November-December 2014
Volume No. 10

The Pennsylvania Beekeeper

The Official Organ of the Pennsylvania State Beekeeper's Association

News 'n Views...

The PSBA Annual Meeting was held November 14 and 15. Attendance was up from recent past years. This event is open to membership and non-members as well. The program committee diligently worked to bring interesting and informative speakers to this conference.

The largest beekeeper in American, Brett Adee, was one featured speaker for both days. Brett operates about 80,000 colonies in 10 states. His experiences gave insight for operations of all sizes.

Dr. Megan Milbrath and Heather Matilla joined` to share their studies in sustainable beekeeping, nuc building and quality queens "Sustainable" is something we would all like to achieve.

The banquet on Friday night had few open seats. Always great food at the Country Cupboard, good fellowship, crowning of the Pa Honey Queens, Beekeeper of the Year and promotions auctions. Charlotte Hubbard was guest speaker, offering motivation and humor from life experiences.

Congratulations to our newly crowned beekeeping ambassadors. Jessica Onstead is our 2015 Pa Honey Queen and Blair Hetherington is our 2015 Pa Honey Princess. See pictures of the queens and banquet on Facebook at " Pennsylvania Honey Queen Program". Also follow link from our website, www.pastatebeekeepers.org

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In September, I was cautiously anticipating a 'real' honey flow in the northwest region. The season had been painfully without much honey production. Well, at last something good to say. The jewelweed and goldenrod flow came in strong and fast. Locations with Knotweed did well. Most supers were packed out tight. It was a lot of work getting those boxes in the field when they were empty. My arms and back felt it. The pains of a growing honey business have me asking if there's an easier way to pick those boxes off. I think this is where I find somebody else to do it ☺ As the weather was quickly changing, it was a race with a few nice days to pull honey and get back out to do final checks and tuck the bees in for winter. My season average finished at 67 lbs./hive for 140 hives. 75% came in from late August to mid September.

I have about 30 nucs going into winter. Last winter was harsh on my single 5-frame nucs. So, this time around they are 5 over 5 and some 'Mike Palmer' 4 over 4 framers. It never ceases to amaze me how much sugar syrup these nucs will take. I keep thinking, 'They've GOT to be full', but they drink down another quart. All these nucs contain queens that I grafted from my best survivor, behavior and production colonies. A couple nucs contain queens from our summer picnic queen swap.

Stay tuned as Pa Queen Improvement Project gets underway before next season. Co-Chairs, Jeff Berta and Mark Gingrich are working to bring direction and expectations. This is a work-in-progress. Several associations around the state have started their own queen programs. This is a good thing. More and more people are becoming proficient with raising queens that will survive our northern winters and deal with mites and pathogens with a minimal amount of help. The more these genetic traits are shared among beekeepers, the better the survivability. Jeff and Mark are joining our (Pa) efforts with other state programs. The newest acronym is HHBBC. That is 'Heartland Honey Bee Breeders Cooperative'. The spirit of this effort is to get genetically strong queens throughout the northern states. Freely sharing/swapping queens, methods and nuc building is a key part. We are looking for each county association to have a leader (Champion) that will be liaison between county and state chairs, so the stock can be evaluated and shared.

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In This Issue

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Efforts from the state association continue on other fronts. Bringing some better sense to the Food Safety requirements to sell honey is one. We all understand and want safe food. Honey is no exception. Presently, some of the requirements have little or no impact with the process of delivering honey to market. However, the requirements are hurdles that promise to cost more than the effort is worth. The Pa Apiary Advisory Board continues to work with the Department of Agriculture to help you sell your honey. The demand for locally produced honey is strong.

Did you know: A food license, registration and inspection are not required to sell your honey at an event of 3 days or less. All honey must be 'pre-packaged' (no open containers) and is defined as 'non-hazardous' food.

https://services.agriculture.state.pa.us/FarmShowOnlineRegistration/

Registration is now open for the 2015 Pa Farm Show.

Bottle some honey for show. Use that beautiful wax. It's okay to show it off. The Mead competition has 4 classes. And don't forget the baked goods contest.

There are still openings for a 'county exhibit' and 'individual" exhibits for the Farm Show. There is a good chance late entries in these classes will be accepted.

Our Apiary Exhibit at the Pa Farm Show is one of the best there is. We are always looking for volunteers to help at the Food Court, Honey Sales and Learning Station.

Charlie Vorisek,

President *PSBA*

Nature Notes

Winter begins before Thanksgiving when the house is cold and really needs to be heated not just warmed, when the bedroom windows stay closed, when the windshield is covered with frost. Or **Winter** begins on Sunday, December 21, when the Sun at noon is directly overhead near Rio de Janeiro, Brazil, on the Tropic of Capricorn: Summer in the Southern Hemisphere.

Soon after we pass December 21, we have a little **more daylight** each day, the promise of warmer days to come. Early humans were tuned in to the points on the horizon where the Sun rises and sets. Around December 21, the Sun will set to the left, and rise to the right, of the setting and rising spots of June. The Sun makes a **shorter, lower arc across the sky** and the Northern Hemisphere cools. A glance at the Sun around midday will show the top of the arc: not high in the sky.

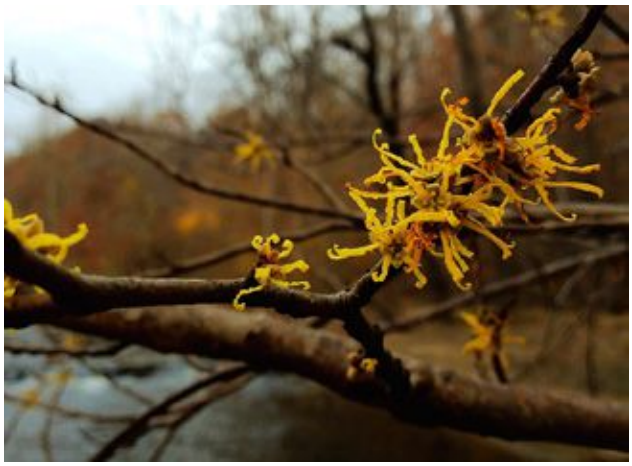
With the leaves off the trees, we are treated to panoramic, pastel pink, red, and orange **sunsets**.

Birds may **mob the feeder** when a change in air pressure suggests the arrival of a storm. How about feeding just **sunflower hearts** (bits of shelled sunflower kernels)? All our feeder birds eat sunflower seeds. Sunflower hearts leave no residue of shells on the ground. Sparrows and juncos will eat any bits that fall. After a snowstorm, **cracked corn** (chick feed) could be broadcast on the driveway for sparrows and juncos (and deer.)

How about hanging the feeder **close to a window**? Birds can be seen more easily, and they are less likely to smack into the window if they are landing and taking off close to it. Birds hit windows when they see **reflected sky** in the glass and fly toward the reflected sky.

Hummingbirds in winter time? The ruby-throated hummingbirds that nest in Pennsylvania leave in autumn. Rufous hummers summer in the Rocky Mountains of the West. Some of them travel east in autumn and spend time in Pennsylvania before heading south to the Gulf Coast. A hummingbird that was banded in Pennsylvania during the winter returned to the same Pennsylvania yard the next autumn. Chance and millions of years of evolution have allowed some hummingbird species to adapt to cold summer nights in the mountains of the West by lowering their **body temperature** during the night and restarting their engines again the next day. They survive low temperatures.

Our native **witch hazel** is blooming now with spidery pale yellow, dime-size flower clusters along the branches of six to ten foot tall shrubs in the woods. For centuries, an astringent liniment has been made from the leaves and bark of witch hazel. People of a certain age will remember a glass bottle of witch hazel in the medicine cabinet.



(Photo Credit: Fritz Flohr Reynolds)

In late evening, a favorite constellation rises in the southeast. This is the one we all recognize: **Orion the Hunter** with his belt of three bright stars.

By Tim Sterrett

PSBA Conference, November2014

The conference was a success by most standards of measurement. The speakers were excellent, the content was relevant, the attendance significant - about 120 attendees on Friday afternoon, over 150 at the banquet and again on Saturday morning, and about 100 on Saturday afternoon - and the vendors more varied and plentiful than ever before.

The facilities at the Best Western County Cupboard Inn in Lewisburg are comfortable and convenient but clearly we are close to outgrowing the space. The same venue has been reserved for 2015 and clearly we need to begin to consider an alternative venue for the long term.

Yvonne had asked if I could write a report on each presentation. What follows is a synopsis of my notes, realizing that it is impossible to capture the detail or intricacies of the many beautiful slides that were the focus of most of the presentations.

Karen Roccasecca: The State of the Bees in PA

There are about 3500 registered beekeepers in PA in 2014 with a significant increase over the last two years:

2008 - 12	300 new beekeepers registered
2013 - 13	400
2014	500

The 2013/14 winter loss rate for the entire country was 21.7%, which is still above the calculated sustainable threshold of 18%.

AFB reports as confirmed by the inspectors have declined noticeably:

2008	84	2012	12
2009	33	2013	15
2010	24	2014	6
2011	18		

Karen, who is the state apiarist, explained in some detail the work that she had her colleagues do on behalf of the Pennsylvania Department of Agriculture, with an emphasis on the importance and advantages to beekeepers of registering their hives.

Dr. Meghan Milbrath - Sustainable Beekeeping: Using Nucs to Raise Local Queens from Survivor Stock.

The 'Why'

Northern beekeepers experienced a 30-65% loss over the last few winters and many beekeepers are on the 'package treadmill' in which beekeepers buy packages in the spring that die out over winter, and more packages are ordered in the following spring.

One good over-wintered queen has the potential to populate many hives, and we want those local survivors. There is pressure to produce packages and queens early in the season to replace winter losses, but there is no biological reason that queen production has to be this early - queen propagation needs warmth, so queens can equally be raised in the summer as in the spring. We need to shift to a local bee calendar in which Pennsylvania provides bees for Pennsylvania beekeepers, not one based on the timetables of Florida, Georgia or California.

Selective breeding is common place with cattle and horses, indeed most domestic mammals. Bees too are animals, with DNA and genes, so we need to know who is making those breeding decisions for us as beekeepers. Do we know the history and traits of queens that we order? Do we ask?

It is estimated that more than one third of all commercial queens come from less than 500 breeder queens, which is very narrow selective material. We need bees that over winter well, which means they build up sufficient stores, are disease resistant and control the amount of brood during the dearth period.

And then there is the question of importing pests, parasites and viruses in packages, with the current example being the spread of the California fly that causes so-called Zombee bees.

Geographically, bees originated in different areas of Asia, Europe and Africa and each has different traits and needs dependent on their origins. For example, in eastern Africa, Apis mellifera scutellata (the origin of our Africanized bees) lives in the grasslands alongside Apis mellifera monticola in the highlands areas, each with it's own distinctive traits.

Studies in Maine (Erin Forbes) show the survival rates of colonies were measured for the winter of 2009/10.
Nucs made from splits from local survivor stock: 83% survival rate.

Packages re-queened with local queens: 90%

Imported packages: 43%

Studies in Europe that compared local bees to bees imported from elsewhere showed that local bees perform better.

The 'How'

Meghan has initiated the Northern Bee Network (www.northernbeenetwork.org) which promotes collaboration between beekeepers and provides resources for more sustainable beekeeping. The objectives are to improve the stock of locally adapted northern bees, provide an interface to connect Northern beekeepers, provide resources for sustainable apiary expansion and increase access to local bees. The network, a platform to help beekeepers find

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local bees in their area, is a free resource for all beekeepers and queen producers to exchange bees and information. Each beekeeper develops a profile by answering specific questions, one of which focuses on the origins of his or her queens and bees.

The 'When

Meghan includes how to make a split in her nu-bee courses. Spring management is primarily swarm prevention, the summer is colony increase and the fall is preparing replacement hives for the next season, which means being proactive. For example, if one wants 10 hives in the spring, and suspects there is going to be a 20% winter loss, one can make splits using the weaker hives (a la Mike Palmer) so as to have 14 colonies in the fall, expecting 10 to survive in the spring.

This can be done on the club level as well as the individual level, e.g. asking members to commit to making one nuc in the fall for sale to nu-bees in the spring.

Meghan recommends an article in ABJ, March 2014, by Randy Oliver titled Queens for Pennies, and the book Increase Essentials by Larry Connor for more information on making nucs.

Bret Adee: Big Beekeeping, Big Challenges

Bret, together with his father and brother, is America's largest beekeeper running some 80 000 colonies with a base in South Dakota but covering five other states and pollinating almonds in California in February although his main focus is honey production.

30 years ago the average honey production per colony was 140 lbs., compared to this year, which he anticipates will be between 30 and 40 lbs. And this was the theme of his Friday afternoon presentation - the hidden costs which are making beekeeping more difficult.

For example, ideally each of us wants to have our living expenses lower than our income so that we have some excess disposable income each month. He showed a graph of the declining annual costs of food, which suggests an increased standard of living, but a second graph of rapidly increasing health costs is the 'hidden cost', which explains in part why the cost of living has remained stagnant, if not actually declined, in recent years.

Similarly the beekeeper wants sales to exceed expenses so that the remainder is profit, but in the mid-west increased summer losses, which he attributes primarily to pesticides, have made it difficult to make a profit with honey bees.

Bret used an intriguing analogy. We talk about honey bees as the canary in the coal mine, and now the canary is dying before it so much as gets to the mine. The government's solution is to give the canary a gas mask, find a better canary, or move the canary further from the mine ... anything but deal with the actual cause. "We need to work with nature," he asserted, "rather than fight with nature."

He described how some colonies, placed in a clover field at the beginning of the flow, were not bringing in nectar. He mixed up 50 lbs. sugar with 1 gallon of HoneByHealthy and put 8 oz. on the top bars of the brood nest of each hive. The change in the behavior of the bees was dramatic - they came out of the hives in a cloud and quickly built up supers of honey.

In a later conversation Bret suggested that neonicotinoids disrupt the bees genetic foraging behaviors and somehow the mixture re-triggers that instinct as it dribbles down between the bars and the bees clean themselves.

He described too the benefits of wild flower strips in soya bean fields as an alternative to sprays. The strips attract lacewing beetles, which in turn eat aphids, and there was a measurable increase in aphids as one moved further away from the strips. Similarly winter cover crops can be used to enhance soil quality and suppress weeds, as an alternative to spraying.

The big honey bee loss of 2009 presents us with a moral issue - what is the right thing to do? How can we leave our children with a better system?

Bret's presentation on Saturday morning was a slide program tracing the development and operation of his two immense honey extracting plants in South Dakota.

Bret and Dave Hackenberg are co-Chairs of the Pollinators Stewardship Council (www.pollinatorsstewardship.org) and both appealed for support from beekeepers. It's useful to have financial help but more important is to have numerical support as the Council lobbies and negotiates with legislators on behalf of us all.

Maryann Frazier: Think You Can't Graft? Try This.

Grafting requires good eyesight, a steady hand, practice and patience, and many beekeepers have attempted it unsuccessfully.

Maryann came across a modification of traditional grafting procedures by accident. She was demonstrating the Hopkins Method of queen rearing in which a frame with newly hatched larvae is removed from a selected breeder queen and given to a queenless cell builder colony. But rather than hang it in the normal way, it is placed in a horizontal position above the brood nest. The nurse bees will feed the larvae with an abundance of royal jelly and raise queens from them.

For a good quality queen it is best not to allow the bees to raise more than 20 at a time, and to do this Maryann and her students scored the comb with their hive tools, leaving only selected larvae for development. She noticed that the removal of the wax left the larva exposed which made them

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(These are for PSBA members ONLY!)

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1 year	$21.00	1 year	$25.00
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In order to reflect the interests of all facets of Pennsylvania beekeeping, articles submitted for publication may on occasion express ideas contrary to the philosophy of the P.S.B.A. or a majority of its members.

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Application for New and Renewal Membership
Pennsylvania State Beekeepers' Association

❑ $1.00 Junior Membership (under 17) annual dues
❑ $20.00 annual dues ❑ $25.00 family dues ❑ $200.00 Lifetime Membership
I understand the dues entitle me to the Newsletter and all other benefits of membership.

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Make checks payable to: PA State Beekeepers Association
Send to: Yvonne Crimbring, 2565 Southside Road, Canton, PA 17724

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much accessible for a grafting tool (larvae are often killed as the grafting tool drags them up the wall of the cell.)

Grafting this way was quicker and there was a 20% greater acceptance of grafted larvae. She recommends

1. The use of plastic foundation because the larvae are protected in shallow wells when the wax comb is removed, making them more accessible;
2. Using black foundation which makes it even easier to see the larvae for grafting;
3. Using new foundation with freshly drawn comb, in that the cocoon in the cells of older foundation pulls the larvae out when one scrapes off the wax;
4. Putting the new foundation in a cage together with the queen so that the beekeeper can remove it when the larvae are all 24 hours old. Larvae will be given more royal jelly if the bees know from the outset they will be queens.

A report on the above will appear in an up-coming issue of Bee Culture.

Maryann then followed up on a report presented last year, which asked if queens bred in the north perform better than queens imported from the south. She and her team weighed the colonies in three apiaries with queens from both the north and the south stocks, and graphed the results (excluding the equipment).

In terms of the weight gain, by October 2013, there was no significant difference between colonies irrespective of their geographical origin. There was however a significant difference by apiary. In spring of 2014, most of the colonies at or above a 50 pound (excluding equipment) threshold survived while most of those below the 50 pound threshold did not.

The hypothesis is that there is pressure on package producers to meet the excessive demand of beekeepers early in the year, and what makes the difference is the quality of queens in the packages rather than their location of origin, which in turn underscores the need for local, quality queen producers.

Equally important is the location of the apiary, especially in terms of air flow and forage quality and quantity. There is a microhabitat which affects bee performance and Maryann showed maps of the forage area within two miles of three apiaries:

- an area of excessive forest was the least productive;
- a combination of forest, grass pasture and alfalfa was better;
- a combination of corn, soya beans, wheat, and grass pasture (i.e. the most diverse) was also the most productive.

Maryann ended with a description of the work being done by the Center for Pollination Research at PSU under the directorship of Christina Grozinger, and a demonstration of a new app (polleverywhere.com) as a device for getting immediate feedback and evaluation of a presentation by cell phones and text messaging.

Dr Heather Mattila: Well Mated Bees Make a Difference to Colonies

Of the 40 000 species of Hymenoptra (bees, ants and wasps) all but approximately 35 have queens who mate just once, which means that 0.2% of species have queens which are polyandrous, or promiscuous maters. Besides honey bees, other polyandrous Hymenoptera include army ants and leaf cutter ants, which like honey bees, have very efficient foraging systems.

A drone congregation area is like "a singles bar with one lady and lots of hungry bachelors." The queen is pumping out pheromones as she flies and the drones have eyes and antennae, which are highly specialized to find her. Moreover the genitalia of the drone glow under ultra violet light, which other bees can see, so the queen, with the genitalia of the last drone to mate with her protruding from her abdomen, lights up like a beacon as she flies.

An *Apis mellifera* queen mates with between 6 and 20 drones on average with a known record of 49 mates per queen, compared with the Giant Honey Bee which mates with 20 to 63 males, with 109 as the highest number of drones recorded as mating with a single queen.

Multiple mating is high risk- the queen can killed or get lost, and there is the factor of transmission of diseases. So the benefits must outweigh the risks, which include

- Increased resistance to brood diseases;
- Brood viability;
- Nest stability, meaning more consistent temperatures in the hive;
- More effective transmission of pheromones from the queen to her retinue of worker bees;
- And the queen advertises when she is well mated.

But does multiple mating improve productivity?

Heather has studied two scenarios:

1. A single patriline, i.e. a queen mated with one drone only. This is the original, or ancestral, scenario that characterizes the majority of Hymenoptera.
2. A multiple patriline, i.e. a queen mated with 15 drones. This is the evolved, or derived, scenario for Apis.

Heather described the process of each study, the results of which were consistent:

- The single patriline colonies had a 29% over-wintering success rate without beekeeper interference, because they did not build up sufficient reserves in the fall, whereas multiple

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patriline colonies survive at a 25% success rate, which is close to the natural survival rate of swarms in temperate climates (29%).

- In the multi patriline colonies there were more foragers returning to the hive per minute as measured on the landing boards.
- Using observation hives, and reading 4000 waggle dances on the 'dance floor' (i.e. a portion of the foundation nearest the entrance) the bees in multi patriline colonies had 36% more dances and they lasted 63% longer than those in single patriline colonies.
- There were twice as many shaking signals (i.e. the signals used to wake up sleeping bees)
- The bees of multi patriline colonies foraged up to 1 km further from the hive and their foraging behavior was more explorative.
- Usually 2 to 3 patrilines of workers of workers were responsible for the majority of visits to food sources and waggle dances produced in colonies.

There are three distinct, genetically defined forager roles:

- Inspectors, who go out quickly and check the nectar and pollen in previously visited flowers without following dances;
- Recruits, who tend not to seek food sources until they get information from other workers as to where it is (through waggle dances) and
- Scouts, who seek new resources without following dances.

In the multi patriline colonies, more of the recruits followed the waggle dance of returning bees and for a longer time period, and the chemicals emitted from the abdomen of the dancing bee were twelve times higher in multiple patriline colonies coopers to single patrilineal colonies. Returning scouts did more dances and foraged over a greater distance.

Heather's second presentation was **The Lifetime Consequences of Poor Nutrition for Worker Performance**.

Bees eat processed food in the form of honey (processed nectar) and bee bread (processed pollen.) The larvae use food for growth (larval growth is equivalent to a baby increasing 700 times in weight.)

At 5 days of age the worker bees' consumption of pollen peaks which fuels the growth of the hypopharyngeal gland, which in turn produces food for the larvae.

What happens when stressors (monoculture, competition with other colonies for forage, the moving of colonies or constant manipulation by the beekeeper, or the synergistic effects of varroa, nosema and pesticides) affect the quality or quantity of available pollen and developing workers are undernourished as they are reared? :

- Emerging bees are smaller and weigh less;
- They have a shortened life span as their life cycle is hastened - they become nurse bees earlier, foragers earlier, and die younger.

The workers compensate for this by shutting down or by cannibalizing the brood.

What are the effects in later life of pollen deficit, especially on foraging? We know that protein deficiency effects learning and memory in mice, song repertoire in birds and foraging and learning in fruit flies.

An experiment involving colonies that were confined with limited pollen, confined with unlimited pollen or with outside access and unlimited pollen showed that if stressed (i.e. limited pollen and no access to get more) and although differences wee not apparent visually, the bees were 8 to 37% lighter and lived 5 to 18 days shorter than adequately nourished workers. Only 62 - 80% of the stressed bees foraged and they spent less days as a forager. They were twice as likely to disappear after one day.

9% of the stressed bees were filmed dancing, compared to 21% of the control group and even though once they started there was little difference in the length of the dance, the stressed workers were less precise in terms of directions caused by lack of sleep and instability of temperature.

Jeff Berta and Mark Gingrich: PA Queen Improvement Program.

This program has been loosely in place for a number of years but SARE grants from 2011to 2013 provided for measurable results across the state and gave it momentum.

Jeff outlined the process:

- Focus on drones as much as on queens: random drones = random results.
- Select the best queens for breeding.
- Create drone comb, e.g. by placing a medium frame in a deep of selected over-wintered PA survivor stock.
- Graft from larvae that are lying in plenty of royal jelly.
- Jeff places the grafted cells in 2 queenless 5 frame nucs over a queenright 10 frame deep, separated by a queen excluder, but there are many other ways of doing it.
- After 24 hours, and over a 72 hour period, all mites, dead and alive, are collected on the bottom board with chewed-off legs to check for MBB (Mite Biting Behavior.) Each is looked at

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with a magnifier to see if legs are chewed, and a percentage is calculated, e.g.. 10 chewed mites out of total 30 mite count = 33% MBB.

- MBB is a new behavioral trait and not the same as VSH. Although some of the MBB bees also have VSH they are different traits and one does not necessarily beget the other.
- Queens are evaluated using a QS (Quality Score) protocol which can be measured quickly by beekeepers of all levels:
- QS = Frames of Brood + Frames of Honey + Honey removed in 10 lb. increments - Mites (preferably a sugar roll or alcohol wash, but a drop if that is all that is available.)
- A selected queen is sent to Purdue University for instrumental insemination with Purdue semen backcrossed with Buckfast. Thus Purdue semen, selected for the highest MBB percentages, is given to bees that the HHBBC breeders have been selecting for other vigor/hygienic related traits for many years. The daughters from these Purdue AI queens are currently being overwintered in all five states.
-
- Local exchange of best cells is encouraged in terms of genetic diversity, and there is an exchange of mated queens provided for at the PSBA summer picnic.

This year PA joined the Heartland Honeybee Breeders' Cooperative (HHBBC) with WV, OH, IN and MI to exchange breeding stock and to incorporate the MBB trait in the breeding program.

There is room in this program for all beekeepers relevant to their skill levels. Each of the 28 clubs in PA has been asked to appoint a 'champion' who will communicate with Jeff and Mark as well as promote the program at the club level. And each club is encouraged to organize a group that will select local queens with the best genetics using the 'quality score' for each queen, and exchange them, thus sharing good, survivor queens of local origin and continuing genetic diversity.

Many people have inquired about purchasing stock, but at the moment most 2014 breeding stock is to exchanged, until the evaluation of 2014 breeding is complete. Then selected queens and daughters can be sold at the discretion of individual HHBBC breeders, primarily to people who will make more queens for distribution, preferably at the club level. The goal is to spread superior genetics broadly across the five states, no just to few individuals. This where the club champions come in, clubs should be teaching nuc and queen workshops, and skilled members should be producing queens/cells. Teaching queen rearing and nuc production is basic beekeeping, and selecting from your own stock is something everyone should aspire to. We want everyone to be a backyard scientist and microbreeder, using the same simple evaluation methods that we do. If people who have bees w/ MBB do note keep selecting for it, the trait will be lost in about 5 generations.

We plan on having at least one queen cell exchange in late June in W PA, and a mated queen exchange at the August PSBA picnic. An Eastern PA queen cell exchange in July is TBD depending on the E PA clubs level of interest.

I was not able to take notes on the three break out sessions with Ken Hoover, Craig Cella and Jeff Berta with Mark Gingrich.

Next year's conference will be on Friday and Saturday Nov 13 and 14 at the same venue. The theme will probably be something like *Honey Bees as the Poetry of Agriculture*, and the guest speakers will include Dewey Caron, Marla Spavin from Minnesota, and Clare Densely, the head beekeeper at Buckfast Abbey in Devon, England.

Jeremy Barnes

Upcoming Dates To Remember

Deadline for the January 2015 issue of *The Pennsylvania Beekeeper* is December 29th.

Chester Co Beekeepers
Thursday, December 11, 7:00 p.m. at the West Chester Borough Hall, West Chester.

North East PA Beekeepers
Wednesday, January 7, at 7:30 p.m. at 32 Comm St., Honesdale. Contact Charles Kinbar at 570-497-6402, email: purepahoney@gmail.com for more information.

2015 Pennsylvania Farm Show
January 10-17 at the Farm Show Complex, Harrisburg. If interested in volunteering, contact Aaron Fisher at 717-242-4373 or Stu Mathias at 717-533-2231 for more information.

Beginning Beekeeping Workshop
Saturday, February 7 at the Westmoreland Co. Coop. Extension, Greensburg. Hosted by Beaver Valley Area Beekeepers Association. For additional information, call 724-774-3003 or visit the extension website: http://extension.psu.edu/beaver

Beginning Beekeeping Workshop
Saturday, February 7, 8:30 a.m. to 3:30 p.m. at The Gathering Place, Mount Joy, PA. Contact Jim Pinkerton at 717-653-5911 or visit the website: www.lancasterbeekeepers.org

30th Annual Western PA Beekeeping Seminar
Friday & Saturday, February 13-14 at the Four Points Sheraton, Pittsburgh North, Mars, PA. Speakers include Jerry Hayes and Dr. Diana Sammataro. Call 724-774-3003 or visit the extension website: http://extension.psu.edu/beaver to register or for more information.

W.W.B.D. (What would Bill do?)

November 2014

By: Bill Mondjack, Master Beekeeper, Lehigh Valley, PA.

As one of our EAS Certified Master Beekeepers in Pennsylvania, I was asked by PSBA President Charles Vorisek if I would continue writing this column in the P.S.B.A. monthly newsletter. The idea being to answer questions that may arise from our members and to help fellow beekeepers become more proficient in their craft. I agreed to do so as long as I have questions to answer.

First let me say I am NOT a scientist; I am a beekeeper just like you. As all of us know, if you ask 3 beekeepers the same question you will most probably get 5 different answers, so I would like to approach this matter as a Q & A posting as I do with many of our members in the Lehigh Valley Beekeepers Assn., unless I decide to write about a timely issue.

If you have a question you would like to send in, please email it to me at: billzbeez@mondjackapiaries.com with the subject line being WWBD, and I will respond with my opinion as '*what I would do'* if the problem or situation was mine.

Bill Mondjack, Master Beekeeper

Q: Received: Oct. 10, 2014

Hi Bill, hope all is well with you!

Joe is having knee replacement surgery on the 23rd so we were not able to make the banquet or previous meetings. Trying to get things situated around our house for when they send him home from the hospital has made available time very limited.

He is thinking about drilling a small hole in the top deep on each hive (he read about it for circulation and prevention of freezing). If you have the time to respond.... what is your advice?

Thanks and best wishes!

Jeannie Meyers

A: Hi Jeannie,

I wish Joe the best success with his knee surgery and a healthy recovery. I always advise members to turn to the page on our club website: www.lehighvalleybeekeepers.org titled: "Beekeeper Help Info", on this page there are several topics, in this case it would be: "Fall Management". I also recommend the MAAREC link: https://agdev.anr.udel.edu/maarec/ but I will gladly answer any questions sent to me.

As you mentioned, Joe has already read about the upper entrance or ventilation hole. My opinion is: It can't hurt.

I always like to think how honeybees live in nature, usually in the hollowed out center of a tree. In a tree there is usually only one entrance hole and the bees seem to do very well. Inside the tree the colony is surrounded by 'pithy' wood, which will absorb the moisture given off by the bees. In our man-made domestic bee hives with less insulation around and above them the moisture hits the inner which is in direct contact with the outer cover and condenses, dripping down on the cluster causing stress and most likely causing the cluster to freeze. An upper entrance or ventilation hole will help the warm moist air to leave the hive and avoid condensation on the inner cover.

I personally like to place some insulation between the inner and outer covers, I've been using Styrofoam insulation board about ¾" thick. Instead of drilling holes in my hive bodies or supers I prop my outer cover up about a ½" with a small stick or stone. I chose to do this because when I have to close up hives to move for pollination I don't have to remember to plug up the hole drilled near the hand-hold. I hope I've given some insight on your question Jeannie.

Bill Mondjack

The PSBA needs your Help!

Volunteers needed to scoop and serve honey ice cream at our 2 annual events, Farm Show and Ag Progress. The proceeds from the events go directly to support the Pennsylvania Honey Queen program.

The 99th Pennsylvania Farm Show
Harrisburg PA
Janaury 10-17, 2015

Pennsylvania State University
Ag Progress Days
State College PA
August 18-20, 2015

For more information please contact
Aaron Fisher
aaron@fisherbeefarm.com
717-242-4373

The Pennsylvania State Beekeepers' Association represents the interests of the members of Pennsylvania. State dues of $20.00 per year entitle members to the newsletter published ten times per year at Canton, PA, plus other benefits. Anyone 17 and under may become a junior member @ $1.00 per year state dues.

All correspondence should be addressed to: Yvonne Crimbring, 2565 Southside Road, Canton, PA 17724. Phone: 570-673-8201 Email: pabee1@frontier.com

Jeremy's Corner

Rumor has it that an Englishman, flying to Australia, was asked by an Australian immigration official if he had any felonies or convictions. "I didn't know it was still a requirement," he replied.

Many seventeenth and eighteenth century emigrants to Australia did not go by choice, compared with many Europeans (not Africans) who chose to cross the Atlantic to the New World. One hypothesis is that those who made this choice were the risk takers; those who were more cautious stayed behind believing they could accommodate to or co-exist with the dominant religious or governmental paradigms that were causing others to depart.

And the current American society reflects this in that the pace of life is quicker and more finite. Thus checkers replaced chess as the most popular board game, poker v bridge, baseball v cricket. In cricket, a match at the traditional international level lasts for five seven-hour days and often ends in a draw. Indeed, in some circumstances, it is honorable to play for a draw and there is no means of forcing a result - no overtime or sudden death.

I do not have an intimate knowledge of baseball, football or basketball but I am intrigued by the skills of the athletes. As Mark McClusky documents in *Faster, Higher, Stronger* (which is a great read, incidentally) the old presumption was that good athletes had the basic skills, and practice was about getting to work with your teammates. Today, innate athletic ability is the base from which one has to ascend, and with the help science and technology we are witnessing some of the best athletes in history.

There is specific technology for every sport, an example being Nike's Vapor Strobe goggles which periodically cloud over for 1/10th of a second intervals so as to train footballers' eyes to focus in the midst of chaos. Add to this the use of biometric sensors. Chris Hoy, who won two gold medals as a cyclist in the 2012 Olympics, was followed by a team of scientists, nutritionists and engineers who monitored what he ate and how he trained (an $80 000 carbon fibre bike helped too!) and because his competitors were doing the same, he won in both cases by only a fraction of a second.

Novak Djokovic, presently #1 in the tennis world, has a retinue of coaches to cover every skill; Ben Hogan was the first golfer to practice regularly while Tiger Woods introduced a physical training regime, which most professional golfers now follow rigorously. Using computers, chess players today can practice consistently against the grandmasters, and classical musicians routinely play pieces that once were regarded as too difficult for all but a few.

McClusky argues that it is not that the best are so much better as that so many people are so extraordinarily good to the point that the performance curve at the top is flattening out, possibly because we are nearing our biological limits.

In the decades after the Second World War American manufacturers faced little competition; they were profitable but complacent about quality until Japanese products began to mount a significant challenge. In 1969 one third of people who purchased a new American vehicle found it to be unsatisfactory on delivery, and growing up in Rhodesia the first vehicles I knew were European - Citroens, Peugeots, and Renaults - which were considered more reliable. I cannot recall when I saw my first American made vehicle in real time (compared to on TV or as a commercial in a magazine) but I guess I was well in my 30's. Even today, turn on a safari documentary and the chances are the vehicles will be made by Toyota.

Similarly in the 1970's service calls for American-made TV's were five times greater than for Japanese made sets, and the production time in American factories was three times as long.

The Japanese emphasized quality control as part of the process rather than a response to customer complaints. Their ethos is captured by the term *kaizen* or continuous improvement. And the forces of competition as well as an increasing global market compelled American companies to adapt quickly to the point where although products are more complex today they are also more reliable. Before I could own my first car (a Peugeot 203) my father insisted that I knew how to strip and re-build the engine. Today I wouldn't I know where to begin, but the average age of a vehicle on the road is double that of my Peugeot when I first took possession in 1966.

But the catch up is neither easy nor fast. Of the ten vehicles that head the list of most reliable in the November 2014 Consumer Report, only one is US based (Buick) and this is in 6th place.

There are other fields that are still lagging. In an article in the *New Yorker* of Nov 10, 2014, James Surowiecki suggests they include customer service (poorly trained workers,) medicine (high levels of medical errors and wasted spending,) and education (our teacher training programs lag behind those of the rest of the developed world.)

And I would add beekeeping to that list, in two respects. First, reading the *Lancaster Farmer* every week I am struck by the professionalism of the dairy, beef, chicken, sheep and goat industries; they have a professional staff, a coherent policy and an effective marketing campaign. Yes, I know that most of their members are full time producers with larger financial resources, but their industry relies on ours. Without honey bees they could not effectively feed much of their stock. In Pennsylvania we rely on volunteers for our common good and in effect the state organization is as strong as the President who is giving of his or her spare time in any one year. This was brought home when I visited Wales in August and was forcibly struck by the professionalism and presence of advertisements and displays for bees and honey in almost every town we visited; it was no surprise to

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Jeremy's Corner (Continued from Page 17)
stumble on a center from which it was coordinated by full time, professional staff.

The second is that beekeeping, as a whole has not changed much in recent years, despite the challenges of pesticides, diseases, viruses and monocultures. 96% of us are hobbyists; doing the best we can, which is not always good enough for the survival of the bees. For many beekeeping is still the preserve of a quirky, quaint, mildly eccentric minority and, as one way put it, if pilots were allowed to start flying with the same amount of skill that beekeepers start keeping bees, no one would step on to a plane.

And this was why the PSBA Conference at Lewisburg in November was gratifying. There was a real sense of *kaizen*, of self improvement. The speakers were consistently excellent and on point, the information was specific, relevant, and based on current data, the presentations professional and accomplished, the vendors more diverse than in the past, and the conversations around the coffee urns and breakfast tables were sparkling and informative.

The disappointing side is that there are more than 3000 registered beekeepers in Pennsylvania, and more than 500 have signed up this year. The largest turn out in Lewisburg was Saturday morning, with some 150 in the audience, which is about one in every 20 of those who are registered.

So yes, we have our coaches and mentors who can hone our skills and monitor the results, but we have to show up. I'm pleased I was able to be there and know that my 'ladies' will be the better for it.

Jeremy Barnes

Copies of previous columns can be found at honeybeewhisperer.simplesite.com

Reflections on Life and Faith

Rev. Del Keeney

Imagine the life of a worker bee... in the height of the honey flow. She is born, and emerged from the brood comb... only to be thrust into the work that she is made for. She scrambles swiftly into action; beginning her tasks of cleaning, and nursing, and building comb, before she ventures from the have to follow the lead of the scouts who tell her where the pollen and nectar is. In six week's time, about 40 days or so in peak season, she is worn down and soon will die. She cannot see all that her tiny efforts will do to care for the colony. She cannot see the bigger picture. But still she serves faithfully from beginning to end.

Allow me to share some poetic verse about her journey and ours today in this time... feeble but truthful words that I've written to honor God through the lens of my brother's life work...

A Poem in Remembrance of Dennis Keeney, Master Beekeeper

By his brother, Del Keeney, on the occasion of Dennis' death at the age of 60.

A scant six weeks is all she'll see of life now as we know it.
Too short, it seems to mean much at all, yet she will never show it.
A worker bee begins her tour of duty for the colony
With little thought of length of life or of her final destiny.

She only knows what she must do in days and weeks now given
To gather, glean, sip and collect the nectar and the pollen.
Freed from her cell, she takes her place to serve among her sisters
To clean and nurse, build comb and guard and then to gather nectar.

For those who watch with wonder, and ponder her demise,
In six short weeks of working hard, and knowing no reprieve,
Please understand that though she cannot fully know her place;
That in the larger scheme of life, she runs a bigger race.

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A Poem in Remembrance (Continued from Page 19)

In truth, her work among the blooms, in diligence expressed
Transforms a world to fertileness, in ways she cannot guess.
The pollen that will feed her tribe rubs off amidst her travels;
And in that act she feeds the world with fruits and vegetables.

The nectar that she concentrates within her stomach's care
Will soon combine with others gifts in cell and comb and there
It will be shared to serve the hive with sweetness and collect
A storehouse, blessing even us, as the surplus we extract.

So when her weeks of life have run their course and worn her out
She will have left her mark within, of that there is no doubt.
And whether she can know how much her tiny gift contains
There is another who understands and honors all those gains.

It's not the queen, though she herself lives long and works e'en harder,
By laying eggs around the clock and storing up the larder
Of worker bees so there will be a crop of new attendants,
To clean and build and guard the hive, in steps as young ascendants.

No, she perhaps can see a bit from her long years of labor.
But even she cannot perceive all those her work will savor.
No e'n the queen, bred to give birth to children beyond number,
Cannot but know her little world, and serve it without slumber.

There is another One who sees the working of this fam'ly
The toil, the sweat, the steady work to form and cap the honey.
In fact that One who keeps the bees sees all that they are doing,
And understands as no bee can, the wonder they're creating.

So at his best he tends his charge, and guides them as a shepherd.
Providing frame and foundation to shape and aid their effort.
He checks on them to know their health, and nudges when they need it
But mostly, he just helps them do what they do best, unheeded.

The difference that he brings, you see, is not that he will force them
To act and serve a certain way and thus to do it for him.
The keeper of the bees does not demand a way that they must do it.
Instead he knows their gifts and skills and helps them all to prove it.

By seeing larger than they can in their small time of living
The beekeeper can oversee and help them in their giving.
By this, the gifts the bees produce reach out beyond their knowing
And touch the lives of all the world with sweetness and with blessing.

Perhaps we then can understand, when our own lives consid'ring
How what we see is just a glimpse of larger worlds unfolding.
When we work hard in course of time and wonder 'bout our labors.
What they will mean, the mark we leave, and how it all will matter.

May we take heart to know that there is One who oversees us.
That One who knows and cares and tends and brings the best out from us.

We are no hive, nor are we bound in boxes, frames, foundation;
But we are creatures of our God, made to fulfill our station.

It is a purpose that we see in part and comprehend it.
But ul'mately we cannot grasp all that our God intends it.
Especially when we're drawn to see a weary fellow servant
Who dropped before his time and whose departure leaves us vacant.

Unlike the bees who forage on to gather in the nectar,
In our own lives we have to stop and face the loss that is there.
But lest we stay in such a place and linger with our losses,
May we gain insight through the hive, discovering larger causes.

It's not to last forever in our labor and our toiling.
Though sometimes that is all that we can see as we are working.
Our own six weeks or sixty years, whatever we are given
Is just a time to do our part for larger plans of Heaven.

So let us grieve as grieve we must when from our presence taken
A master beekeeper gone too soon from his own diff'rence making,
But let us also comprehend 'least this, as we are hurting:
That God knows more than worker bees, the diff'rence we are making.

We cannot see, don't understand, when such a loss is given.
To us, the outcome seems so wrong, and argue thus with heaven.
But there is One who understands the work that we're engaged in.
And more than that, who sees the plan that leads to our salvation.

That One who looks upon us now, with sadness for our sorrow,
Knows vastly more that we can see of hope for our tomorrow.
And bitter loss that overwhelms us now with questions stirring
Cannot compare to promises awaiting their unfurling.

It is the master Beekeeper and Shepherd watching o'er us
Who knows a larger truth about the life now taken from us.
For what we know as toil and pain and labor in its fullness
Is just the gathering of such that will provide deep sweetness.

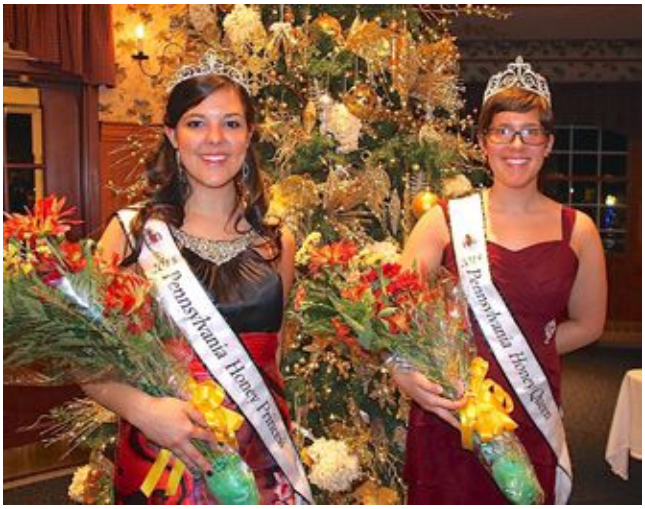
Though we cannot begin to see all that our God intended
May we remember this, and find our hope and faith extended.
The keeper of the bees and all creation that includes us
Knows every gift... and every part... and every need that shapes us.

He counts the hairs on ev'ry head and knows their numeration.
He watches every bee that falls from effort and exhaustion.
He loves the tiny ones that serve to generate the honey;
And he loves the ones who tend their hives to gather in that honey.

You see when all has come to pass in six weeks or in sixty,
The One who tends is One who waits in love when we are sickly.
May that word give us strength to keep on working for his pleasure;
So that we know, when all is done, that we're our Master's treasure.

PA Honey Queen Program Report

The Pennsylvania Honey Queen Program is please to announce that Jessica Onstead was selected at the 2015 Pennsylvania Honey Queen and Blair Hetherington as the 2015 Pennsylvania Honey Princess.



Pictured above (left to right) 2015 PA Honey Princess Blair Hetherington and 2015 PA Honey Queen Jessica Onstead

Jessica, 21, is the daughter of Stephen Onstead and Fritz Onstead of Somerset. She is a graduate of Somerset Area High School and is currently attending The University of Pittsburgh at Johnstown for a degree in Business Economics.

Blair, 20, is the daughter of Barron and Robin Hetherington of Ringtown. She is a graduate of North Schuylkill High School and is currently attending the Pennsylvania State University (Penn State) for a degree in Food Science and a minor in Horticulture.

Both of these young ladies are excited to represent the PSBA during 2015. Make sure to follow their adventures on our Facebook page (PA Honey Queen Program).

We were also honored to hear from 2014 PA Honey Queen, Kaylee Kilgore, and 2014 American Honey Princess, Elena Hoffman, about their travels this year during the PSBA convention. Kaylee is excited to represent the PSBA during the American Honey Queen contest, which will be in Anaheim, Ca. in January.

Requests are coming in for the 2015 promotion year. If you have an event you would like Queen Jessica or Princess Blair to attend, please contact me at honeyqueen@pastatebeekeeper.org or (717) 300-0146.

By Rachel Bryson