Emergency Response Kits

The Bee Informed Partnership at UMD adds a new service to beekeepers experiencing crashing hives that require immediate attention in the form of an ‘Emergency Response Kit’ (ERK). This kit is designed to rule out causes of large scale, suspicious colony loss through small scale sampling. It may not provide a definitive answer as to the cause of colony losses, but rather rules out certain causes. In total, 16 hives are sampled; 8 weak or crashing colonies and 8 healthy colonies. Live bees are tested for viral loads, and each of the 16 hives are sampled on the individual level to determine Nosema and Varroa levels at UMD. If desired, the beekeeper can gather pollen from hives and for pesticide analysis at additional cost.

Bee Informed Hive Scale

We have been working with vendors and our colleagues at Grand Valley State University to develop a BIP Hive Scale for beekeepers and beekeeping clubs to gather and use valuable data from their own hives. These data will be helpful in making timely and educated management decisions. We currently have them available for purchase this summer. This is a continuation of our collaborative effort with the HoneyBeeNet, a NASA Goddard Flight Center-initiated project that tracks hive weight gains and losses to better understand how climate and land use/land cover changes affect the nectar flows. Hive Scales will be available to purchase at: www.BrushyMountainBeeFarm.com/BIP.asp

Real Time Disease Load Monitoring

Our long term goal to reduce honey bee colony losses is advanced with the launch of our Real Time Disease Load Monitoring. This monitoring is intended for beekeepers who are interested in following Nosema and Varroa mite levels over time. Standardized sampling kits are provided to participating beekeepers and participants sample the same 8 colonies every month over the course of their active season. These monitoring data are combined with historical records to generate basic summaries of disease and parasite population trends, permitting beekeepers to compare their pathogen levels to historic seasonal levels and to current levels in their region. This information is extremely useful to beekeepers when making treatment decisions and when determining if current treatments are effective. It also allows us to link management practices to disease and mortality levels.

Bee Informed Tech Teams

Our five tech teams are in the field year round working with commercial beekeepers throughout the country to provide them with critical diagnostic health data to help them make management decisions that will affect beekeepers nationwide. Our tech teams include our northern California team who work with queen breeders in that area, Midwest honey producers, Florida migratory beekeepers (including Georgia queen breeders), Pacific northwest migratory beekeepers and seed pollinators, and Hawaii queen producers.

Join us in Next Year’s Survey!

Go to BeInformed.org & click the “Sign Up to Participate!” button.
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The EAS Journal, Spring 2014

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We would like to thank Penelope Malish for donating graphic design services for the Journal.
With President Obama focusing attention on pollinator declines on June 20, the last day of Pollinator Awareness Week, it seemed appropriate to remind people that Eastern Kentucky University and Berea College will co-host the Eastern Apicultural Society conference from July 28-August 1, 2014. The EAS conference is an international venue that features high-caliber apicultural researchers, an apiary, a lab, and a series of social events in the evenings. There will be a vendor show comprised of the major bee supply companies such as Dadant’s (Frankfort, KY) and Walter T. Kelley’s (Clarkson, KY), as well as others throughout the nation. This EAS conference is scheduled 100 years after the Smith-Lever Act of 1914, which made agriculture extension and outreach a federal and state priority. The theme is “Esprit de Bee,” to pay tribute to Kentucky’s National Guard Agriculture Development Teams, specifically their apiculture leadership. There is a modest registration fee. If attendees pre-register by July 11, the registration works out to approximately $50 a day. Details can be found at www.easternapiculture.org. EAS membership is $25.00 per family.

On Monday, July 28, Dr. Subba Reddy Palli (University of Kentucky Department of Entomology) and Jerry Hayes (Monsanto and former Florida State Inspector Director) will engage in a conversation about RNAi technology and how beekeepers may find new tools available that would help them reduce pesticides in their beehives. This talk is free and open to the community. It will be at EKU’s Crabbe Library, Room 108, at 7 p.m.

Social events feature Lexington’s own Abigail Keam, a renowned best-selling mystery writer, reading from her first book, Death by Honeybee, on July 29. A mead-tasting and bee book-signing by other authors will be included that evening.

Since honey bees dance, EAS will have a Square/Contra Dance featuring the Reel World String Band, Frank Jenkins as caller, on Wednesday, July 30. Athenian Grill will cater the event (tickets need to be prepurchased).

Berea College will cohost events related to the EAS conference. The Berea College Farm Store will have an exhibit of extension agent and beekeeper Robert Spence’s travel journals. Boone Tavern will offer a honey-themed lunch on Thursday, July 31 (reservation must be made in advance). Sarah Red-Laird will coordinate a one-day Bee Camp for children. The Kentucky State Beekeepers Association will have its summer meet on Saturday, August 2, at Berea College, in effect bringing the festivities to a close. The KSBA Summer Meet is free to members.

A 19th-century beekeeper named Lucinda Harrison spoke eloquently about the importance of bee conferences. Speaking specifically to women who may have hesitated about conference costs in 1885, she offered the following pragmatic encouragement, “The cost would be no more than that of a new dress, which a woman of ingenuity could do without by renovating her old ones.” The benefit, she argued, is simple, “A dress would soon be worn out, but the rich food for thought would be fresh and bright throughout life.”

Tammy Horn, President, EAS

Tammy Horn is president of the Eastern Apicultural Society of North America and has recently become the Kentucky State Apiarist. You can find her all over Eastern Kentucky University (EKU) the last week of July, making sure speakers start and end on time, tuning up a fiddle, dropping a stitch here and there, and basically being a bundle of joy and welcome--representing the Kentucky hospitality. Contact her at Tammy.horn@ky.gov or tammy.horn@eku.edu.
In the biology of the honey bee (Apis mellifera L.), swarming specifically describes a particular activity or event where a large number of honey bees leave a hive with a queen to establish a new colony. This collection of bees is called a swarm. The swarming process benefits the continuation of the genetics of reproductively successful colonies that have adapted and prospered well enough to support swarm generation. In some races of honey bees, however, swarming is also a method of survival the colony uses to move to areas where nectar and pollen are more prevalent or to avoid negative or oppressive influences present in their hives. These are absconding swarms and their function, though different, is also essential to keeping the colony alive.

In early beekeeping, prior to the development of the modern movable frame hive, beekeepers kept bees in skeps, clay pots, gum logs and box hives. Humans often killed bees in these instances, to harvest the honey. Swarming was essential to the early beekeeper in order to replace these destroyed colonies or to add additional colonies. Natural swarming was absolutely required for beekeeping to be sustainable. Today, swarming is controlled to a certain extent by the beekeeper and the undesirable destruction of a colony during harvest is avoided with modern equipment and techniques. Additionally, increase colonies or splits can be made by the beekeeper, both to consciously increase a beekeeper’s colony holdings and in an effort to reduce the odds of swarming, which is often viewed as an unnecessary expense of colony resources.

Beekeepers ask, "What causes honey bee colonies to swarm?" and "How do I manage swarming in my hive?" An understanding of swarming biology can answer these questions and help a beekeeper to manage the swarming instinct and care for captured swarms. In a healthy, overwintered colony, the queen produces a large number of fertilized eggs (from 1200 to 2500 a day, average of 1500 eggs per day) which develop into female workers. Under certain conditions, healthy queens will also lay unfertilized eggs that instead develop into drones, the males. Various factors combine to stimulate a colony to swarm, sometimes collectively referred to as swarming pressures, including the presence of large numbers of bees, abundant brood, abundant stores of food and the presence of new queen cells. New queen cells are often produced when there is congestion in the brood nest and a reduction in the concentration of queen pheromone. The queen herself monitors this concentration and is stimulated to start swarm cell production by laying eggs into unique cell cups. While swarms may develop at any time, they appear most commonly at peak foraging time in spring and also in the late summer when a new group of flowers stimulate colony growth.

Swarming provides an opportunity for the species to expand its genetic representation through a daughter queen, reared back at the original colony site, while spreading their genes to encompass new territory and resources under the original queen as she builds up the new colony. The swarming process, however, is a very risky event for the hive. Research conducted at Cornell University, suggests that more than 80 percent of all swarms fail to survive their first winter. Even if the newly founded hive survives, the original hive may die if it fails to develop a new, viable queen to replace the departed queen.

Losing a swarm may evoke feelings of failure from some beekeepers if it issues from your own apiary, but capturing a swarm is a measure of great success. Catching a swarm is often viewed as a transition from a new beekeeper to one with more experience under the veil. Swarming is exciting and isn’t something to fear; instead, it is something to appreciate and respect. The behavior of a swarm of honey bees, and the colony’s preparations that lead up to a swarm issuing from the hive, give us a wonderful opportunity to study this marvel of Nature.
If you find a swarm at rest, take a few minutes to watch the activities of bees in the cluster. You will see bees with pollen who got caught up with the departing swarm as it left the hive, several returning scouts dancing to indicate potential new homes, and bees that patiently await the swarm’s next move. Look at the swarm as a whole and you will see a fascinating, complex organism that is in the process of making decisions of where to go, when to go, and how to get there, often in the blink of an eye.

Most reproductive swarming takes place in mid-spring in temperate areas of the United States. Honey bee swarming is a process that colonies go through to divide one colony into two or more independent units, as the season allows. It provides a reduction or break in the brood cycle as would any re-queening event. An obvious benefit of breaking the brood cycle is that many hive ailments, such as varroa mites, European foulbrood and sacbrood are reduced when a hive has a break in the brood cycle. From a beekeeper’s perspective, swarming represents an opportunity for self-education. In order for beekeepers to understand how to manage or deal with the swarming instinct of honey bee colonies, they must understand the biological processes that take place within the hive. Awareness of these processes deepens beekeepers’ understanding of the colony and its management as one unit (the colony), consisting of thousands of individual units (the bees), and clarifies this understanding by putting into practice the principles of swarm management. It also helps a beekeeper understand that, once a colony has initiated its impulse to swarm, it is almost impossible to reverse this behavior. Even with some management in a colony in which swarming has been initiated; it can be difficult to stop, but having an understanding of the swarming behaviors vastly improves your odds of successful swarm management.

The number of times a colony swarms is also determined by the action or actions of the queen and developing virgin queens inside the hive. A colony of honey bees in equilibrium consists of one queen and many workers and drones. During swarm season, that equilibrium is thrown off by the production of multiple queens. In order to regain equilibrium, queen elimination must take place. A study by Drs. David Gilley and David Tarpy discusses these mechanisms and how the colony regains its one queen status. During swarm season a colony produces multiple queen cells. Once the primary swarm issues with the original mated queen there is an imbalance of queens inside. In order to regain this balance one mechanism of balancing the colony is via “queen-queen duels” where virgin queens will battle each other until one of the virgin queens is killed. This leaves the colony with one queen to head the colony. Another mechanism used is “secondary swarm departure”. These secondary or afterswarms depart with less workers but can contain multiple virgin queens. Work by Seeley suggests that survival rates amongst secondary swarms are low and therefore, these secondary swarms
are a method of queen elimination. All of these mechanisms can have an impact on how many times and how frequently colonies will swarm.

Beekeepers disagree if having a swarm issue from a hive will reduce or eliminate surplus honey production for that hive. There are several variables that dictate this, such as strength of nectar flow, the size of the swarm, and the number of swarms a colony issues. When swarming peaks in early June in western Pennsylvania, the nectar flow is two-thirds over and a colony may not recover enough of the population in time to produce much, if any, surplus honey. In a more northern location, like Michigan, a single swarm can result in a loss of a honey crop in some years, while in other locations, a swarm adjusts the bee population for flows that continue into August. The answer to the question of whether or not swarming will affect the honey harvest depends on the nectar sources and how long nectar-producing flowers remain in bloom that year. On the other side of that discussion, a swarming colony provides a much needed break in the brood cycle, which reduces potentially high varroa mite load. Subsequently, there is no easy answer as to whether the effects of swarming will be a net positive or negative impact.

Swarming usually leads to a freshly mated, vigorously laying queen in the parent colony. Swarm colonies are ready to build comb and grow colony size at a rapid rate and are a perfect way to increase the number of colonies you manage. They are ideal for new comb production as bee gorge on honey when they leave the hive. Stored in the pre-digestive part of the alimentary canal called the honey stomach, honey is vital to the production of comb. The abundance of honey in swarming workers prime them for comb construction.

Once a colony swarms, it will be about six weeks before the first brood of the new queen emerges, stunting the colony growth, pollen and nectar gathering and optimum pollination efficiency. In urban and suburban neighborhoods, swarms can result in hysteria if observed by those not familiar with honey bees. Beekeepers often receive calls from police or fire departments requesting assistance with a large, menacing swarm of bees that appeared out of nowhere! A good beekeeper must turn that episode into a teaching opportunity for those involved.

Successful swarms will quite often swarm their second season and usually produce multiple swarms in a short time period. This huge investment by the parent colony is offset by the low percentage of success of these swarms that survive to reach their first anniversary—about 16 percent, based upon work by Seeley and others. Once these swarms reach the one-year mark, their success rate is usually much higher and they become swarm generators the next season or two. But what if the founding colony produces a swarm that does NOT reach its first anniversary? Does that mean that the colony has failed to support future growth of the bee population in the ecosystem? It seems reasonable that even failed colonies continue to benefit future bee settlement, even in death. Why? Because the nest or cavity they prepared and have built extensive amounts of beeswax comb still remains in the nest. The successful founding colony may survive for several years, and continue to generate swarms most years during this time period. Some of these subsequent swarms, the younger sisters of the failed swarm, will benefit by discovering the nest of older ‘sister swarm cavities’ that have died, often of winter starvation. It is an intriguing idea that parent colonies in an ecosystem continue to generate swarms over several years, as shown by Tom Seeley’s research, and there is a benefit to the long term survival of the honey bee species by these shared colony sites.

This is just a small portion of Stephen Repasky’s newly released book Swarm Essentials. Swarm Essentials outlines the ramifications of swarming behavior (highlighting the often overlooked benefits), proven prevention and management techniques, and how to recover and even prosper from a successful swarm attempt. It can be purchased by sending a check for $23, payable to Steve Repasky, 3109 Pioneer Ave, Pittsburgh, PA 15226. Or order online: https://squareup.com/market/meadow-sweet-apiaries/swarm-essentials-book
## EAS 2014 Conference Information

### EAS 2014 Registration Schedule

<table>
<thead>
<tr>
<th></th>
<th>New Science Building</th>
<th>Brock Auditorium (Walk-ins Only)</th>
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</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>3:00 p.m.– 7:00 p.m.</td>
<td></td>
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<tr>
<td>Monday</td>
<td>8:00 a.m.– 4:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>8:00 a.m.– 5:00 p.m.</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>8:00 a.m.– 5:00 p.m.</td>
<td>8:00 a.m.– 11:00 a.m.</td>
</tr>
<tr>
<td>Thursday</td>
<td>8:00 a.m.– 5:00 p.m.</td>
<td>8:00 a.m.– 11:00 a.m.</td>
</tr>
<tr>
<td>Friday</td>
<td>8:00 a.m.– Noon</td>
<td>8:00 a.m.– 11:00 a.m.</td>
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</table>

Dorm check-in is from 3:00– 9:00 p.m. at New Residence Hall or Burnam Hall. Go directly to either residence hall for dormitory check-in if registration is closed.

Dorm check-out is from 8:00– 11:00 a.m.

Please return your meal card, keys, and fobs before you leave campus; you will be billed $30 to replace each item that is not returned.

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### EAS 2014 Society Meeting Schedule

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAS Board of Directors’ Meeting</td>
<td>Tuesday</td>
<td>Noon-1:30 p.m.</td>
<td>Regents Dining Room</td>
</tr>
<tr>
<td><em>Long Term Budget Plan</em> Requires Tuesday lunch ticket</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAS Board of Directors’ Meeting</td>
<td>Wednesday</td>
<td>Noon-1:30 p.m.</td>
<td>Regents Dining Room</td>
</tr>
<tr>
<td>Requires Wednesday lunch ticket</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Members Banquet</td>
<td>Thursday</td>
<td>Noon-1:30 p.m.</td>
<td>Regents Dining Room</td>
</tr>
<tr>
<td>Requires Thursday lunch ticket.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAS Annual Business Meeting</td>
<td>Friday</td>
<td>11:00 a.m.– Noon</td>
<td>Brock Auditorium</td>
</tr>
<tr>
<td><em>Everyone is encouraged to attend.</em></td>
<td></td>
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</tr>
</tbody>
</table>

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**Park in the commuter lot above the New Science Building.**

**Lost? Call or text 267-372-4788.**

**EKU Police are located at Mattox Hall, 859-622-1111.**
### EAS 2014 Master Beekeeper Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet and Greet Candidates</td>
<td>Monday</td>
<td>1:30 p.m.–2:30 p.m.</td>
<td>NSB 4112</td>
</tr>
<tr>
<td>Exam Study Groups</td>
<td>Monday</td>
<td>2:30 p.m.–4:00 p.m.</td>
<td>NSB 4112</td>
</tr>
<tr>
<td>MB Exam Volunteers’ Dinner</td>
<td>Monday</td>
<td>5:00 p.m.–7:00 p.m.</td>
<td>Casa Fiesta Mexican Restaurant</td>
</tr>
<tr>
<td>Exam Review</td>
<td>Monday</td>
<td>7:00 p.m.–9:00 p.m.</td>
<td>Crabbe Library 128</td>
</tr>
<tr>
<td>Written Exams</td>
<td>Tuesday</td>
<td>8:30 a.m.–12:30 p.m.</td>
<td>NSB 4112</td>
</tr>
<tr>
<td>Oral Exams</td>
<td>Tuesday</td>
<td>10:00 a.m.–12:30 p.m.</td>
<td>TBA</td>
</tr>
<tr>
<td>Lab Exams</td>
<td>Wednesday</td>
<td>8:30 p.m.–12:30 p.m.</td>
<td>NSB 4112</td>
</tr>
<tr>
<td>Field Exams</td>
<td>Wednesday</td>
<td>10:00 a.m.–12:30 p.m.</td>
<td>Beeyard</td>
</tr>
<tr>
<td>Annual Meeting (Requires Friday lunch ticket)</td>
<td>Friday</td>
<td>noon–1:30 p.m.</td>
<td>Regents Dining Room</td>
</tr>
<tr>
<td>Exam Review (Candidates receive scores and get questions answered.)</td>
<td>Friday</td>
<td>3:00 p.m.–5:00 p.m.</td>
<td>NSB 4112</td>
</tr>
</tbody>
</table>


### EAS 2014 Annual Honey Show Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop Off Show Entries</td>
<td>Tuesday</td>
<td>1:30-4:30 p.m.</td>
<td>New Science Building</td>
</tr>
<tr>
<td>New Science Building Registration Area</td>
<td></td>
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</tr>
<tr>
<td>Top Awards Presentation</td>
<td>Thursday</td>
<td>Evening Fish Fry, Auction, and Honey Show Awards Social</td>
<td>New Science Building</td>
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<tr>
<td></td>
<td></td>
<td>7:00-9:30 p.m.</td>
<td></td>
</tr>
<tr>
<td>Show Open to Public</td>
<td>Thursday</td>
<td>1:30-5:00 p.m.</td>
<td>New Science Building</td>
</tr>
<tr>
<td>Post-Show Pick Up of Entries</td>
<td>Friday</td>
<td>After 3:00 p.m.</td>
<td>New Science Building</td>
</tr>
</tbody>
</table>

Friday
9:00 a.m.–3:00 p.m.
Robert F. Spence: Beekeeping in Southern Madison and Rockcastle Counties in the Early 20th Century

Robert F. Spence was hired as the county agent for Southern Madison and Rockcastle Counties in 1914 and remained the agent for the same region for forty years, until his retirement in 1954. Mr. Spence holds a record for the longest reign as county agent.

Hutchins Library at Berea College is proud to be the depository of Robert Spence’s archives. Mr. Spence’s hand-typed, photo-illustrated, and bound annual reports are a unique and detailed history of the Federal Government’s “Farm Demonstrator Program” from its onset until his retirement.

As the Eastern Apicultural Society (EAS) will hold their annual convention in Richmond, Kentucky from July 28 – August 1, Tammy Horn is putting together an exhibit of his writings, logs, and photographs to be on display at Berea College during the convention.

Spence’s earliest entries regarding beekeeping were when he brought Mr. H.R. Niswonger to his region to display beekeeping practices and techniques to his region. Niswonger was the author of *Elements of Beekeeping* (1910), which is still in print.

In the early 1920s, Spence convinced Rockcastle and Madison county farmers to sow their field in sweet white clover as an experiment in nitrogen fixing. It was soon discovered that this crop increased the honey production in the few colonies of bees kept by local farmers. He then encouraged local farmers to keep bees and instigated the state’s first 4-H beekeeping program.

The exhibit will center around Robert Spence’s notes, photographs from his reports and journals, as well as photographs of Coleman Isaac Ogg, who often accompanied Spence on his area demonstrations.

Early to mid century beekeeping artifacts, as well as books and video recordings from the Hutchins Library collection, will also be on display.

The Hutchins Library at Berea College is located only 14 miles from Eastern Kentucky University (EKU), where the main part of EAS 2014 will be held.
On Tuesday, July 29, marketing specialists from the Kentucky Department of Agriculture (KDA), Office of Marketing will be on hand to assist farmers who have yet to sign up for the programs with registering. Kentucky Proud is the Commonwealth’s official agriculture marketing program for products produced or processed in the state. Kentucky Proud is administrated by the KDA. The program is free for eligible members, which currently stands at over 3,000, and affords them the opportunity to use the logo on their products, marketing materials, and the like. The program also offers members at-cost marketing materials, access to the KY Proud marketing website, and, for members who produce or use 100% Kentucky grown products, various marketing grants. Additionally, farmers who served in any branch of the US military are eligible to join the Homegrown By Heroes program, and farmers from Eastern Kentucky are eligible to join the Appalachian Proud program. Like Kentucky Proud, both are free for eligible members. To learn more about these programs, please visit www.kyproud.com or www.kyproud.com/veterans. On Tuesday, July 29, marketing specialists from the KDA Office of Marketing will be on hand to assist farmers who have yet to sign up for the programs with registering.

The Art of Insect Illustration is on loan to EKU for the EAS conference from the Art Museum at the University of Kentucky. This temporary exhibit features a group of technical drawings that were created a century ago by W. C. Matthews, a staff member who was hired to illustrate our scientists’ professional publications.

In the days before digital microphotography, scientists depended on artists like Matthews to provide detailed likenesses of insects and other organisms. These illustrations were reproduced in journal articles, books, and field guides, and aided in the quick and accurate identification of specimens. Although it is considered something of a dying art, scientific illustration is still taught and practiced today, and many scientists and naturalists prefer illustrations to photographs because of their clean, detailed, and neutral presentations.

On display in the new exhibit are familiar Kentucky insects, like the Viceroy (our state butterfly) and a June beetle. Joining them are strange, cryptic creatures like horse fly larvae and thorn-like treehoppers. You will also find the complete life cycles of several insects, including the pestiferous black fly, the beautiful Virginia creeper sphinx moth, and the larval, pupal, and adult stages of both the worker and queen honey bee. Joining the insects are a few insect-relatives, including the Giant Leopard Slug, Limax maximus. There is also an interactive component to the exhibit: on hand are pinned insect specimens and art supplies that artists (young and old) can use to practice insect illustration.

Although Matthews’ illustrations were created for scientific purposes, we think that they have aesthetic value as well. The Art Museum agrees. But are they really art? You will have to come to the exhibit and judge for yourself. Certainly, they are fascinating to see, and they provide a unique (and exquisitely detailed) glimpse into our department’s past.

EAS is looking for auction items for the Silent and Live Auctions

Perhaps you would like to donate a week at your summer home or a trip on your yacht, hot air balloon, jet, or horse. What would your organization bid for a visit and lecture by Tammy Horn or Jennifer Berry? Or perhaps you would bid to have the EAS board member of your choice extract all of your honey for you?

Bid on beautiful quilts, a custom hat veil, or an online Beekeeping Class, hosted by Maryann Frazer.

What about a stay on an oceanfront condo on the North Shore of Oahu? On the auction block is a five-day stay at a one bedroom with queen and a queen sleeper couch. Sleeps 4 comfortably. Totally renovated in 2007. Condo unit has a pool. Fronts on the ocean with a gorgeous beach, good for swimming, playing or snorkeling. Donor promises to throw in a list of things to see and do on the island. Only 30 minutes from Honolulu and the airport.

Yes, bring money — many of these auction items are one-of-a-kind!
To Do List for EAS 2014 Kentucky

1. Please bring a veil, sunscreen, and umbrella.
2. If you are staying in the dorm, bring pillows, sheets, blankets, slippers, towels, wash cloths, and soap. (The dorms are much newer than EAS 2013. The configuration is in suites—either a shared bath between two bedrooms or a quad with four bedrooms, a shared living space, and a shared bathroom.) No linens will be provided.
4. If you get lost (or somehow decide that it would be great to show up at 3:00 in the morning), call or text 267-372-4788, and a very groggy person will help you find your way.
5. If you arrive at Eastern Kentucky University after registration is closed and you are registered to stay in the dorms, please go directly to either Burnam Hall or New Residence Hall.
6. Bring money, lot’s of money. The vendors have an array of must-have bee supplies and books. And save some funds for the Silent and Live Auctions.
7. Don’t forget your honey. Yes Kentucky is for lovers.
8. Don’t forget jars of honey for the popular honey exchange. (Drop-off-a-jar and take-a-ticket, then on Friday, pickup-a-different-jar.)
9. There are fantastic prizes, ribbons, silver plates, and a grand prize silver cup for the Honey Show, so bring your finest honeys, wax products, pictures, and gadgets.
10. Bring a bottle of mead to share/contribute for the Tuesday night mead-tasting.
11. Bring copies of books which you want authors to sign.
12. Don’t forget the prizes for the Wednesday Square Dance outfits! The theme is Esprit de Bee.

Directions to the New Science Building at EAS 2014

- Leave I-75 at exit 87 and proceed east toward EKU on Highway 876
- Note crossing of Lancaster Avenue at Stoplight #5
- Pass Alumni Coliseum on the left at Stoplight #6
- Turn left onto Roy Kidd Way at Stoplight #7
- Turn right at next signal and follow John Hanlon Drive to the left
- Enter parking area with New Science Building on the left and park in Brockton Commuter Lot to the right

Directions to the New Dorm:

- Leave I-75 at exit 87 and proceed east toward EKU on Highway 876
- Note crossing of Lancaster Avenue at Stoplight #5
- Pass Alumni Coliseum on the left at Stoplight #6
- Turn left onto Roy Kidd Way at Stoplight #7
- Roy Kidd Way winds around campus, but stay on this road through two stop lights. The New Dorm will be on the right, and parking will be directly behind the New Dorm (area considered Brockton Lot)
- Enter parking area with New Science Building on the left and park in Brockton Commuter Lot to the right

Directions to Burnam Hall:

- Leave I-75 at exit 87 and proceed east toward EKU on Highway 876
- Turn left on Lancaster Avenue at Stoplight #5
- Drive through one stoplight
- Turn right onto University Drive
- Burnam Hall is on the right after you pass Crabbe Library (on the right) and Keen Johnson Building (on the right). The road will curve to the left, and then you will need to turn right into the Burnam Parking lot.

Some EAS Kentucky Additions and Highlights

- Boone Tavern Pastry Chef Liz Denham will replace Chef David Poulton. Her dish will be Honey and Lavender Panna Cotta. Samples and recipe cards will be distributed.
- Please everyone! Go to Hope Johnson’s booth and sign the Hexbee Quilt that she’s donating to the EAS 2014 Auction. We want every attendee to have a chance to sign the quilt. Hope will provide the fabric pens.

EAS 2014 Kentucky Registration Is Still OPEN

Although we no longer have dorm rooms or lunches available, registration is still open. Walk-ins encouraged. Plenty of fast and slow restaurants are just off campus. Hotels are available. Y’all come on down.

If you have a question, look for the EAS Kentucky volunteers; they are wearing blue shirts and beige caps.
2014 Short Course/Conference Registration Form

ATTENTION: You may register on-line with a credit card at www.easternapiculture.org. If you are registering by mail, WE MUST RECEIVE YOUR FORM BEFORE JULY 11, 2014. After that date, you may still register on-line or during the conference. However, dorm rooms, meals, and special events will not be available after July 11, 2014. Visit www.easternapiculture.org for up-to-date availability.

If you are a speaker, please enter your Speaker Code

First Name(s) ______________________________________ Last Name ________________________________
Address _________________________________________________________ City ____________________________
State/Prov ________________ Zip/Post Code ___________________________ Country ____________________________
Phone ________________________ E-mail ___________________________________ @ __________________________

EMERGENCY CONTACT
1. Contact Person: ____________________________________________ Phone: ____________________

EAS DUES – must be current to attend this conference. (Dues include entire family.)

☐ Dues Are Current  ☐ $25 Annual  ☐ $45 / 2-Year  ☐ $65 / 3-Year  ☐ $250 Life Membership $ _________

Do you want to receive the quarterly EAS Journal by email? ☐ or by postal mail (available for annual membership only)? ☐

REGISTRATION
3. SHORT COURSE & CONFERENCE
   All five days for one price!
   Name(s) __________________________________________________________
   # of people ___ X $250 = $ _________

4. SHORT COURSE Only
   Three Days Course (Mon–Wed, July 28–30)
   Name(s) __________________________________________________________
   # of people ___ X $175 = $ _________

5. CONFERENCE Only
   Three Days Conference (Wed–Fri, July 30–August 1)
   Name(s) __________________________________________________________
   # of people ___ X $175 = $ _________

6. SINGLE DAY FEE (Please specify days) ☐ Mon ☐ Tues ☐ Wed ☐ Thur ☐ Fri
   # of days ___ X # of people ___ X $65 =  $ _________
   Name(s) __________________________________________________________

7. STUDENT FEE (Please specify days) ☐ Mon ☐ Tues ☐ Wed ☐ Thur ☐ Fri
   Show high school or college ID at registration. Students under 18 must be accompanied by an adult.
   # of days ___ X # of people ___ X $25 =  $ _________
   Name(s) __________________________________________________________

SPECIAL SHORT COURSE OPTIONS (Included in Short Course—No extra charge.)

I plan to bring _____ entries for the Honey Show.

I want to register for the Queen Production Workshop during the Short Course. Registrants must commit to attend both Monday and Tuesday, July 28 and July 29. (Class size is limited to 25 attendees.)

Put my name on the list: (Sold Out)

BREAKFAST & LUNCH (No Longer Available)

Page 1 Subtotal  (Sum up the values in the lines above.) $ _________
DORM ROOMS (No Longer Available)

SPECIAL EVENTS (No Longer Available)

CHARITABLE DONATIONS (EAS is a 501(c)(3) nonprofit organization.)
17. Donation to Honey Bee Research Fund (help us help honey bees) $________
18. Donation to Speaker & Education Fund (help us help beekeepers) $________

Page 2 Subtotal (Sum up the values in the lines above) $________
Page 1 Subtotal $________
GRAND TOTAL (Sum of Page 1 & 2 Subtotals) $________

Please list any suggestions or restrictions that we should know about to ensure an enjoyable experience at EAS 2014. Be sure to include any special requirements for dorm accommodations. (All meals and special events already have vegetarian options on the buffet or as an entrée selection.)

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

Mail this form with check, made payable to EAS 2014, or credit card information to:

EAS 2014 Registration, Lou Naylor, 209 Hickory Lane, Moorestown, NJ 08057

Name on Card ________________________________
Master Card or VISA # ________________________________
Expiration Date ____/____ 3-digit code on back of card ____________
Signature _______________________________________

You can also register online with a credit card at www.easternapiculture.org!

Registration questions? Email registrar@easternapiculture.org, or call Lou at 856-234-1799 (8am–8pm Eastern Time).
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 AM</td>
<td>Auxiliary Gym</td>
<td>ZumBEE (sponsored by Overland Honey)</td>
</tr>
<tr>
<td>7:00 - 8:00 AM</td>
<td>Powell Dining</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8:00 - 8:30 AM</td>
<td>New Science Building</td>
<td>Registration</td>
</tr>
<tr>
<td>8:30 - 8:50 AM</td>
<td>New Science Building</td>
<td>Welcome to Eastern Apicultural Society and Eastern Kentucky University</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Beginners Classroom</th>
<th>Advanced Classroom</th>
<th>LAB (12 per Class)</th>
<th>Queen Course</th>
<th>Apiary Hopkins/Keller</th>
<th>Honey Show</th>
<th>Master Beekeepers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>Outside NSB</td>
<td>NSB Lobby</td>
</tr>
<tr>
<td>9:00 - 9:50 AM</td>
<td>Breakout Session #1</td>
<td>Bee Biology for New Beekeepers</td>
<td>Advanced Honey Bee Biology</td>
<td>Wyatt Magnum</td>
<td>Digestive System of Honey Bees</td>
<td>Marty Matisoff</td>
</tr>
<tr>
<td>10:00 - 10:50 AM</td>
<td>Breakout Session #2</td>
<td>Seasonal Hive Management</td>
<td>Honey Bee Pheromones</td>
<td>Maryann Frazier</td>
<td>Mite Anatomy</td>
<td>Diana Sammataro</td>
</tr>
<tr>
<td>10:50 - 11:00 AM</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:50 AM</td>
<td>Breakout Session #3</td>
<td>Common Honey Bee Diseases</td>
<td>Tom Webster</td>
<td>Pesticides Management</td>
<td>Les Eccles</td>
<td>Basic Microscopy for Beginners</td>
</tr>
<tr>
<td>Noon - 1:30 PM</td>
<td>Powell Dining</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30 - 2:30 PM</td>
<td>Breakout Session #4</td>
<td>Honey Bee Nutrition</td>
<td>Diana Sammataro</td>
<td>Nicotiana apis, Hybrid Plant for Foraging Pollinators</td>
<td>Rich Mundell</td>
<td>Pollen Identification</td>
</tr>
<tr>
<td>2:30 - 3:00 PM</td>
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<td></td>
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</tr>
<tr>
<td>3:00 - 4:00 PM</td>
<td>Breakout Session #5</td>
<td>Common Honey Bee Pests and Parasites</td>
<td>Ernesto Guzman</td>
<td>Honey Bee Queen Biology</td>
<td>Jeff Harris</td>
<td>Nosema</td>
</tr>
<tr>
<td>5:00 - 7:00 PM</td>
<td></td>
<td>Dinner at local Restaurants (check sponsoring establishments)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 - 9:00 PM</td>
<td>Location TBA</td>
<td>Latest Developments in RNA interference Technology, Dr. S.R. Palli, University of KY Entomologist, &amp; Gerald Hayes, Monsanto Inc. Open to Community</td>
<td>Master Beekeepers Exam Review</td>
<td></td>
<td></td>
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</tbody>
</table>
### 2014 EAS SHORT COURSE Tuesday, July 29, 2014 (Subject to Change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Auxiliary Gym</th>
<th>Powell Dining</th>
<th>New Science Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 AM</td>
<td>ZumBEE (sponsored by Overland Honey)</td>
<td>Breakfast</td>
<td>Starts 8:30 AM</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Registration</td>
</tr>
</tbody>
</table>

#### Breakout Session #1
- **9:00 - 9:50 AM**
  - Honey Bee Queen Biology: Jeff Harris
  - Small Hive Beetle: Phil Craft
  - Bee Anatomy: Marty Matsoff
  - What You Will Need: Equipment and Instructions for Starting with Queens: Jennifer Berry
  - Finding Queens in Top Bar Hives: Christy Hemenway

#### Breakout Session #2
- **10:00 - 10:50 AM**
  - Beekeeping in Town and Urban Areas: Tom Webster
  - Varroa Mite Controls: Ernesto Guzman
  - Advanced Honey Bee Anatomy and Necropsy: Don Coats
  - Learn How to Graft: Hands on Grafting Session: Jennifer Berry
  - What Do Your Hives Tell You?: Basic Hive Inspection: Maryann Frazier

#### Breakout Session #3
- **11:00 - 11:45 AM**
  - Top-Bar Hive Beekeeping: Wyatt Magnum
  - From Hobby to Commercial Beekeeping: Rick Sutton
  - Mite Anatomy: Diana Sammataro
  - Learn How to Graft: Hands on Grafting Session: Jennifer Berry
  - Visual Identification of Diseases in the Hive: Don Hopkins

#### Breakout Session #4
- **1:30 - 2:30 PM**
  - Common Queen Problems: Jeff Harris
  - Managing Bees for Honey Production: Ed Holcombe
  - Nosema: Tom Webster
  - Resistance Queens: Jennifer Berry
  - Setting Up Mating/Nuc Colonies & Marking Queens: Hopkins/Keller

#### Breakout Session #5
- **3:00 - 4:00 PM**
  - Overwintering: Ernesto Guzman
  - Marketing honey: Rick Sutton
  - Trachael Mites: Ed Holcombe
  - Drones: Jennifer Berry
  - Non-Grafting Techniques: Hopkins/Keller

#### Dinner at Local Restaurants (Check Sponsoring Establishments)
- **5:00 - 7:00 PM**

#### Free Internet Access and WiFi at EKU & EAS 2014
### 2014 EAS General Conference - Wednesday, July 30, 2014 (Subject to Change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 AM</td>
<td>Auxiliary Gym</td>
<td>ZumBEE (sponsored by Overland Honey)</td>
</tr>
<tr>
<td>7:00 - 8:00 AM</td>
<td>Powell Dining</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8:00 - 8:30 AM</td>
<td>Brock Auditorium</td>
<td>Registration</td>
</tr>
<tr>
<td>8:30 - 9:00 AM</td>
<td>Brock Auditorium</td>
<td>Chair and President's Welcome</td>
</tr>
</tbody>
</table>
| 9:00 - 9:50 AM| Hambleton Award           | Reflections on My Research: Translating and Applying Research Results in the Real World of Beekeeping  
|               | Brock Auditorium          | Robert Danka                                    |
| 10:00 - 10:50 AM| Plenary                   | Challenges of Nonprofit Organizations in International Extension/Education  
|               | Brock Auditorium          | Nicola Bradbear                                 |
| 11:00 - 11:50 AM| EAS Research Grant       | Effects of Neonicotinoid/Fungicide/Adjuvant Pesticide Combinations Commonly Encountered by Honey Bees on Pumpkins  
|               | Brock Auditorium          | Thomas Janini                                    |
| Noon - 1:30 PM| Powell Dining             | Lunch (EAS Board of Directors Meeting, Regents Dining Room) |
| 1:30 - 2:15 PM| Afternoon Sessions in New Science Building  
|               | Beginners                 | Honey Production: Ed Holcombe                   |
|               | Big Pictures              | International Programs: Bob Cole                |
|               | Advanced Beekeepers       | Beeswax Pesticide Study: Maryann Frazier        |
|               | Apiary Hopkins/Keller     | Hives for People with Physical Challenges: Carl Jackson |
|               | LAB (12 per Class)        | Trachael Mites: Diana Sammataro                 |
|               | Cultural Topics           | Mead-making: John and Debbie Pace              |
|               | International Interchange | Bees in Burundi: Kelly Watson                   |
|               | Master Beekeepers         | Lab/Apary                                       |
| 2:15 - 3:00 PM| NSB                       | Break with Vendors                              |
| 3:00 - 3:45 PM| Breakout Session #2       | Organic Beeswax: Christy Hemenway               |
|               | British Honey Show        | British Honey Show: Michael Palmer              |
|               | Varroa mites and Resistance | Varroa mites and Resistance: Jeff Harris         |
|               | Evaluation/Check on Cells | Evaluation/Check on Cells: Jennifer Berry      |
|               | Nosema                    | Nosema: Megan Milbraith                         |
|               | Honey Cookery             | Honey Cookery: David Poulton                    |
|               | Canadian Tech Teams       | Canadian Tech Teams: Les Eccles                |
| 4:00 - 4:45 PM| Breakout Session #3       | Sustainable Agriculture Research and Education-Maine:  
|               | Swarm Removal             | Finding Queens & Replacing Queens: Tammy Horn    |
|               | Cindy Bee                 | Bee Necropsy: Advanced Don Coats                |
|               | African Bees-FABIS        | Quilting Bee: Hope Johnson                      |
|               | Stephanie Tarwater       | A Beekeepers trip to China: Meghan Milbraith  |
| 6:00 - 7:00 PM| Auxiliary Gym             | Catered by Athenian Grill, Lexington, KY       |
| 7:00 - 9:00 PM| Auxiliary Gym             | Square Dance at Alumni Coliseum - Reel World String Band Sponsored by W.T. Kelley's |
### 2014 EAS GENERAL CONFERENCE - Thursday, July 31, 2014 (Subject to Change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 AM</td>
<td>Auxiliary Gym</td>
<td>ZumBEE (sponsored by Overland Honey)</td>
</tr>
<tr>
<td>7:00 - 8:00 AM</td>
<td>Powell Dining</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>Brock Auditorium in Coates Bldg</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 9:00 - 9:50 AM| Plenary Brock Auditorium in Coates Bldg | Opening Session  
Bob Cole & Col. Ben Richardson                                    |
| 10:00 - 10:30 AM| Plenary Brock Auditorium in Coates Bldg | USGS: Agricultural Pesticide Use in the U.S.  
Nancy Baker                                                           |
| 10:30 - 11:00 AM| Plenary Brock Auditorium in Coates Bldg | Presentation of Student Award Winner: Daniel Borges                 |
| 11:00 - 11:50 AM| Plenary Brock Auditorium in Coates Bldg | Africanized Bees in the Americas  
Dewey Caron                                                            |
| Noon - 1:30 PM| Powell Dining                      | Lunch (Lifetime Members’ Luncheon, Regents Dining Room, Keynote Speaker: Maryann Frazier, Nature Vs Nurses) |

### Afternoon Sessions in New Science Building

<table>
<thead>
<tr>
<th>Time</th>
<th>Beginners</th>
<th>Big Pictures</th>
<th>Advanced Beekeepers</th>
<th>Apiary Hopkins/Keller</th>
<th>LAB (12 per Class)</th>
<th>Cultural Inter</th>
<th>Social Tours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 - 2:15 PM</td>
<td>Pheromones</td>
<td>Thomas Janini</td>
<td>Running a NonProfit Nicola Bradbear</td>
<td>China, Pathogen Control Meghan Milbrath</td>
<td>Hygienic Bees Liquid Nitrogen Pour Clark and Brock Show</td>
<td>Basic Microscopy for Beginners Don Coats</td>
<td>Quilting Bee Hope Johnson</td>
</tr>
<tr>
<td>2:15 - 3:00 PM</td>
<td>Breakout Session #1</td>
<td></td>
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</tr>
<tr>
<td>3:00 - 3:45 PM</td>
<td>Overwintering Erin Forbes</td>
<td>Running Migratory Bees Stephanie Tarwater</td>
<td>Drones Jennifer Berry</td>
<td>Nuc management Jennifer Keller</td>
<td>Appalacian Tree/Flower Pollen Don Coats</td>
<td>Pollinator Stewardship Council Michelle Colopy</td>
<td>Bees in the Tropics Toni Downs</td>
</tr>
<tr>
<td>4:00 - 4:45 PM</td>
<td>Cut Outs, Trap Outs and Other Means of Relocation Cindy Bee</td>
<td>Organic Beekeeping Sean Clark</td>
<td>Nematode Rearing Izzy Hill</td>
<td>Keeping Hives in Bee Gums, Beelining Gary Branson</td>
<td>Mite Anatomy Jeff Harris</td>
<td>Kids and Bees Sarah Red-Laird</td>
<td>Unstoppable &amp; Unflappable Panel of Women Beekeepers</td>
</tr>
<tr>
<td>7:00 - 9:30 PM</td>
<td>Keen Johnson Bldg</td>
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</table>

**Breakout Session #2**

**Breakout Session #3**

**Keen Johnson Bldg**
2014 EAS GENERAL CONFERENCE - Friday Aug. 1, 2014 (Subject to Change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 AM</td>
<td>ZumBEE</td>
</tr>
<tr>
<td>7:00 - 8:00 AM</td>
<td>Breakfast</td>
</tr>
<tr>
<td>Starts 8:00 AM</td>
<td>Registration</td>
</tr>
<tr>
<td>8:30 - 9:00 AM</td>
<td>Presentation of Roger Morse Award to Roger Hoopingarner</td>
</tr>
<tr>
<td>9:00 - 9:45 AM</td>
<td>Challenges of Producing Honey for International Standards</td>
</tr>
<tr>
<td></td>
<td>Nicola Bradbear</td>
</tr>
<tr>
<td>10:00 - 10:45 AM</td>
<td>Flower Fidelity</td>
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<td></td>
<td>Berry Brosi</td>
</tr>
<tr>
<td>10:45 - 11:00 AM</td>
<td>EAS 2015, University of Guelph, Guelph, Ontario, Canada</td>
</tr>
<tr>
<td>11:00 - 12:00 PM</td>
<td>Annual EAS Business Meeting</td>
</tr>
<tr>
<td>Noon - 1:30 PM</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>(Master Beekeepers’ Luncheon and Meeting, Regents Dining Room)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Afternoon Sessions in New Science Building</strong></td>
</tr>
<tr>
<td>Time</td>
<td>Beginners</td>
</tr>
<tr>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>1:30 - 2:15 PM</td>
<td>Queens Kent Williams Pollinator Stewardship Council Michelle Colopy Propolis Thomas Janini Hygienic Bees Sean Clark Bee Anatomy Don Coats Honey Cookery Azur Chef Jeremy Ashby Kids Camp Soaps Diana Sammataro</td>
</tr>
<tr>
<td>2:15 - 3:00 PM</td>
<td>Break with Vendors</td>
</tr>
<tr>
<td>3:00 - 3:45 PM</td>
<td>Citizen Science Research Izzy Hill Testing Chronic Effects of Pesticides on Honey Bees Jessica Louque Artificial Swarming Erin Forbes Queen Yard Jennifer Berry Trachael Mites Ed Holcombe Appalachian Cooking Joyce Pinson Kids Camp EKU-NSF Grant Martin Brock Master Beekeepers Exam Results</td>
</tr>
<tr>
<td>4:00 - 4:45 PM</td>
<td>Feeding Bees Michael Palmer Bees in Costa Rica Berry Brosi Insemination of Queens Jeff Harris Top Bar Hives Christy Hemenway Nosema Meghan Milbrath Greek Bakklava Susan Cocalas Kids Camp Bees in Burundi Kelly Watson</td>
</tr>
<tr>
<td>6:00 - 9:30 PM</td>
<td>Banquet</td>
</tr>
<tr>
<td></td>
<td>Keen Johnson</td>
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</tbody>
</table>
As someone who has always loved honey (the reason I became a beekeeper in the first place), I feel I have a duty for making sure that the public understands the uniqueness of this product. Honey is not just a sweetener, but a plant-produced nectar, enzymatically processed by insects. Nectar is complex, and in terms of taste, color, and nutritive value, not all nectar is made equal. It is often referred to as a reward not only for the pollinators (I will refer to honey bees from here on out, though there are many types of pollinators) who literally fuel themselves off the sugary substance, but also for the plants. Due to the morphology of many flowers, during nectar collection pollen grains come in contact and adhere to the bee’s surface hairs. As the bee moves from flower to flower, pollen grains get transferred to the receptive female part (stigma) of the plant and this union of pollen grain to stigma is by definition known as pollination. This service of pollination, that bees provide, helps in fertilization and the ability of the plant to produce quality fruit and seeds, thus enabling the spread of the plant across the landscape.

There are many statistics that describe the hard labor of nectar collection and the biochemical process or conversion of nectar to honey that bees must accomplish: honey bees must visit two million flowers to make one pound of honey, a worker honey bee makes 1/12 of a teaspoon of honey in her lifetime, a hive of bees would have to fly 55,000 miles to make one pound of honey. I know! Jaw dropping! These stats alone demonstrate the distinctiveness of this product, but what is also astounding is that it is good for you too. Honey contains many nutrients: enzymes, proteins, carbohydrates, minerals, and vitamins, and for this reason it is often revered as a medicine in other cultures. However, in our culture, general consumers are just beginning to warm up to the idea that a substance produced by insects is not only delicious, but good for you, too.

It is our duty, as stewards of bees and harvesters of honey, to help perpetuate the translation of the exceptional properties of honey to the public sector. The timing for this educational endeavor could not be better due to the perfect timing of events: imported honey has been banned for various alarming reasons—adulteration and contamination, people are more educated than ever before due to the media attention surrounding honey bee population declines, the increasing trend towards favoring locally produced foods for economic and health reasons, and the increased success in niche marketing—look at products like coffee and olive oil, just to name a few. For these reasons a research project was created to understand how the public views honey, basically how consumers view honey. The main question, “Can we change consumer’s attitudes towards honey, and how much they are willing to pay for honey using educational marketing tools?”

This project had five aims:

1. Work closely with honey producers to identify the key issues related to managing marketing and pricing risks that are facing small and mid-sized honey producers in the Northeast.
2. Examine consumer behavior related to production location, processing, and labeling.
3. Disseminate effective marketing and pricing curriculum to honey producers throughout the United States via multimedia extension platforms.
4. Improve the economic viability of honey producers in the Northeast through interactive educational modules.

5. Measure the economic impact on honey producers who implement decisions related to their product marketing and pricing, as a result of this program.

Through the development of a Honey Producers Working Group (HPWG), representing honey producers across the Mid-Atlantic States, the following risks associated with honey production are now being addressed and prioritized: lack of appropriate marketing information, poor communication between producers and consumers, and the lack of global agreement on honey criteria. The HPWG have participated in two workshops throughout the project and have helped develop, implement, and evaluate the pricing and marketing curriculum generated from this project. Due to the lack of a central market or pricing mechanism for honey, many beekeepers do not know how to price or label products correctly, in a manner that enhances their economic viability. Research in other countries has shown that improved honey marketing leads to a stronger honey industry, however little research has been done on US consumers.

The experimental economics laboratory has become an ideal setting to study consumer preferences for food produced with different methods. Unlike the traditional market place that has consumers providing dichotomous (yes/no) choices for products at fixed prices, experiments provide a richer dataset on each consumer about the strength of their preferences for the food at different prices and given different attributes. From our experiments, we have found that consumers do have a preference and are willing to pay different prices based on the shape of the jar or the packaging. Which jar shape and packaging design will be successful is highly dependent on your consumer base and the demographics of your consumers, so it is important to know and understand the nuances of your consumer base. Consumers are also sensitive to educational information that accompanies the honey, via a tag, brochure, label blurb, or stand up display. We found that when consumers were given information about food safety concerns associated with imported honey, they were willing to pay more for local honey. Willingness to pay is also influenced by educational information provided to the consumer.

We also found that the consumer already has some opinions about honey, and that these opinions or beliefs do transfer over to the marketplace. This is good news for us producers, for with this knowledge, we can market our honey to emphasize these beliefs and, in return, increase demand and price. So what do consumers believe about honey? It is healthy; it tastes good; it helps with allergies; it is linked to the pollination of plants; it is environmentally friendly; and it helps perpetuate the health of the local economy.

Research results are currently being integrated into pricing and marketing strategies and have been presented to the HPWG during interactive workshops. The best marketing tools are being formatted into educational material and hands-on modules to be used in beekeeping workshops in the Northeast and throughout the US. You can find a PowerPoint presentation and also an informational brochure on the MAAREC website: https://agdev.anr.udel.edu/maarec/

This work was funded by the Northeast Center for Risk Management Education and the University of Delaware. For more information on the project and how to get educational material for interested parties please contact Dr. Deborah Delaney at dadelane@udel.edu.

Debbie Delaney is Assistant Professor of Entomology & Wildlife Ecology at the University of Delaware, Newark, DE. When she is not doing market surveys on her $30.00/pound single strain raw honey, Debbie is reestablishing the MAAREC organization, explaining native pollinators, and studying the mating of honey queens.
From the Colonies

Connecticut

Connecticut State Beekeepers Association

The Connecticut Beekeepers Association will hold its fall meeting on Saturday, October 18, 2014 at the Woodbury Senior Center in Woodbury, Connecticut.

Marina Marchese will be the featured speaker talking about tasting the Terrior of American Honey and Honeybee Lessons from an Accidental Beekeeper.

For more information visit www.ctbees.com

Backyard Beekeeper Association (BYBA)

The Backyard Beekeepers Association holds monthly meetings begin at 7:30 pm on the last Tuesday of the month at the Norfield Church Community Room at 64 Norfield Road, Weston Connecticut. A meeting designed specifically for new beekeepers is held prior to the meeting at 6:00 pm. The events are subject to change, so check out www.backyardbeekeepers.com for up-to-date information on the events.

Honey Bee Health & Bee Pheromone Communication

On September 30, Professor of Entomology Director, Center for Pollinator Research, Penn State will discuss honey bee health & bee pheromone communication.

Hive Architecture

On October 28, Chris Harp and Grai St. Claire Rice speak on comb and nest architecture, looking at how honeybees construct comb using their unique physiology. It is both an act of community building and a feat of precise, structural integrity that is invaluable for beekeepers to comprehend.

Beekeeping in Uganda

On November 18, Dan Carr, past BYBA Board, shares his experiences with a USAid grant working with Beekeepers in Uganda this past year.

New Jersey

August 16, 2014: The New Jersey Beekeepers Association (NJBA) annual picnic and auction at the home of Bob Hughes in Yardville, NJ (Mercer County). Find used equipment bargains, sell equipment you no longer need, talk about bees all day, good food, good company and swimming! Coffee and donuts from 8:30 to 9:30 a.m. followed by the auction. Lunch will also be provided. Swimming pool, so bring suits and towels. Also, bring chairs so you don’t get tired of standing during the auction. More information can be found at www.njbeekeepers.org

October 18, 2014: 8:00 a.m. to 3:30 p.m. NJBA Annual Fall Meeting sponsored by the Central Jersey branch, Rutgers EcoComplex, 1200 Florence-Columbus Rd., Bordentown, NJ. Dr. Keith S. Delaplane, University of Georgia Professor, Walter B. Hill Fellow & Honey Bee Program Director will be the featured speaker. Dr. Delaplane has conducted extensive honey bee research and is well known for his books and videos First Lessons in Beekeeping and Honey Bees and Beekeeping: A Year in the Life of an Apiary. Online registration will be available in September. Details will be posted at www.njbeekeepers.org

Ohio

Ohio had one of the toughest winters in 22 years—then followed that season up with a nice cold, wet spring! Can we get a break here? Can someone send some warmer weather?

Ohio suffered heavy winter losses and beekeepers found themselves buying packages and scrambling to make splits of the surviving hives. With the cold and wet spring, queen mating has been difficult, too.

Many county clubs have been holding queen rearing classes and are producing some members that can actually graft! Medina County Beekeepers recently held a 3-day event, with Jennifer Berry as the instructor. The grafting group had sixty percent of their grafts become actual queen cells. The successfully developed cells were available to the participants to take home.

Ohio now has a new queen producing group, the Buckeye Queen Producers Coop. Members have experience in queen rearing, and the group received a grant from the Ohio State Beekeepers Association to purchase breeder stock and supplies. This group has genetics from Sue Cobey, Joe Latshaw, Adam Finklestein, John Harbo, and many other noted lines.

Recently, virgin queens from around Ohio were taken to Purdue University to be inseminated with “ankle biter” semen and then returned to members. Daughters from this venture may be available to Ohio beekeepers later this summer. More information can be found at www.ohioqueens.org.

That’s the update from Ohio! Here’s to a honey of a summer…
News • Events • Gossip From The EAS Beeyard

EAS belongs to most of our region's State Associations in order to keep up with what's going on in the Colonies. If we don't yet belong to your Association, contact our secretary at secretary@easternapiculture.org so we can sign up. And, send your newsletter to our Editor so we can keep up.

All Ohio photos are compliments of Peggy Garnes

Ontario

2014 OBA Annual General Meeting
Thursday, November 20, 2014 - 8:30am to Friday, November 21, 2014 - 4:45pm at the Delta Markham, 50 East Valhalla Drive, Markham, Ontario.

Feature guest speakers, trade exhibit area, Beekeepers’ Gala & fundraiser event. Agenda will be posted at www.ontariobee.com. Mark your calendar!

Pennsylvania

2014 Pennsylvania State Beekeepers’ Picnic (PSBA) Summer Picnic

This year's annual PSBA Summer Picnic will be held Saturday, August 9, at the Wade Fisher Bee Farm, 3950 Ferguson Valley Road, McVeytown, Pa. 17051 (approximately halfway between Harrisburg and State College, just off Route 322/22 and Route 522 in Lewistown). The PSBA Executive Board will meet at 10:00 a.m. with lunch to follow at 12:30. A pig for roasting will be provided, as well as plates/cutlery/napkins. Guests are asked to bring a side and/or dessert or drinks to share. Also bring a lawn chair.

The picnic will be on Fisher Bee Farm’s primary apiary and honey extracting facility. So, tours will happen as needed through the day. Location is right beside a nice creek, which anyone can play in, and a small zoo with farm animals. No organized activities planned—just sharing bee stories and great food among fellow beekeepers. (See www.pastatebeekpeers.org for map and more information.)

Penn State University Ag Progress Days
August 13-15, Pennsylvania's largest outdoor agricultural exposition will be held at the Russell E. Larson Agricultural Research Center, 2710 W. Pine Grove Rd, Pennsylvania Furnace, PA 16865. Details at agsci.psu.edu/apd.
Spring has just past and the hives are still a-swarming. This issue of the EAS Journal is bubbling over with information from our members. Please take time to read the feature articles Steve Repasky’s “For the Love of Swarms” and Debbie Delaney's article on the results of marketing research to optimize local honey sales. Before heading out the door to Ol’ Kentucky for EAS 2014, read through this Journal for information of what to bring and directions on how to get there.

I want to keep this short, as the EAS Journal is packed full and I am limited to a small space, but I want to express a special thank you to Tammy, the mysterious Owen, Loretta and John (EAS Secretary and Treasurer), Lani, Bob, Lou, the Kentucky volunteers, the Master Beekeepers, and all of the others who have been putting in long hours to bring the EAS 2014 Conference to fruition.

Often the EAS Convention is the only time I get to see most of you. Please stop in and say hello.

See y’all in Kentucky.

Jim Bobb
Chairman, EAS Board of Directors
Email: Chairman@easternapiculture.org
Phone: (610) 584-6778

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**Ode to the Microscope**

**-And about the microscope workshops…**

**Above All, Bring Your Inquiring Mind.**

To view the honeybee microscopic cosmos  
That, until now, you mostly read about.  
Come see it for yourself but,  
BRING ALSO:  
Your bees that died , distorted, oddly colored.  
Or bring some perfect bees, fat and young,  
A rejected queen to analyze  
Or drone but not to circumcise.  
In 70 proof Vodka or 70% "other" alcohol  
So you may examine, dissect and assess  
OR  
Bring pollen from her basket, bottom board floor  
Or from the anther, and the bloom.  
Or in the honey, golden and we will filter out  
For photos fascinating and often lovely  
Bring your quest for artistic inquiring.

AND  
There will be Nosema glowing at 400 X  
Burden counts for clinical value  
With a hemocytometer.  
And if you don’t think that takes the cake.  
There’ll be American Foulbrood spores for Heaven’s sake.

AND  
Explore the sticky board story  
Of frass, wax crumbs and crystals,  
Varroa drop, rate and value standards  
Modified and simplified options

SO  
Note the individual class schedules, at  
NSB 5116 will post an action board outside  
You should sign up to reserve a scope and lesson  
For limited space - but if persuaded  
By popular request, might add a special session.

All questions ask doncoats@verizon.net

**Don Coats** is personally invested in the concept of using microscopes to identify the pollen grains in honey and investigate bee problems. He has been studying these methods for several years and has planned a well-orchestrated experience under the lens for attendees of EAS 2014. Although he only last year became the self-appointed poet laureate for the EAS Conference, you will see him most often in the New Science Buildings 5116 either adjusting a scope or contemplating a haiku.

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**Western Apicultural Society (WAS)**  
**Annual Conference**  
**Missoula, Montana**  
**International Workshop on Hive & Bee Monitoring**  
**Wednesday, September 17**  
**Main Conference**  
**Thursday and Friday, September 18 and 19**  
**Workshops**  
**Saturday Morning, September 20**

Visit http://ucanr.edu/sites/was2 for more information.
EAS Executive Committee

Chairman of the Board
Jim Bobb
2011 Shearer Rd
Lansdale, PA 19446
610.584.6778
chairman@easternapiculture.org

Vice Chairman of the Board
Kent Williams
580 State Rt. 385 N
Wingo, KY 42088
270.382.2348
vicechairman@easternapiculture.org

President
Tammy Horn
956 Stonewall Rd.
Lexington, KY 40504
859-200-2207
president@easternapiculture.org

Vice President
Doug McRory
187 Down Ave.
Guelph, ON N1G 5J9
519-820-2811
vicepresident@easternapiculture.org

Secretary
Loretta Surprentant
27 Country Home Way
Essex, NY 12936
518-963-7593
secretary@easternapiculture.org

Treasurer (Interim)
John Tulloch
318 Green Avenue
Blountville, TN 37617
423-574-1181
treasurer@easternapiculture.org

Chairman Emeritus
Kim Flottum
7011 Spieth Rd.
Medina, OH 44256
800.289.7688 ext 3214
kim.flottum@easternapiculture.org

President Emeritus
Linda Betlejeski
16 Birch Rd.
Malvern, PA 19355-1644
presidentemeritus@easternapiculture.org

Email requests to Journal@easternapiculture.org for more information. For ads or ad prices please contact ads@easternapiculture.org.

Journal Ads, Articles, and Letters to the Editor

EAS is seeking articles and ads for our upcoming issues. Have something to say to the Society? Why not write a letter to the editor? Our journal comes out quarterly.

Reach your communication destination.
Give us a buzzzz.

Do the Waggle!

Graphic design and web development services from one beekeeper to another. See our work at malishpagonis.com.

Call 610.660.9044 or email Penelope: penelope@malishpagonis.com
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(Year indicates expiration of term as director)

<table>
<thead>
<tr>
<th>State</th>
<th>Name</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>William Miller (2015)</td>
<td>2991 Eddins Rd. Dothan, AL 36301</td>
<td>334.794.8362</td>
<td><a href="mailto:director.al@easternapiculture.org">director.al@easternapiculture.org</a></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Mary Duane (2016)</td>
<td>81 Blithewood Ave. Worcester, MA 01604</td>
<td>508-335-0433</td>
<td><a href="mailto:director.ma@easternapiculture.org">director.ma@easternapiculture.org</a></td>
</tr>
<tr>
<td>Connecticut</td>
<td>John C. Baker (2014)</td>
<td>52 Headquarters Rd. Litchfield, CT 06759</td>
<td>860.567.8427</td>
<td><a href="mailto:director.ct@easternapiculture.org">director.ct@easternapiculture.org</a></td>
</tr>
<tr>
<td>Delaware</td>
<td>Paul Dill (2015)</td>
<td>PO Box 571 Wyoming, DE 19934</td>
<td>302.249.1866</td>
<td>No email</td>
</tr>
<tr>
<td>Florida</td>
<td>David Mendes (2015)</td>
<td>11253 Rabin Gap Dr. N. Fort Myers, FL 33917</td>
<td></td>
<td><a href="mailto:director.fl@easternapiculture.org">director.fl@easternapiculture.org</a></td>
</tr>
<tr>
<td>Georgia</td>
<td>Mary Cahill-Roberts (2017)</td>
<td>534 Mountain Gerizim Road Mableton, GA 30126</td>
<td>404-388-3427</td>
<td><a href="mailto:director.ga@easternapiculture.org">director.ga@easternapiculture.org</a></td>
</tr>
<tr>
<td>Illinois</td>
<td>David Burns (2015)</td>
<td>14556 North 1020 East Fairmount, IL 61841</td>
<td>217.427.2678</td>
<td><a href="mailto:director.il@easternapiculture.org">director.il@easternapiculture.org</a></td>
</tr>
<tr>
<td>Indiana</td>
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<tr>
<td>Kentucky</td>
<td>Lani Basberg (2016)</td>
<td>12 Main Street Shelbyville, KY 40065</td>
<td>502.647.6081</td>
<td><a href="mailto:director.ky@easternapiculture.org">director.ky@easternapiculture.org</a></td>
</tr>
<tr>
<td>Louisiana</td>
<td>Randy Fair (2014)</td>
<td>611 Evans Loop Mansfield, LA 71052</td>
<td>318-872-2682</td>
<td><a href="mailto:director.la@easternapiculture.org">director.la@easternapiculture.org</a></td>
</tr>
<tr>
<td>Maine</td>
<td>Carol Cottrill (2014)</td>
<td>164 Wyman Hill Rd Rumford, ME 04276</td>
<td></td>
<td><a href="mailto:director.me@easternapiculture.org">director.me@easternapiculture.org</a></td>
</tr>
<tr>
<td>Maryland</td>
<td>Janet Bardzik (2014)</td>
<td>3620 Kimble Road Baltimore, MD 21218</td>
<td>410.467.4249</td>
<td><a href="mailto:director.md@easternapiculture.org">director.md@easternapiculture.org</a></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Landi Simone (2017)</td>
<td>Gooserock Farm 101-B Taylortown Road Boonton, NJ 07005</td>
<td>973-263-0674</td>
<td><a href="mailto:director.mb@easternapiculture.org">director.mb@easternapiculture.org</a></td>
</tr>
<tr>
<td>Michigan</td>
<td>Martin Marklin (2016)</td>
<td>112 Riverside Dr Contoocook, NH 03229</td>
<td>603.746.2211</td>
<td><a href="mailto:director.nh@easternapiculture.org">director.nh@easternapiculture.org</a></td>
</tr>
<tr>
<td>New Brunswick</td>
<td>Jeff Burd (2015)</td>
<td>11 Farm Rd Ewing, NJ 08638</td>
<td></td>
<td><a href="mailto:director.nj@easternapiculture.org">director.nj@easternapiculture.org</a></td>
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<td>New Jersey</td>
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<tr>
<td>New York</td>
<td>Bob Talkiewicz (2014)</td>
<td>6 Dunbar Rd. Windsor, NY 13865</td>
<td>607-427-2420</td>
<td><a href="mailto:director.ny@easternapiculture.org">director.ny@easternapiculture.org</a></td>
</tr>
<tr>
<td>Nova Scotia</td>
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<tr>
<td>Ohio</td>
<td>Peggy Barnes (2017)</td>
<td>6045 Lance Road Medina, OH 44256</td>
<td>330-723-6265</td>
<td><a href="mailto:director.oh@easternapiculture.org">director.oh@easternapiculture.org</a></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Vincent Aloyo (2017)</td>
<td>736 Cathard Rd. Blue Bell, PA 19422</td>
<td>484-557-4049</td>
<td><a href="mailto:director.pa@easternapiculture.org">director.pa@easternapiculture.org</a></td>
</tr>
<tr>
<td>Prince Edward Island</td>
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<tr>
<td>Quebec</td>
<td>Joel Laberge (2017)</td>
<td>272, route 201 St-Stanislas-de-Kostka, J0S 1W0</td>
<td>450-567-9912</td>
<td><a href="mailto:director.qc@easternapiculture.org">director.qc@easternapiculture.org</a></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Celeste Nadworny (2015)</td>
<td>423 Fruit Hill Ave North Providence, RI 02911</td>
<td></td>
<td><a href="mailto:director.ri@easternapiculture.org">director.ri@easternapiculture.org</a></td>
</tr>
<tr>
<td>South Carolina</td>
<td>Buddy May (2017)</td>
<td>100 Birnam Ct. Greenville, SC 29615</td>
<td>864-297-1922</td>
<td><a href="mailto:director.sc@easternapiculture.org">director.sc@easternapiculture.org</a></td>
</tr>
<tr>
<td>Tennessee</td>
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<tr>
<td>Vermont</td>
<td>Michael Palmer (2014)</td>
<td>441 Forest Dr. St. Albans, VT 05478</td>
<td></td>
<td><a href="mailto:director.va@easternapiculture.org">director.va@easternapiculture.org</a></td>
</tr>
<tr>
<td>Virginia</td>
<td>Ann Zudekoff (2017)</td>
<td>6960 Johnson Mtn. Rd. Huddleston, VA 24104</td>
<td>434-660-6063</td>
<td><a href="mailto:director.va@easternapiculture.org">director.va@easternapiculture.org</a></td>
</tr>
<tr>
<td>West Virginia</td>
<td>Charles Walter (2016)</td>
<td>3466 Scrabble Rd. Shepherdstown, WV 25443</td>
<td>304-616-9487</td>
<td><a href="mailto:director.wv@easternapiculture.org">director.wv@easternapiculture.org</a></td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Charles Walter (2016)</td>
<td>3466 Scrabble Rd. Shepherdstown, WV 25443</td>
<td>304-616-9487</td>
<td><a href="mailto:director.wv@easternapiculture.org">director.wv@easternapiculture.org</a></td>
</tr>
</tbody>
</table>

## Additional EAS Contacts

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
</tr>
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<tbody>
<tr>
<td>Historian</td>
<td>Kim Flottum</td>
<td>7011 Spieth Rd. Medina, OH. 44256</td>
<td></td>
<td><a href="mailto:historian@easternapiculture.org">historian@easternapiculture.org</a></td>
</tr>
<tr>
<td>Web Master</td>
<td>Dave Meldrum</td>
<td>287 S. Main st. Andover, MA 01810</td>
<td>927.477.9700</td>
<td><a href="mailto:webmaster@easternapiculture.org">webmaster@easternapiculture.org</a></td>
</tr>
<tr>
<td>EAS Journal</td>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:journal@easternapiculture.org">journal@easternapiculture.org</a></td>
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What local association do you belong to? How many hives?

1 Year Individual/Family: $25
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