**Upcoming Smoky Mountain Beekeeper Meetings**

**April 8th** - The Smoky Mountain Beekeepers will meet on April 8th, from 7:00 – 9:00 p.m., at the Jackson County Extension Center in Sylva. Learn more from our local beekeepers as we discuss dead outs, feeding programs, getting your equipment ready, hive inspection and our spring honey flow.

**May 13th** - Our May meeting will be held on Thursday May 13th from 7:00 - 9:00 p.m. at the Jackson Extension Center (Sylva). Come and meet other beekeepers, listen to our monthly bee tips and learn more from our local experts. This month’s topic will cover swarm management and beekeeping with top-bar hives. Veteran, new and wannabee beekeepers are most welcome!

**Directions to the Jackson Extension Center** - Take exit 85 from the highway. Turn right at the stop sign and head toward town. At the 1st stoplight turn right on Hospital road. Follow Hospital road all the way down past the hospital until you reach the corner of Scotts Creek road and Hospital road. Look for the Jackson Community Service Center building on the right. The bee meeting will be held on the 2nd floor in room 234 of the Extension Center.

**Upcoming Seminars**

**Managing Household Pests**
May 17th, 2010 @ 6:00 PM - 7:30 PM at the Swain Extension Center
May 18th, 2010 @ 2:00PM - 3:30PM at the Jackson Extension Center

Learn how to prevent or control the most common household pests such as ants, ladybugs, millipedes, cockroaches, mice, boxelder plus much more! Register by May 10. For more information or to register for this free seminar contact your local Extension Center at phone # 586 4009 or 488 3848.

**Managing Your Garden Pests**
May 24th, 2010 @ 2:00 PM - 4:00 PM at the Swain Extension Center
May 25 from 6:00 p.m. to 8:00 p.m. at the Jackson Extension Center

Learn how to control (organically) the common insects, diseases and weeds that plague your vegetable garden. Register by May 17. For more information or to register for this free seminar contact your local Extension Center at phone # 586 4009 or 488 3848.
**Question:** What are the main reasons colonies are dying in the US?

**Answer:** Another year & survey, and the findings remain less encouraging.

It seems counter-intuitive that we don’t have a clear picture about our managed honey bee population like other livestock. The USDA has a very good idea how many cattle and pigs farmers have at any given time. But bees? The numbers are sketchy at best. Why? There are several explanations, depending on how cynical you wish to be. On the extreme end, honey bees aren’t considered livestock in the same way that cows and pigs are (and probably for good reason), and therefore they don’t receive the funding and attention that other agricultural animals do (which isn’t a good reason). To point the fingers at ourselves, the statistical arm of the USDA (the National Agricultural Statistics Service, or NASS) annually sends out surveys to beekeepers to report, among other things, how many hives they have. It is no secret that many beekeepers chose not to complete these forms for various reasons. Nonetheless, the sample is biased (part-time beekeepers with 5 or fewer hives aren’t included) and most likely incomplete (many states, including NC, do not require registration with their state Departments of Agriculture). No wonder the federal government thinks that there are only 15,000 colonies in the state! One final reason is that a honey bee colony is nothing like a cow or a pig; the life cycle is much shorter, and what defines one individual from another is much less defined (you can’t split and re-unite a cow several times over the course of a single season!). So, by its very nature, the honey bee population is much more ephemeral than other livestock, and therefore more difficult to capture numerically.

The downside to not reporting data is that we can’t easily detect large-scale trends. It could be firmly argued that CCD and other be plights might have come to our attention much earlier if our statistics were better. But are there alternatives or ways around the inherent difficulties outlined above? Luckily, the answer is yes. Rather than conducting top-down surveys, which relies on incomplete information and beekeepers self-reporting, one can conduct a bottom-up survey through a systematic sampling of beekeepers directly. Now some have argued that getting information from only a handful of beekeepers is misleading since it isn’t fully representative. However, given open-market dynamics, you need surprisingly few samples to gain a very accurate global perspective. Take gasoline prices, for example. One way to find out the price of a gallon of gas is to mail out surveys to oil executives and stock traders, hoping that they would respond. But another, perhaps easier way is to simply drive around to various gas stations in your area and find out direct. The prices vary surprisingly little, because they are all competing in an open market. This stabilization effect helps make sampling surveys to be quite effective and efficient at gaining a large-scale perspective.

For several years now, researchers and Apiary officials have been doing such bottom-up surveys on the managed honey bee population. The latest such survey, published in a special issue of the *Journal of Apicultural Research*, highlights the colony losses in the United States over last winter (that is, 2008-2009). The findings are similar to those from previous, similar surveys, illustrating several important trends. First, small beekeeping operations (1-50 hives) had higher losses (35%) than intermediate-sized operations (51-500 hives) at 33% AND large beekeeping operations (500+ hives) at 28%. However, the percentage of large-scale beekeepers reporting any losses was higher than the other two groups. Second, those colonies that were moved at some point during the season had lower losses than those that were not moved. This same trend held when comparing those colonies moved into almond orchards in CA versus those that did not. Third, the top reasons beekeepers attributed their losses were starvation and nutrition problems (41.5% of operations), poor queens (22.8% of operations), and weather (17.9% of operations). However, the top reasons for total mortality were weak colonies going into the fall (51.8% of colonies), pesticides (40.7% of colonies), and nosema (39.6%). Fourth, Colony Collapse Disorder (CCD) was only reported by 6.5% of the 571 operations that responded to the survey.

Overall, about 29% of the colonies in the US died last winter, which is down slightly from previous years. And while the top reasons for colony losses are fairly consistent, they tend to vary year to year. This serves to underscore the complexity of beekeeping and the fact there are many, many factors that beekeepers need to consider in order to maintain a healthy population.

**Reference**

One of the more common means of starting a new beehive is by ordering live honey bees from a commercial vendor. Such ‘packaged’ bees typically contain about 12,000 live adult workers (approximately 3 pounds), one newly mated queen bee, and an inverted can of sugar water, all contained in a wooden box with screened sides. When installing a package of bees, you should wear a veil and take appropriate precautions to prevent bees from crawling up your pant legs. You also will need a hive tool, a smoker, a small nail, a spray bottle filled with sugar syrup, and one or more gallons of sugar syrup to feed the new colony. To make the syrup, mix warm water with granulated or powdered sugar in a 1:1 ratio and mix thoroughly until all of the sugar is dissolved.

Step 1. Pick up your bees from the post office or other place of delivery. Carefully look over the package for any cracks or tears in the screen, and inspect the bees to make sure they are alive and in good health (it is normal to have about one inch of dead bees in the bottom of the box). If there is an excessive amount of dead bees, it may be an indication that they have been overheated during shipping, in which case you should contact your package provider. Spray the bees with sugar syrup; be generous, but be sure not to drown the bees!

Step 2. Place the package in a cool, dark place to allow the bees to ‘rest’ for several hours before installing them into a hive. Make sure the bees are not exposed to excessive heat or unusual vibrations. Periodically spray the bees with sugar syrup (1 part sugar, 1 part water) until you are ready to install the bees into a hive. This is a good time to make sure all of your hive equipment is ready.

Step 3. When your equipment is set up and you are ready to install the bees into the hive, feed the bees again with sugar syrup and carry the package (by holding the wooden sides) into the apiary. Be sure to keep your hands away from the screened sides of the package to avoid getting stung through the screen. Place the package on the ground in a shaded area.

Step 4. Remove three or four frames from the center of the brood chamber to create a space in the hive for the bees.

Step 5. Spray the bees again with sugar syrup.

Step 6. With the hive tool, remove the wooden panel from the first package of bees (Figure a). Gently remove the tin feeder and queen cage from the hole in the top of the box (Figure b). Shake bees from the outside of the queen cage and inspect the queen to ensure that she is still alive and healthy. Place the queen cage in the shade (Figure c). Replace the wooden panel over the hole to prevent bees from escaping.

Step 7. Immediately before installing the bees into the hive, firmly knock the package on the ground once to make the bees drop to the bottom of the box. Be sure to hold the wooden lid in place while doing this.

Step 8. Next, remove the wood panel and quickly invert the package over the hive body. Firmly and vigorously shake the bees into the space in the hive. It might be necessary to shake the package several times. Don’t worry if there are a large number of bees flying around; they are largely “confused” and therefore not defensive, and they will eventually settle down and enter the hive.

Step 9. Prop the package in front of the entrance of the hive so that any remaining bees in the package can crawl into the hive.

Step 10. Gently return the frames to the hive after the workers have dispersed on the bottom board being sure not to crush any bees.
Installing the Queen

1. Remove the plastic cap from the long side of the queen cage with the white sugar candy (Figure 7). The bees will eat the candy and eventually release the queen within one or two days. This time-release method allows the bees to become accustomed to the queen, minimizing the chance that the bees will reject the queen. Do not remove the cork on the end without the candy!

2. Place the queen cage candy side up between two center frames of the hive. Make sure the cage is secure between the frames so that it does not fall to the bottom of the hive.

3. Feed the new colony with sugar syrup. It is critical that the bees have an ample supply of food at all times, particularly before there is a sufficient supply of honey stored in the colony. Replace the inner cover and lid.

4. Inspect the colony 5 days after installing the package to ensure that the queen is alive and has been released. Inspect the colony again after another 5 days to verify that the queen has begun laying eggs. Eggs appear as small grains of rice standing up in the center of cells. If necessary, add sugar syrup again at this time.