The Skep

Columbiana & Mahoning County Beekeepers' Association Volume 8 Issue 3 March 2016

President's Corner

Hello Beekeepers!

WOW! What a fantastic turnout last meeting. It was like being in the middle of a swarm of beekeepers. I hope all the new members have found plenty of information and a mentor to help them with their upcoming bee installations. If not, make sure you get one at the next meeting or contact one from the mentor list from the website.

Last month Bill DeHoff talked about what he had learned at the Western Pennsylvania Seminars and Barb Pagani and Tom Pittman talked about their seminars in West Virginia. Thank you all!

During the meeting we spoke of placing orders for packages of bees. If you would like to order packages from Simpson's please contact Don Kovach right away. Or you may contact Paul Warstler at 330-484-6184 or Waldo's at 740-815-7792. Just don't hesitate. When they're gone, they're gone.

March's Beekeeper To-Do List includes bleaching, cleaning and re-painting old equipment so everything is ready to go for the spring push. Also beekeepers should be thinking about building swarm boxes and ordering packages of bees.

Finally, as we wait for warmer weather, continue to read and attend seminars and classes so you can gather new ideas and learn about new products like pollen patties, wax molds, and queen rearing equipment.

Keep feeding the bees on warm days. I hope to see you at the next meeting on March 20.

Come on spring!

Bruce Zimmer

Dave Coakley recently purchased a polystyrene hive from Blue Sky Bee Supply. He will be demonstrating the innovative components of this product at the March meeting.

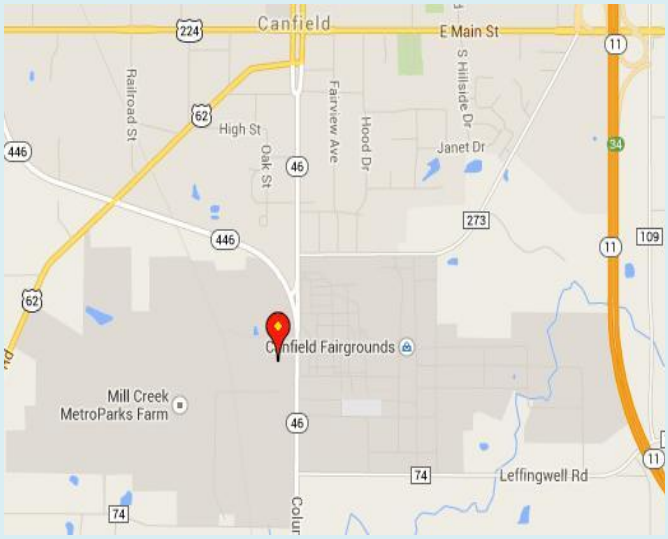
March Meeting Details

Sunday, March 20, 2016
Potluck Lunch 1:00 p.m.
(Bring your own plates, cups and silverware please.)
Meeting 2:00 p.m.

Mahoning County Experimental Farm
7574 Columbiana-Canfield Rd
Canfield, Oh 44406

From Rt 11 North take the Ohio 46 exit toward OH-14. Turn left onto OH-46 North for approximately 6.2 miles. The Farm is on the left across the street from the Canfield Fairgrounds.

From Rt 11 South take exit 34 for US-224 toward Poland/Canfield. Continue on Fairground Blvd. for about 1.7 miles until you reach OH-46 South. Turn left onto OH-46 South. The Farm will be on the right across the street from the Canfield Fairgrounds.



February Meeting Recap

It was fun to see the room full of beekeepers at the February meeting! With over 50 people in attendance we had a packed room. Welcome new members! We are happy to have you join us.

Bruce began the meeting with a reminder to complete the Apiary Registration paperwork and return it as soon as possible. He made sure all the new beekeepers knew where to find the forms online.

Next Don Kovach, Bill DeHoff and Bob Chmelik talked about the recent seminar that they held at Agland. With over 80 people in attendance they were busy answering beekeeping questions and helping individuals get started in their beekeeping endeavors.

The remainder of our meeting centered around members telling what they learned at this winter's beekeeping events and classes.

Barb Pagani and Tom Pittman spoke about their day at the Mid Ohio Valley Beekeepers' Expo in January. Barb had lots of recipes to share for various items such as healing ointments, facemasks and baked goods all containing products from the hive.

Tom shared information about the beginning beekeeping courses and the gardening class that he attended. Tom stressed the importance of planting flowers such as sunflowers, zinnias, marigolds and cosmos around your vegetable garden to help attract the honey bees to your vegetable plant blossoms. Thank you Barb and Tom!

Bill DeHoff spoke about his experience at the Western Pennsylvania Beekeeping Seminar on February 20. He shared lots of information about Varroa mites and how to avoid losing hives to the parasite. He also talked a bit about overwintering hives and swarm control. Thank you Bill!

After a brief discussion about the library we adjourned our February meeting.

Bee-worthy Blooms

A sampling of March blooming trees and plants that honey bees use as nectar (N) and/or pollen (P) sources.

Alder Trees (*Alnus incana*): P Pollen pellets are yellowish green.

Crocus (*Crocus* spp.): N & P Pollen pellets are bright orange..

Honeysuckle (*Lonicera fragrantissima*): N & P Pollen pellets are yellow.

Dandelion (*Taraxicum officinale*): N & P Pollen pellets are orange.

Maple Trees (*Acer* spp.): N & P A major source of both pollen and nectar.

Resources:

Lindtner, Peter. (2014). *Garden Plants for Honey Bees*. Kalamazoo, MI: Wicwas Press.

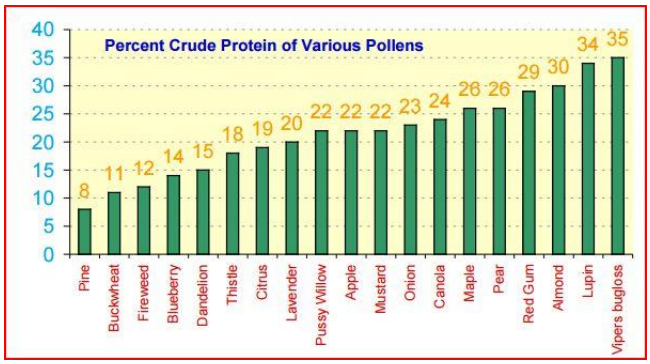
Tew, James E. *Some Ohio Nectar and Pollen Producing Plants*, Fact Sheet HYG-2168-98. Wooster, OH: Ohio State University Extension.

Pollen & Honey Bee Nutrition

Honey bees have the same basic nutritional needs as humans: they need proteins (amino acids), carbohydrates (sugars), minerals, fats/lipids, vitamins and water. To meet their nutritional requirements bees collect water, nectar and pollen. The nectar is processed into honey and provides the main source of carbohydrates as well as some minerals, depending on the floral source. Water provides hydration and often additional minerals. Pollen is a nutritional variable food source providing the main source of protein as well as amino acids, fats/lipids, starch, minerals and vitamins. Interestingly not all pollens are equally nutritious to honey bees and it is worth taking a closer look at the value pollen plays in honey bee health.

The nutrients from pollen are critical for hive health and growth. Honey bees require bee bread, pollen mixed with a bit of nectar or honey and fermented for preservation, for brood production and the development of young bees. These young workers produce jelly that is fed to the larvae, the queen, drones and older workers. If the pollen source is lacking essential nutrients the workers will be unable to provide for those bees and the colony will decline and remain weak.

Pollen ranges in crude protein levels from 6% to 30% depending on the plant source. The minimum level of crude protein required for honey bees has been estimated between 20%-25%. Pollens with protein levels in this range allows colonies to meet their requirements easily while lower levels of protein result in reduced brood rearing and lower worker bee longevity. Pollen that decreases worker longevity in the United Sates include ragweed, rust spore, cattail and Mexican poppy. Plants that slightly improve honey bee longevity include desert broom and dandelion while pollen from plants such as mesquite, blackberry, and cottonwood all performed best to improved longevity. Mixed pollen consistently performed very well in a variety of studies.



Honey bees also require 10 essential amino acids in varying amounts. These include threonine, valine, methionene, isoleucine, leucine, phenylalanine, histidine, lysine, arginine, and tryptophan. Most pollen sources do not include all ten so it is imperative that honey bees have access to a variety of pollen sources.

continued on page 4

Fat bees Skinny Bees-a manual on honey bee nutrition for beekeepers is a great publication for reviewing the protein levels in common plants in Australia. Plants within the same genus, i.e. Trifolium (clover), or Vicia (vetch) , often have similar protein contents so the list can act as a guide for estimating the protein content of pollen from similar plants here in the United States.

Adequate nutrition is a key factor in honey bee health. It determines to what degree a colony raises brood, how well the queen is cared for and the longevity of worker bees. Ensuring that the nutritional requirements are met is as important as procuring good genetic stock for the apiary.

Beekeepers can ensure a well rounded diet for their colonies by making sure there is a variety of pollen and nectar sources available and providing supplements when necessary. When inspecting a hive one should see frames with a range of colors of pollen in the cells. Educating oneself about the pollen and nectar producing plants in the area and tracking the blooming cycles will help with this endeavor.

Resources:

Alaux, C., Brunet, J., Decourtye, A., Di Pasquale, G., Le Conte, Y., Kretzchmar, A., Suchail, S. *Influence of Pollen nutrition of Honey Bee Helath: Do Pollen Quality and Diversity Matter?* PLOS ONE website. Retrieved on February 26, 2016 from http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0072016

Ellis, A., Ellis, j., O'Mally, M., Zettel Nalen, C., *The Benefits of Pollen to Honey Bees*, University of Florida Extension website. Retrieved on February 26, 2016 from https://edis.ifas.ufl.edu/in868.

Huang, Zachary. *Pollen Nutrition affects honey bee stress resistance* . ResearchGate website. Retrieved on February 27, 2016 from https://www.researchgate.net/publication/229135314_Pollen_nutrition_affects_honey_bee_stress_resistance

Oliver, Randy. Fat Bees Part 2. Scientific Beekeeping website. Retrieved February 27, 2016 from http://scientificbeekeeping.com/fat-bees-part-2/.

Somerville, Doug. Fat Bees Skinny Bees- a manual on honey bee nutrition for beekeepers. Rural Industries Research and Development Corporation website. Retrieved on February 27, 2016 from Fat Bees Skinny Bees -a manual on honey bee nutrition for beekeepers.

Welcome Beginning Beekeepers!

It was so exciting to see so many new faces at the February meeting! As you gather your equipment and order your bees you may start to feel somewhat overwhelmed. While having a good mentor is invaluable, there are lots of fantastic beekeeping resources to turn to. The Ohio State Beekeepers Association's website is one of them. O.S.B.A. offers a **free** Web-Based Introductory Beekeeping Training Program presented by John Grafton & Dr. James Tew. The online program is sponsored by Ohio Produce Growers & Marketers Association and O.S.B.A.. It includes 34 video segments, three Power Point productions and on online text by Dr. Tew. Topics include Lighting a Smoker, Assembling Hive Equipment, Installing Package Bees and numerous other critical subjects. Seasoned beekeepers are sure to find valuable information in the segments as well since we all can stand to brush up on our basic beekeeping skills now and then.

Growing Degree Days

A Growing Degree Day is a unit of heat accumulated over a specified base temperature (usually 50°F) during a 24 hour day. In general Growing Degree Days, commonly known as GDDs, accumulate when the average temperature is above 50°F. The base temperature of 50°F is considered acceptable for all plants and insects according to OARDC. Calculating and using GDDs is a handy tool for beekeepers because it helps track and predict phenological events such as tree and plant blooms. Predicting and tracking nectar flow allows beekeepers to make informed decisions in the management of their honey bee colonies.

Growing Degree Days take aspects of local weather into account and in the absence of extreme conditions, such as drought or disease, accurately determines when plants and insects will reach different points in their development.

Calculating GDDs can be done in a couple of easy steps. First determine the average temperature for the day by adding the day's actual high temperature and the actual low temperature, then divide that sum by two. Once the average temperature is found subtract the base temperature (50°F) from it to determine the GDDs for that 24 hour period. For example, on a day that the maximum temperature is 70°F and the minimum temperature is 40°F the average temperature is 55°F. After subtracting the base temperature of 50° from 55° the Growing Degree Days accumulated that day is 5. Here is the math formula $\frac{(70+40)}{2} - 50 = 5$.

There are various tables and articles available online to determine when plants and trees bloom based on the Growing Degree Days. The Ohio State University OARDC has developed a Phenological Calendar web site that is able to make a fairly accurate estimation of the phenological events that are likely to occur around a particular day based on GDDs in Ohio. After the user enters their zip code and date, the web site will calculate the cumulative GDDs for that date and provide a table of phenological events such as the first bloom and full bloom of Silver Maples.

Tracking the nectar flow is important to beekeepers for a number of reasons. It is a good management practice to build your field force ahead of the nectar flow in the spring so that the bees have a larger number of workers bringing in the nectar and pollen. It is also helpful in determining when to put honey supers on the hive. Because honey bees generally swarm just prior to a nectar flow, predicting the flow allows time to make splits or complete other swarm management methods. Along the same lines, predicting the amount of time until the next major flow helps beekeepers determine if the bees will need supplemental feeding.

The calculation of Growing Degree Days to measure accumulated heat units is important for tracking phenological events. Understanding and using GDDs is helpful to beekeepers to predict nectar flows and make informed management decisions.

Honey Cake

1-1/4 cups sugar
1/4 cup vegetable oil
3 eggs
1 cup light honey, warmed
1 cup warm water
3 cups flour
2 teaspoons baking powder
1 teaspoon baking soda
1/2 teaspoon each: ground cinnamon, ground nutmeg
Confectioners' sugar, optional

Heat oven to 325 degrees.

Combine sugar, oil, eggs, honey and water in a large mixing bowl; beat with an electric mixer.

Mix flour, baking powder, baking soda, cinnamon and nutmeg in a separate bowl.

Add dry mixture to liquid ingredients. Mix well. Batter will be quite thin.

Transfer batter to a greased 13-by-9-inch baking pan; bake until tester comes out clean, 45 to 50 minutes.(Or use a 10-inch tube pan and bake about 1 hour.)

Cover loosely with foil if top becomes too brown while baking.

Cool. Sprinkle with confectioners' sugar before serving.

Recipe from Beesource Forums

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Click on the company name to visit their web site.

Check out our website for additional resources and information.

www.columbianamahoningbeekeepers.org

Article or recipe suggestions and submissions are accepted and appreciated. Please provide them by the second of each month.

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