**February 11th** - The Smoky Mountain Beekeepers next meeting will be February 11th, from 7:00 – 9:00 p.m., at the Jackson County Extension Center in Sylva. Jack Hanal, NCDA State Bee Inspector, will speak on bee diseases. If you would like to bring a dessert or light snack to share with the group, please feel free to do so.

**March 11th** - Our March meeting will be held on Thursday March 11th from 7:00-9:00 p.m. at the Jackson Extension Center (Sylva). Come and meet other local beekeepers, listen to our monthly bee tips and learn more from our local experts. This month’s topic will cover “Spring Build-up.” 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.

The Smoky Mountain Beekeepers and the NC Cooperative Extension Service will host a one-day course in beginner beekeeping Saturday, March 6, from 8:30 am until 4:00 pm, at the Swain County Extension Office just west of Bryson City. Robert Brewer, Towns County, Georgia, Extension Coordinator, will be the guest speaker. Robert is a career educator with a strong background in diverse areas of agriculture, community development and administration. He is an experienced beekeeper and also teaches beekeeping through various education programs and associations. As a Certified International Honey Judge and cofounder of the Young Harris Beekeeping Institute, he is a nationally and internationally recognized honey show judge.

The fee for the course is $20.00 and includes lunch, reference materials and door prizes. Class size is limited to 90 attendees. To pre-register, contact Tom Rodgers at (828) 293-0678 or email at trodgers44@verizon.net. Checks should be made to Smoky Mountain Beekeepers and mailed to Tom Rodgers, 438 Gray Fox Ridge, Cullowhee, NC 28723. Pre-registration deadline is February 28.

**Directions to Bee School** - the Bee School is located on 60 Almond School Rd in Almond of Swain County. Go ~5.5 miles west of Bryson City (exit 67) on hwy 74. Look for the southwestern Community College & Swain Extension Service sign. Turn right at that sign and park on either side of the building.
**Question:** Does powdered sugar work for varroa control?

**Answer:** According to a recent study, unfortunately no.

Ever wonder how insects and their relatives are able to walk upside down? For one, they are much smaller, so the effects of gravity are markedly less and their bodies are much stronger in comparison (you know, why an ant can carry twice her own body weight fairly effortlessly compared to, say, humans). Second, the ends of their feet have little claws on them, which enables them to grab onto the tiny edges of many surfaces like velcro (particularly textured surfaces). Even for completely smooth surfaces, like glass, arthropods can still adhere by using little sticky pads on the “palms” of their feet. The glue is sufficient for them to hold on, even hanging upside down or in otherwise precarious positions.

These footpads are very handy for all sorts of different arthropods. Honey bees, for example, can make use of every square inch of the inner surface of their hive, enabling them to build comb, varnish with propolis, and otherwise maximize the use of their home. Others, such as the dreaded varroa mite and primary pest of honey bees, actually use their footpads to cling to their host. When they’re not inside brood cells reproducing, adult female varroa mites enter what’s known as a phoretic or “wandering” phase, where they cling to the backs of adult bees to be transported around the nest. While doing so, they are regularly sucking the blood of their host and searching for a suitable brood cell to jump into. It is all enabled by their ability to hold on.

If this ability to adhere to their hosts is disrupted, however, the phoretic mites have great difficulty in hanging on. If, for example, their sticky pads are gummed up with some sort of contaminant, they no longer function in that capacity (a lesson I learned on the basketball court a long time ago;; applying a sticky adhesive to the bottoms of one’s sneakers seems like a good idea to increase traction, that is until they get completely covered in dust and are more slippery than ever!). It is this principle that many beekeepers use to dislodge mites from adult bees using the “sugar shake”; place 200 bees in a jar, cover them with powdered sugar, shake any dislodged mites through a screen, and calculate the number of mites per bee (hint, any number >10% warrants immediate action otherwise the colony will be in severe jeopardy).

Given the efficacy and logic of the sugar shake in sampling mites from colonies, beekeepers have attempted to apply the same principle to the entire colony. There are obvious upsides in doing so, as powdered sugar is non-toxic and in fact a helpful food source for bees. Some studies have shown the technique to be effective in principle, but by shaking out all of the bees from the hive into a large package. Since most beekeepers would find that impractical and time consuming (not to mention highly disruptive to the bees!), some have tried to simply dust the bees on the top bars of an opened hive.

A recently study from the University of Florida and the FL Department of Agriculture used this more “practical” approach to dusting colonies for varroa control. They did so with 120 grams of powdered sugar (enough to cover all bees within a standard colony) once every 2 weeks for an entire year, measuring the number of varroa mites, the bee population, and the amount of brood (after all, any mite treatment that negatively impacts colony productivity is not all that helpful). The good news is that the researchers found that sugar dusting didn’t have any negative impact on brood area or colony population. The bad news is that, applied in this quick-and-easy manner, it also didn’t affect the number of mites; colonies treated with powdered sugar had just as many mites as those not treated with anything.

These results are unfortunate, as it would be very nice to have a fast, effective control for varroa that doesn’t involve any synthetic chemicals or miticides. However, it is better to know that simply because powdered sugar dislodges mites in some circumstances (i.e., through the intense agitation during a sugar shake) doesn’t mean that they do so in all circumstances. In the end, if you wish to use a sugar-dusting approach, it will require a lot of effort to shake all of those bees.

**Reference**

Getting Back to Basics

When you hear the phrase “let’s get back to basics,” what do you think this means? Depending on who you ask, this expression may stir-up thoughts of living a simpler lifestyle in old-timey ways, utilizing old-fashioned craftsmanship, cooking traditional foods and having good old-fashioned fun. Others may contemplate getting off the grid, becoming more frugal or re-establishing fundamental lifestyles or life skills such as eating around the dinner table, canning tomatoes, raising chickens, saving money or making soap.

As we move into February 2010, Swain and Jackson County residents recognize that we are living in sobering times affecting the financial security of most businesses and families. As a result, more individuals desire to become more sustainable and self-reliant. Many homeowners have taken action to find ways to pay-off debts, making the most out of your land, adding to your income or learning new skills via the library or by attending workshops and classes at your local NCSU Cooperative Extension Center and Community College. In addition, moms, dads and those of all ages continue to spread the message of buying local by supporting our local businesses and farmers. All of these proactive measures are beneficial and will help support you, your family and our community. I want to encourage all of you to keep pressing on!

Although many of you are surviving and thriving, there are just as many good men and women who have lost their jobs, are struggling financially and facing difficult health and relationship issues. During this season of unrest, we know that when finances become restricted, often times health, nutrition, and relationships can become strained. To help you deal with these financial and emotional pressures, the Swain and Jackson County Cooperative Extension Centers have teamed together to launch a new program that features a series of multi-faceted educational seminars geared for youth and adults. This series deals with building a sustainable, self-reliant thriving home as well as specific ways to extend financial resources, such as home gardening and food preservation. Below is a list of programs that are coming your way:

**Food & Nutrition**
- Cook Smart Eat Smart
- Bread Making
- Food Preservation

**Horticulture/Agriculture**
- Starting Your Home Orchard
- Pruning Your Fruit Trees
- Bee School
- Gardening 101
- Managing Household Pests
- Managing Garden Pests
- Season Extenders
- Saving Seeds
- Raising Backyard Chickens

**Youth & Family**
- Sewing Skills
- Vermicomposting
- Composting
- Money Management 101
- Farm to Fork
- Family Game Night
- Green Cleaning

For more information about Extension programs contact your local Cooperative Extension Center at 828 586 4009 or 828 488 3848 or go to website: http://swain.ces.ncsu.edu/ or http://jackson.ces.ncsu.edu/

*Let’s put your knowledge to work!*
The NC State Apiculture Program is pleased to announce a new state-wide training initiative. We have recently secured a grant through the Golden LEAF Foundation to hold numerous workshops on queen rearing and clinics on bee breeding.

The goal of this program is to provide training in queen-rearing techniques to beekeepers in the hopes of producing more honey bee queens locally. This will help reduce pressure of the commercial queen producers and will allow local beekeepers more control of the genetic diversity within their bee yards. This part of the "Born and Bred" initiative is geared toward existing beekeepers that have a good grasp on seasonal management of hives, and now are ready to take it one step further by raising their own queens. Typically these classes will be broken up into two parts; the first half will be a classroom lecture and the second half will be more of a hands-on approach.

In the classroom, we will discuss the basics of queen and drone biology and the life cycle of each. We will examine the anatomy of the queen and the complete development process from egg to emerging queen as well as the importance of good record keeping. During the second half of the class, we will explain and demonstrate the Doolittle method of grafting and have an opportunity for everyone to practice this technique. We will go over several methods for making a cell builder and demonstrate what a good cell builder should look like. Finally, we will discuss and demonstrate how to make up and use mating nucs, how to place ripe queen cells in these mating nucs, and what to look for after the queens have emerged and mated. Grafting and queen rearing is a skill; it is not difficult, but is not a something that is picked up right away. This class will hopefully give you the knowledge you need to get started, but like most things, you will need much practice on your own to become efficient at raising queens.

If you are interested in participating in one of these workshops, please mail us your Letter of Intent by Friday, February 12th. We will then contact you directly with additional information and an application form for the specific workshop of your choice. For more information go to http://www.cals.ncsu.edu/entomology/apiculture/BornAndBred.html or contact your local Extension Center.

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