outside with a steady downpour. If it wasn't so cold we would all be outside dancing about and enjoying the rain. As most of you have probably heard by now, the southeast has been gripped by a severe drought. The Piedmont region of Georgia (hardest hit by the drought so far) is still 17 inches below normal, but at least it's raining today. Hopefully, by January the drought will only be a bad memory. I bring this up because the drought has not only affected Atlanta's water supply but may have also influenced your colonies as well. Late Fall and early Winter inspections revealed little to no pollen in many of our colonies. Pollen patties were fed last month to most colonies; a procedure I plan to repeat again. If your area experienced dry conditions I would highly recommend feeding pollen

or pollen substitute patties. There is also a question about the quality of the pollen that was collected last year. With the extremely hot and dry conditions experienced over most of the Summer and Fall months, plants were severely stressed. What pollen was being produced and collected may not have been as nutritional as it should. But that is just speculation. Feeding is cheap insurance.

Like I mentioned earlier, beekeepers in Northern Florida are already gearing up for blueberry and citrus pollination with melons and squash not far behind. Beekeepers provide pollination because most commercial farmers don't keep bees. Having bees in the field year round can eventually interfere with normal farming operations. Therefore, they rent bees from beekeepers to pollinate their crops. In the old days when natural pollinators were more abundant and farming practices didn't include thousand acre monocultural plots, there wasn't such a need for pollination services. But that is not the case today. Just look at the California Almond industry. Every year they must produce more almonds, therefore more trees have been planted which in turn need to be pollinated hence more bees are required. Seems like a vicious cycle to me. But almond production is a profitable business and so is pollinating them.

If you are willing to work long hours, travel for days and move heavy equipment, pollinating crops can be a lucrative business but there are a few things you should be aware of. To begin, it is not as easy as it seems. What's the big deal right? Throw a few hives in a field and collect a check.

Not so fast. Beekeepers are farmers, but most farmers are not beekeepers. This is important to note. The farmer, like the beekeeper, will hopefully be able to profit from all his hard work. However, there is a lot that needs to be accomplished before this can happen. On the farmers' side, fields need to be prepared and seed sown, fertilizers applied, weeds and pests controlled, and crops harvested. Several of these procedures can be harmful to colonies so precautions must be taken. But let's start at the beginning.

First, you need strong colonies. Colonies used for pollination services can quickly go down hill during crop bloom. That is why it's important for them to be as strong as possible to start. Many crops requiring pollination aren't good sources of pollen and nectar. Weak colonies not only are poor pollinators in terms of the field force but also, with the added stress of moving and poor forage, can crash fast.

Strong colonies in late Winter are a result of properly managed colonies in the fall so hopefully you planned ahead. Now, when the lid is removed bees should boil over six to eight frames. The colony should also have at least five frames of brood. Bees are more motivated to forage when there is lots of open brood. If colonies are not quite up to par, feeding sugar syrup and adding pollen or pollen substitute patties can help build up populations.

After you locate a grower in need of your services, it is important that the two of you sign a pollination contract before any bees are moved into the field. Unfortunately the days

when agreements were sealed by a “gentleman’s handshake” are long gone. After a quick search on the internet I found an excellent example of a contract from the Mid-Atlantic Apicultural Research & Extension Consortium. The MAAREC contract is pretty self explanatory. But take great care when it comes to the responsibility of the grower. You must make it very clear that no pesticides or herbicides can be applied to crops while your bees are in the fields unless you have agreed to it. Losing all your colonies to pesticide poisoning is not worth any pollination fee. There are other pollination contracts online if you want to compare. These contracts will prevent any miscommunications between you and the person you are providing pollination services for.

Growers want to push the system in order for their product to be first to market. Demand is high and supply is low, therefore wholesalers and consumers are willing to pay more money for the early produce. Makes sense. Think about how much you pay for those first season blueberries. If you had only waited a few weeks the price would have been much lower, but it’s been almost a year since you tasted that last berry. As the grower pushes for earlier yields he has to push for earlier blooms. This in turn means an earlier presence of bees in the field which can pose several problems. One, the bees may not be strong enough early enough. Late in the Winter months the queen begins laying eggs in anticipation of the first

Spring nectar flow and colonies begin to rapidly build up. However, if early blooming cultivars are awaiting pollination, the bees may not be ready to handle the work. Therefore many commercial beekeepers needing colonies early will over-Winter them in southern Texas or Florida.

The other problem is the grower demanding to see bees in the field before the first bloom ever appears. This can be a serious mistake. Bees are opportunists. They will always go to the bloom that offers the biggest “bang for the buck.” Let’s say several hives of bees are placed on two acres of blueberries. The berries are a few days from blooming. However, there are dandelions, clover and other scrumptious wildflowers blooming down the road. In just a few days the bees are trained to fly *over* the blueberry patch and *into* the fields beyond. Once the blueberries begin to bloom, they will be mostly ignored. Then, the grower visits his field, discovers that there are blossoms but no bees and he’s not too happy. He paid for a service which the blooms are not receiving.

The optimum plan is to bring the bees into the field just after the crop begins to bloom. You want the bees to be inexperienced foragers in the area. You don’t want them trained to other floral sources before the crop bloom begins. Foraging behavior is not a fixed behavior but an adaptable one. It is controlled by the attractiveness of the nectar and pollen, and not necessarily the total number of blooms. So an acre full of open blue-

berry blossoms may be less attractive than sporadic wildflowers in the next field. Remember, the farmer is not a beekeeper and will not understand until you explain. But back yourself up by adding the arrival dates in the pollination contract. It will benefit both his yield and your future in the pollination business.

Weather can also play an important role in pollination. Rainy Spring days are great for the drought stricken areas here in the south, however, bees don’t forage when it rains. Yields from early Spring blooming crops can be extremely hampered by cool, wet days. However, there is nothing you or the grower can do about the weather. The rain in the night is a farmer’s delight, with bright sunshine beaming right at first light. It goes something like that.

Another thing to consider is the placement of the hives. It is best if you can spread the hives throughout the field at 500 ft intervals. Bees prefer foraging within a short distance (300 feet) of their colony. However, bees will fly several miles if necessary. Placing colonies so their 300 ft radii overlap is the best situation. If the inner fields are inaccessible, group a large number of hives in the center of the edge with a few isolated ones on the ends. Bees from hives placed along the edges may not penetrate to the center of the field resulting in poor pollination of those particular plants. Again, they will only fly as far as they have to.

Ok, you found a grower, the contract is signed, your bees are healthy and strong, and now it is time for the hard part; deliver the bees to the field. Moving hives is a chore and should be well planned out in advance. Seriously, it can be disastrous. Take your time, have plenty of help, don’t be in a hurry, have more equipment than you will need, slow down, and most important be careful. Unless the temperatures are below 50°F it is recommended to move bees in the evening hours. They are less active and the temperatures are cooler which in the Summer months can mean the difference between arriving with dead bees or live ones. For smaller operations, screen each entrance and use a top screen. Use hive staples or those inexpensive hive straps bee suppliers sell. They’re almost disposable, work well, are easy to use and keep everything together. Hive lifters work



Feeding protein is good insurance against having slow, weak colonies down the road.

well if you have two people, but better yet use a couple of hand trucks. Just scoop those hives up and away you go. Hand trucks will save on countless trips to the chiropractor. Make sure hives are well secured in the back of the truck or trailer and to the deck – no sliding, and no jack rabbit starts. Check to make sure brake lights are working. Not fun running into a trailer full of bees.

One last thing, make sure the grower knows you are coming and has made any arrangements necessary so you can enter the fields. It would be most unpleasant (fake British accent) to be standing at a locked gate at three in the morning with a truck load of unhappy bees. Some beekeepers always carry a large, heavy duty bolt cutter under the front seat. “My universal key,” said one.

The commercial folks who move thousands of hives use pallets and load them unscreened onto trucks with forklifts. They then cover the entire truck with nets to prevent bees from escaping. A tractor trailer loaded down with hives is a sight to see. Bees are then moved from Florida to Maine, Pennsylvania to California and North Dakota to Mississippi to name a few. From time to time one hears about the semi that lost its load of bees. Then the next day, the

front page of some local paper has the picture to prove it.

With gas prices and other hits to the economy it seems everything is going up in price. That includes the price per hive for pollination. Don't sell yourself short, this is hard work. The day of the \$35/hive is gone. Beekeepers have to charge more for their colonies plain and simple. Not only with increased transportation costs, but with the trickle down effect there are increased costs in packages, queens, beekeeping equipment, medication, sugar, etc. It is passed on to us, we pass it on to the grower, he passes it (if he can) on to his supplier, and eventually we pay for it again at the check out line.

With the increase of human activity on this planet natural bee habitats are rapidly being destroyed. The days of “free” pollination are also quickly disappearing. This opens up new business opportunities for beekeepers. Know your skills, your limitations and your costs – both real costs and opportunity costs, and charge accordingly.

See ya! **BC**

Jennifer Berry conducts honey bee research at the University of Georgia bee lab in Athens, Georgia. She is a frequent contributor to these pages.

