The Skep

April 2017

Columbiana & Mahoning BeeKeepers' Association Newsletter

President's Corner

Hello Beekeepers!
Some members will have received their packages before the April meeting, some will be waiting for their bees to arrive. Either way, make sure your boxes are set up and ready to go for the new bees.

April's Beekeeper To-Do List includes rotating boxes on surviving hives to put the queen on the bottom and culling out old dark comb and replacing with fresh foundation. Be sure to checker board the new foundation with drawn out comb in the hive. Now is the time to clean out bottom boards and put the debris into a bucket to avoid drawing raccoons and skunks to the apiary.

Don't forget to register your hives and sign up for Ohio Sensitive Crop Registry. The deadline is June 1, 2017.

Keep feeding the bees.

I hope to see you at the next meeting on April 23.

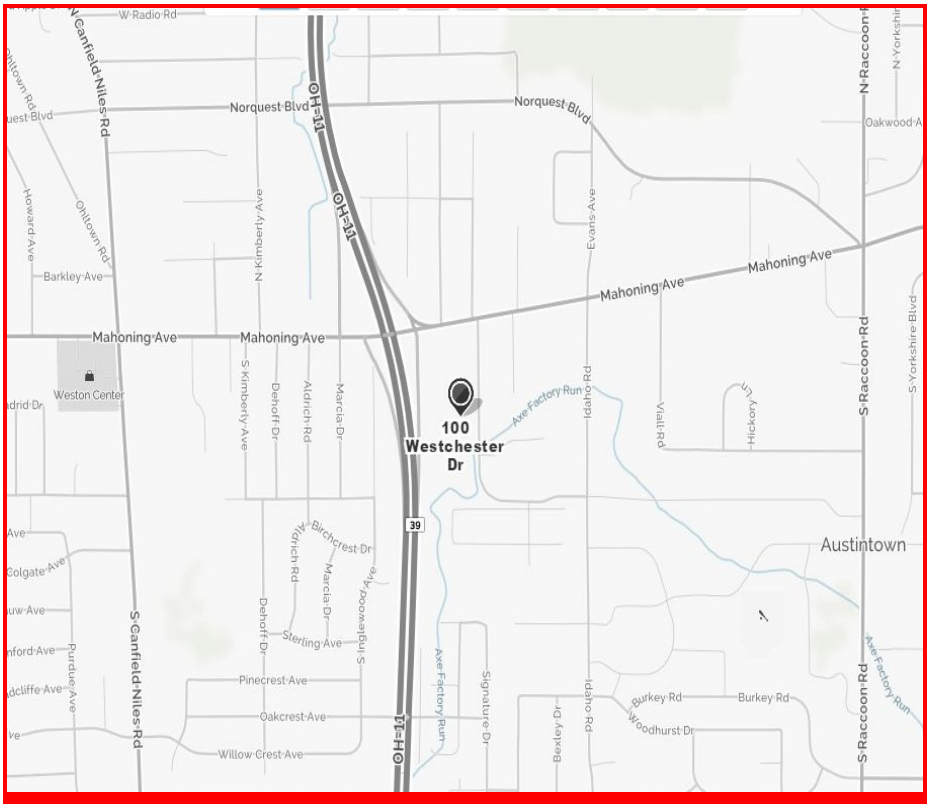
Bruce Zimmer

Meeting Information:

Next Meeting: 04/23/2017,
Austintown Senior Center
100 Westchester Drive
Austintown, Ohio 44515

Pot Luck Lunch at 1:00 pm, business meeting to follow at 2:00.

(**Please bring your own plates, cups and silverware.**)



Reminders from the March Meeting:

--Register you hives with the State by 6/1/17. $5 fee per site. You can click this link to register via web: [Application for Apiary Registration - Ohio Department of Agriculture]

--Cheerios.com has an offering for free flower seeds if you visit their website.

--Andrea is heading up the club shirt effort again this year. The color is Irish Green and available in both tee shirt and polo styles. Ordering will be thru the July meeting.

--April 21-22 Bee keeper Seminar in Oglebay West Virginia.

--Copeland Oaks Nursing facility is putting together vendors for a farmers market. See their website for details.

--Bruce gave an update on the health of fellow beekeeper Lee Miller.

-- Sign up sheets for field days at Mill Creek Park Davis Center on 4/29, 5/20, and 6/10 were passed around. Contact Don Kovach to sign up. There is a limit of 10 students per session.

--Bruce spoke on creating a speaker tab on the website for logging educational activities a member may do. This is to comply with IRS 501 (c) 3 guidelines.

2017 Officers

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HillTop Honey Farm--Steve Davis

Click on the company name to visit their web site.

A Note From Our Treasurer, Don Kovach:

Just a friendly reminder to all Association members that all unpaid dues are due now.

Please contact me if you have questions or to make arrangements. kovach87@aol.com

Thanks---Don

Monthly Honey Recipe:

Ingredients

1 package - english muffins, split and toasted
4-5 - bananas, peeled and sliced 1/2 in. thick
1 cup - toasted pecans, chopped
1 stick - salted butter, melted
1/2 cup - honey
1/4 cup - maple syrup
1/2 cup - cream
2 tablespoons - dark rum, or 1/2 teaspoon rum flavoring
2 teaspoons - vanilla
1/8 teaspoon - nutmeg

Directions

Preheat oven to 350°

Place the english muffins cut side up into a 11x13 casserole dish.

Whisk together the remaining ingredients except the bananas and pecans. Pour half of this mixture over the muffins and bake for 10 minutes.

Spread banana slices and pecans evenly over the muffins and drizzle the remaining syrup over the bananas.

Bake an additional 10 minutes or until the topping is bubbly and the bananas are softened.

Serving suggestion: Serve with sweetened whipped cream.

Bee Keepers Quiz:
This will be an ongoing section is our newsletter. It consists of 50 questions to test your knowledge of beekeeping--Ed.

Question 13 of 50

_____ is given credit for discovering the honey bee dance language.

- Karl von Frisch
- Edgar Dugas
- Joseph von Burns
- Edward Bevan

Question 14 of 50

Two queens can exist in a colony at the same time

- true and as a matter of fact quite common
- false, never occurs
- true but only when virgin queens are present
- true,but only rarely and usually in the case of supercedure of the old queen -- mother and daughter might exist for some time

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Question 15 of 50

The cappings on honey cells are_____ than worker brood cappings.

- darker and flatter
- domed shape and smooth
- lighter -- flatter and slightly wrinkled
- lighter --domed shaped and very smooth

Question 16 of 50

Africanized bees were first introduced into Brazil in:

- 1946
- 1956
- 1966
- 1976

Question 17 of 50

TM-25 is used to treat not cure which of the following diseases?

- chalkbrood
- nosema
- varroa mites
- American foulbrood

question 18 of 50

The most common pesticide kills are to:

- young larva fed poisoned pollen
- young worker bees that are nurse bees
- adult foraging bees
- both a and b

Question 19 of 50

If a hive has drone laying workers, the hive will....:

- accept any queen given to them
- be difficult to requeen
- reject any queen given to them
- raise a queen of their own

Question 20 of 50

According to the Committee on Common Names of Insects of the Entomological Society of America, the proper way to spell the name for bees that collect nectar/honey is:

- honey bee
- honey-bee
- honeybee
- bee

Question 21 of 50

Laying worker bees are able to lay eggs and produce queen substance 9-oxodecenoic acid.

- True
- False
- void
- void

Question 22 of 50

Winds in excess of _____ mph will cause foraging honey bees to stop flying.

- 10
- 15
- 18
- 25

The following is reprinted with permission from the Author--Ed.

Plant Resources for Honey Bees

Author: Tim Miklasiewicz

Why you, as a beekeeper, should care about this topic

Honey bees, and the vast majority of other bee species, derive almost all of their nutrition from plant sources, mostly from flowers. Plant nectar, which is primarily sugars in a water solution, is offered as a reward to attract pollinators (and other beneficial insects) to visit flowers. Honey bees use nectar directly for energy and water needs, convert it to honey for storage, and convert it to wax. Pollen, which contains "male" plant genetic material, is transferred among individual flowers and plants by bees, facilitating new genetic combinations in the plants' offspring. Pollen provides most of the bees' nutritional requirements (protein/amino acids, lipids, vitamins, minerals, sterols, starch), except for the carbohydrates and water from nectar.

Given this critical importance, it seems to me that many beekeepers, even most, have an unusually low level of interest in plants. Bees go out and get something – bring it back to the hive and convert it to honey, more bees, and wax, and propolis (also manufactured from plant material). The mechanics or the process and types and locations of plants responsible for this benefit are frequently mysterious. I have been told quite a few times that the white clover (also called Dutch clover, *Trifolium repens*) inhabiting a beekeeper's lawn was one of the major plants responsible for a colony's success. This is highly unlikely, unless the area with lawn is large and has a high ratio of clover to other plants, the clover is able to sustain bloom for long periods because it has adequate moisture, and mowing of active flowers is limited. Foraging honey bees visit impressively high number of blossoms in order to collect enough nectar to produce a pound of honey, sometimes listed as 2 million floral visits per pound. Most people don't have lawns large enough, and the clover that is present does not have sufficient flowers to support large hive populations. However, a healthy clover population in the lawn could certainly supplement resources from other plants.

Honey bees may visit flowers at any time of the year when they are in bloom and weather permits foraging. These bees are extremely versatile in using many different types of plants for food, including some "wind-pollinated" grasses and trees, even attempting to collect dust from bird feeders, fine bird seed, or flour during warm spells in winter. The ability to use many different plants, ability to search large areas for plants and communicate locations to other foragers, and ability to store food for use during periods with little or no income, are some reasons why honey bees have been such successful organisms in most of the areas of the world, despite extreme differences in land forms, climate, and plant types.

Most floral resources are collected within a 3 to 4 mile radius of their hive, with the most intense floral visitation occurring within 200-500 yards. Cold, rainy, or windy weather causes foragers to constrict the radius and remain much closer to the hive. If great bee plants are located more than 5 miles away from the hive, scouts will probably not find them or foragers will be unlikely to exploit them effectively. Beekeepers should try to learn which plants are useful to their bees, where patches with concentrations of these plants exist, and locate their apiaries accordingly -- assuming that there is some choice in the matter. It may be possible to improve forage near apiaries by planting or otherwise encouraging better bee plants (e.g. removal of competing plants, fertilizing, or watering desirable plants). One of the objectives of this article, and two companion articles to follow, is to help identify which plants provide good resources for honey bees in Ohio.

What makes a type of plant a good bee plant

The factors that make a plant species valuable to bees are a combination of the plant's internal properties and environmental or external circumstances. By internal properties, I mean characteristics of the plant itself; under external circumstances I include such things as plant distribution, weather/climate, and soil.

Honey bees tend to seek flowers that have nectar with higher sugar content. They also favor flowers that might have moderate concentrations of sugar, if the flowers are abundant or otherwise easily accessible. They tend to be considerably less interested in flowers that have low concentrations of sugar or no nectar at all. However, they might visit flowers that have relatively low sugar concentrations, if there isn't anything more valuable available at the time, or if they are primarily collecting pollen. Fig. 1 provides a few examples of plants with different nectar content.

Fig. 1 Average sugar concentration in nectar of selected plants[1]

common name	scientific name	% sugar in nectar
white clover	*Trifolium repens*	48.8
white sweet clover	*Melilotus alba*	44.3
common dandelion	*Taraxacum officinale*	36.1
apple	*Malus domestica*	50.3
Canada goldenrod	*Solidago canadensis*	31.4
New England Aster	*Symphyotrichum novae-angliae*	24.6
catnip	*Nepeta cataria*	22.3
sour cherry	*Prunus cerasus*	20
Bartlett pear	*Pyrus communis* 'Bartlett'	15
apricot	*Prunus armeniaca*	15

[1]Sources: Wilson, W.T., J.O. Moffatt, & J.D. Hamilton 1958. Nectar & Pollen Plants of Colorado. Bulletin 503-505. Colorado Experimental Station, Ft. Collins, CO
Nye, W.P. 1971. Nectar and Pollen Plants of Utah. Utah State University Monograph Series Vol. XVIII, No. 3, Logan, UT

Some plants that have relatively high sugar concentrations in nectar still might not be actively sought after by honey bees, because of the flower structure. A worker bee's tongue length is approximately 6 mm. Some plant species have a corolla (floral tube) that is too long and narrow for honey bees to reach the nectar at the base of the tube (e.g. some honeysuckles - *Lonicera*, some beebalms - *Monarda*). These plants are typically adapted to pollinators with longer tongues, such as some bumble bees, moths, or hummingbirds. Foraging honey bees sometimes use their mandibles to bite through the side of the corolla to get closer to the nectar, and engage in "robbing" the flower (no pollination for the plant!). This is extra work for the bee, so the benefit is hopefully worthwhile. Honey bees can also cooperate with other bee species, such as carpenter bees, to rob flowers. In this case, they use holes already made by the other bee species to access nectar. Besides collecting nectar from flowers, some plants produce nectar at locations other than flowers (extra-floral nectaries, e.g. *Catalpa*, on lower leaf surface). Some plants host insects that extract phloem sap (e.g. aphids on conifers and corn). These produce sugary honeydew as a waste

product, which may be collected by honey bees; honey made primarily from honeydew in certain parts of Europe is referred to as “wood honey”.

Pollen is collected, mostly from plants that also produce nectar, but also from nectarless, wind-pollinated plants (e.g. elms), when it is available and other pollen sources are scarce. Usually the pollen of these wind-pollinated plants is nutritionally inferior to that of animal-pollinated plants. The main stimulus for pollen collection is brood-rearing, especially combined with scarcity of stored pollen within the hive, and at least minimally favorable foraging conditions (temperatures >40°F). The methods of evaluation used to evaluate pollen quality include relative stimulation of development of hypopharyngeal glands and fat bodies in nurse bees (both involved with brood care) and chemical analysis of pollen, especially amino acid concentration and type in relation to that used by bees. Pollen from fruit trees, willows, some legumes (e.g. sweetclovers), and corn are nutritionally superior to that of dandelion, which is far better than pollen from coniferous plants.

Besides having adequate nectar quality, quantity, and accessibility, and pollen suitability (internal properties), plants need to be present in reasonable quantities within the foraging area, and blooming while bees are active, in order for their contribution to be meaningful. The distribution and density of plants is partially determined by limitations imposed by soil type, and climate (precipitation and temperature range). I would love to plant a sourwood (*Oxydendrum arborea*) and a water tupelo (*Nyssa aquatic*) for my bees, but the soil is too alkaline for the former and winters are too cold for the latter. Some of Ohio’s best bee plants are much more limited by human activity than nature. As a society, we don’t place much value on high quality natural ecosystems, and when we alter, then reconstruct, new systems, we don’t place meaningful emphasis on restoring plants that might provide food for pollinators. As a result, we have decimated populations of many high quality native bee plants (e.g. basswood, *Tilia americana*; common persimmon, *Diospyros virginiana*), and a disturbingly high proportion of our present day bee forage consists of “weedy” introduced invasive plant species. Some of these include autumn olive (*Elaeagnus umbellata*), purple loosestrife (*Lythrum salicaria*), glossy and common buckthorns (*Rhamnus cathartica* and *R. frangula*), and Asian bush honeysuckles (*Lonicera morrowii* and *L. tartarica*). These plants tend to reproduce aggressively and in many cases are very competitive. They may be good resource plants for bees, but many have negative side-effects, such as degrading habitat available for native plants,
in some cases posing a threat to their continued existence. There certainly is a valuable role that beekeepers could play
is helping society decide what to plant, and not plant. Lots of ash trees will be leaving us during the next decade, and many of them will be replaced with something else. What will that be?

Some other factors to consider in evaluating bee plants are the seasonal timing of bloom, the duration of flowering, and the reliability of nectar and/or pollen production year-to-year. A plant that blooms in mid-summer, such as summersweet (*Clethra alnifolia*) or white sweetclover (*Melilotus alba*), raises its importance because relatively few other bee plants are flowering at that time. Some important early-season plants, such as red maple (*Acer rubrum*, usually blooming during March), would undoubtedly be much less visited by bees if they bloomed at the same time as black locust (*Robinia pseudoacacia*). Most trees and shrubs bloom for 1 to 3 weeks during the year. A plant that provides nectar and/or pollen for a longer period, such as white clover (*Trifolium repens*) or purple coneflower (*Echinacea purpurea*), can have enhanced value, especially if some blooming occurs during periods of relatively scarce resources. Finally, some plants tend to fluctuate greatly in the amount of flower production, depending upon what resources were expended on flowering and fruiting the previous year (e.g. many apple cultivars, *Malus domestica*), or on growing conditions preceding or during bloom. Many species are noted in apicultural literature as having nectar secretion that is sensitive to humidity. Some plants, such as lindens (*Tilia* spp.), can drop flowers dramatically if soil becomes too dry during the bloom period. If conditions that adversely affect its bloom are common in a given area, then a plant that might look good on paper might not work out well in practice. In some cases it might be practical to anticipate and address a problem, if the beekeeper becomes familiar with a plant’s assets and liabilities.

Quiz answers:13 A 14 D 15 C 16 B 17 D 18 C 19 B 20 A 21 A 22 D