Clinch Valley Beekeepers Association

Volume 14, Number 9 September 2023 Sherri Hudson, editor

EMAIL WEBSITE FACEBOOK

Clinch Valley Beekeepers
meet every 3rd Thursday
at 7:00 pm:
Treadway Fire Hall
189 Highway 131
Treadway, TN 37881

IN THIS ISSUE

"Fame is a bee. It has a song.
It has a sting.
Ah, too, it has a wing."

Emily Dickinson

NEXT MEETING

Date

Thursday, Sept. 21, 2023 – 7pm
Treadway Fire Hall
189 Hwy 131
Treadway, TN 37881

Food Theme
HARVEST POTLUCK

Quick question: Do you secretly always hope that your contribution will be the first to go during a potluck? Of course, you do! Because that's the ultimate compliment!
From the time that the holidays were first celebrated in America, the potluck concept everybody who is invited brings food for the meal—has been used for gatherings. After all, a potluck is much like America itself: a melting pot at which everyone contributes, thus fostering togetherness and communal happiness. Continue to harvest that joy with friends and fellow beekeepers by sharing your harvest of snacks, salads, soups, main/side dishes, & desserts from your gardens.

SPEAKER

The speaker will be Bodie Osborn who will speak on **Winterizing Your Hives.** It's almost time for getting you bees ready for winter. This is an important program especially for first year beekeepers who haven't experience what it takes to get your bees through the cold/freezing season.
Hope to see you all there!!!

LAST MEETING

Due to massive yellowjacket stings I was unable to attend last month's meeting. Therefore, there aren't any notes for me to rely on. I was told that the members discussed the T-shirt project.
Several members voiced their opinions which are much appreciated.
The board members which include Llyod Snelson, David, Sams, Tim Andrews, Lynda Escola, Bobbi Smith, and Sherri Hudson meet at Lynda's house on Tuesday, September 2nd to discuss and finalize a plan for the shirts.
It was agreed that Sherri would print iron on transfers of the club logo and Bobbi would apply them to 100% cotton t-shirts in a variety of colors and sizes. These will be available to members and sold at the October festivals this year. Sherri will create an online campaign for the specialty digital printed 100% cotton t-shirts and 50/50 sweatshirts. These shirts will have the club logo on the front and the artwork **Help Keep the World Sweet** on the back. The campaign will run from Sept. 21st until Nov. 20th. They will be ready at the Dec. 21st meeting. We will need to meet a minimum order of 50 for the shirts to be printed. More about this later in the newsletter.

SPEAKER NOTES

Researched & Written by: Sherri Hudson

Essential Beekeeping Equipment Every Beekeeper Can't Live Without

If you're considering getting into beekeeping, figure out the equipment you will need.

That's what we're going to talk about in this article. Here are the 20 essential tools and equipment you will need to get started on the journey of beekeeping:

Bees - Unless you catch a swarm, you will most likely have to purchase your first bees. After that, you should be able to split your hives to keep things rolling and multiplying.

Most usually invest in a nuc instead of a full-blown hive to start out.
They are less expensive because there are fewer bees in them.
However, if you lose a nuc in comparison to losing a hive there is obviously not as much loss occurring.
Most decide to go with the nuc for financial reasons.

They will come to you in a box like this, and you move the frames into your hive body.
It is easy to get started.

SPEAKER NOTES

cont.

The Queen - If you already have a hive but maybe didn't have such great success with it, then it might be time to requeen. If that is the case, then you'll have to purchase a queen or raise your own. Either way, she is definitely a necessary part of the whole beekeeping process.

However, you'll need to decide on what method you are going to use to raise her or introduce her too the hive. If not, the hive will think she is a threat and kill her off. So, this is an important nugget of knowledge to retain if you need a new queen for your hive.

Hives - Hives are where the bees live. You will need to do some research to decide which type of hive you'd like to have. I personally use Langstroth hives, but a few of our members hives. Having the right type of hive is key to keeping your bees safe and your honey harvest bountiful. The type of hive you'll need depends on where you'll place it in your yard and how you want to raise your bees. For example, if you want to harvest comb as well as plain honey, you might want a queen excluder in your hive to keep the brood out of the honey supers. If you live somewhere that gets a lot of rain, you'll want a hive stand to keep the hive off the wet ground. Be sure to read up on the different types of hives and their add-ons to find what works best for you and your bees.

Frames - The frame is one of the most important elements of the hive. The frame is simply a rectangular frame that fits inside the supers and holds the comb.

This is where the queen lays her brood and where the rest of the colony stores its honey. Frames are designed to be lifted out of the supers, making hive inspections and honey removal easier for beekeepers. The foundation in the middle of the frame helps support the weight of the comb and gives your bees an even model to follow when they're building their combs out of wax. As with hives, there are many different types of hive frames that you can buy. You can choose frames made from wood or plastic and ones that come with or without a foundation. Many beekeepers also get kits instead of assembled frames and build them on their own so that they perfectly fit the hive.

Bee Suit - Suits aren't always necessary, but protective gear is still part of the essential equipment for every beekeeper. A hat and veil are the most important pieces—stings around the eyes, nose, and lips are particularly painful and dangerous. You can also get a protective jacket, coveralls, or a full-body bee suit for added protection. However, some beekeepers choose to visit their bees in regular clothes instead of in a suit or protective jacket. If you're comfortable around your bees, then they'll be comfortable around you, and the chances of bee stings will be low. Despite this, it's always a good idea to have protective gear on hand in case you have visitors or for days when the bees are more agitated.

Your bee suit is going to be an investment. You can buy cheaper suits and that is certainly okay to do starting out.

However, you will find over time that some of the higher quality suits give you more protection. I broke down and bought the ventilated suit. I absolutely love it. I don't sweat as I use it when going through the bees, and I haven't been stung since I got it.

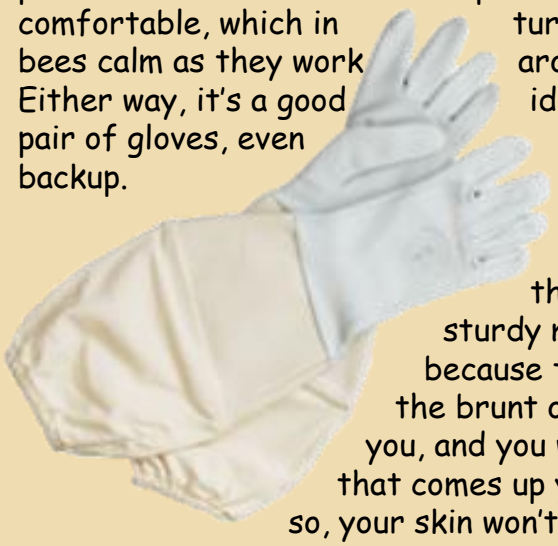
SPEAKER NOTES cont.

Footwear – Footwear is another important part of the puzzle. When you wear a beekeeping suit, it's important to have the ankle of the suit fit down snugly over top of a pair of boots so you don't have any ankle or sock exposed where you could get stung.

Make sure that you have shoes that are made of hard material and have good soles on them so, bees can't sting you through them. Bees aren't vicious creatures, but if they think you are trying to attack their hive you could quickly become the enemy.

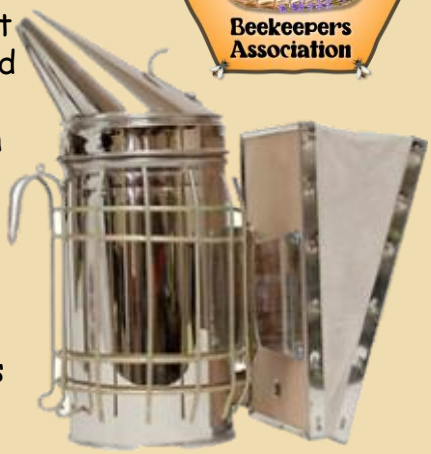
I wear this pair of cute yellow rubber bee boots because every beekeeper needs a pair of cute bee boots, right?! I bought these boots a couple years ago and wear them every time I go out to the beehives.

Gloves - Gloves are another important tool of a beekeeper's protective gear and are worth every penny. There's some debate in the beekeeping community over whether or not gloves are necessary. Even the supplest material can limit mobility and make working with the frames harder. On the other hand, the extra layer of protection makes some beekeepers feel more comfortable, which in turn keeps their bees calm as they work around the hive. Either way, it's a good idea to have a pair of gloves, even just as a backup.



So, when buying gloves remember that you want sturdy material because they will take the brunt of a sting for you, and you want the kind that comes up your arm, so, your skin won't be exposed when you are moving around.

Smoker - The smoker is one of the beekeeper's most valuable tools and should be a pretty big priority if you decide to take on beekeeping. Bees don't usually sting unless they feel threatened. When a bee stings, it releases a pheromone that alerts and agitates the rest of the colony. To keep the hive calm during hive inspections or extractions most, beekeepers use smokers to help mask pheromones. This means that even if you get stung, the other bees won't notice and defend themselves, as the smoke will mask the bee's scent. This makes getting in and out of the hive much easier for you.



Fuel For the Beehive Smoker - I have used a variety of fuel for my beehive smoker while trying to figure out what works the best. There's nothing worse than being out at the beehives trying to do a hive inspection and the fuel in the hive smoker stops smoking or won't stay lit. It's not only frustrating but the bees get really agitated and a bit more aggressive without the consistent smoke.

The main types of beehive smoker fuels are pellets and cotton fiber. I've also tried picking up handfuls of dried pine needles from under one of our pine trees to use.

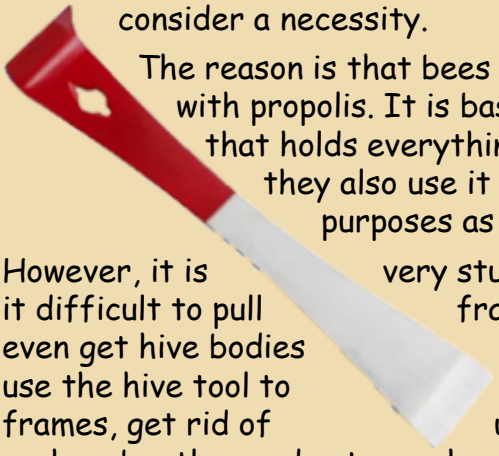
What I've found to work best for an easy to light, long lasting smoldering smoke producer is a mixture of cotton fiber, smoker pellets, and a handful of pine needles. I've been using this the last few years and it works great!

Bee Brush –

The bee brush is another simple yet incredibly useful tool. This is a soft-bristled brush that beekeepers use to gently and safely remove bees from wherever they're working. When you lift a frame and can't shake off all the bees on it, you can use the bee brush to sweep the rest of them off the frame. This a quick and painless way to make sure your work area is clear when you're working within the hive.

SPEAKER NOTES cont.

Hive Tool - A hive tool is a solid, flat, metal tool that has many useful purposes. It is another very inexpensive tool, but it is one I would consider a necessity.



The reason is that bees line their hives with propolis. It is basically the glue that holds everything together, and they also use it for insulation purposes as well.

However, it is very sturdy and makes it difficult to pull frames apart and even get hive bodies apart. You can use the hive tool to scrape frames, get rid of unwanted pests such as beetles, and cut open honeycomb.

This is why you need a hive tool. I use this one.

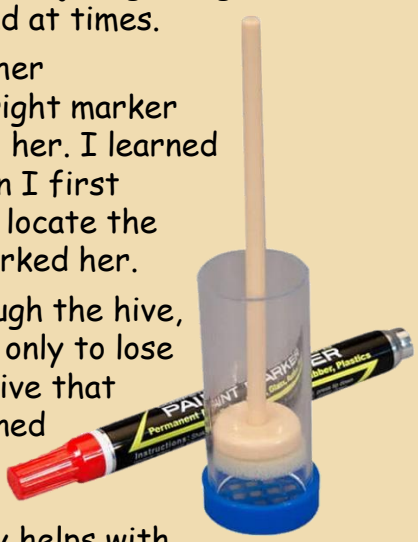
Queen Catcher - A queen catcher is a handy tool to have when you want to keep the queen separated for a while. A prime example of this is when you are going through your hives. Sometimes it is easier to place her in this catcher, so you don't lose her in the process.

Plus, if you are catching a swarm then you would probably like to use this tool because if you have the queen then the hive usually stays as long as she does.

Queen Marker - Marking your queen will be very helpful when you are just getting started. She can be hard to find at times.

However, if you mark her hindquarters with a bright marker then you will know it is her. I learned this the hard way when I first started out. I couldn't locate the queen, and I hadn't marked her.

I just kept going through the hive, and thought I saw her only to lose her. I lost the whole hive that year because as it turned out, I did have her, and she fell on the ground. This tool really helps with that process.



Queen Excluder - There are times with your hive that you might want to use a queen excluder. I'll say this upfront, if you prefer to go with natural beekeeping, then you probably will not need this. However, if you don't, then you might want it. Basically, it is a personal preference. An example of when you might want to use one is when you place a queen excluder above where the queen lays her brood to keep her from laying her eggs in the honey supers.

So, the point behind this is that the grated excluder is placed wherever you don't want the queen to go. The slots are small enough that the worker bees can still fit through the slots.

However, the queen cannot. She is forced to stay below where the excluder is. You can also use it when you are moving your bees to a new location. You place a queen excluder in front of the hive door so the queen can't leave. This gives your bees a great chance at sticking around.

But as mentioned, not everyone uses these tools. So, you'll need to decide which type of beekeeping you'd like to practice to decide if you need this tool or not.

Essential Oils - I use essential oils to attract bees to my swarm boxes. I also use essential oils in my homemade honeybee health recipe which I feed to the bees during the times of year that they need me to supplement their foraging with sugar water.

Plus, I can use essential oils to help drive out hive beetles. That is a huge help because hive beetles will dominate your hives quickly if you aren't proactive.

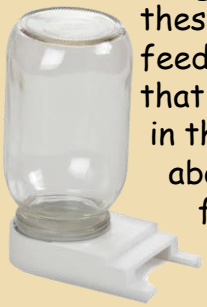
So essential oils can be used in a lot of different ways around the hive. I would recommend purchasing scents such as lemon, lemongrass, lavender, and spearmint. Those are the types I use most commonly.

SPEAKER NOTES cont.

Feeders - You will need some type of feeder at some point if you are keeping bees. There are certain times of the year when things either have quit blooming or are waiting to bloom. Those are the times your bees will need you to help them supplement their food supply.

However, it isn't difficult to do. You just mix equal parts of sugar and water. Then place the mixture in a feeder. You can open feed which means you leave a bucket of sugar water out for the bees.

Or you can use an entrance feeder or a hive top feeder. The advantage to these feeders is that they are in the hive, so you don't have to worry about other creatures robbing food from your bees. This is especially beneficial during the winter, when your colony can't move very far to look for food.



Sugar - As I've already mentioned, there will be times in the year that your bees will depend upon you to supplement their food supply. They require a syrup that is equal parts of sugar and water.

White sugar is, chemically speaking, pure sucrose. Why is this significant? Because nectar is predominantly sucrose (with some fructose, glucose and trace minerals). White sugar, also called granulated sugar or table sugar, is the most similar to nectar that we have available. Therefore, white sugar should be your choice in feeding bees.

Beekeeping Toolbox/Bucket - It is really helpful to have a toolbox, carrying case with a handle or bucket to hold all your beekeeping supplies and tools that are needed when doing a hive check. I keep all my necessary beekeeping tools and supplies here so I always know where they are and can easily carry them back and forth from my beekeeping shed to my beehives.

Nuc Mesh Transport Bag – You can transport the nuc in the back of a pick-up truck or inside a car. If you opt for inside your car, you should bring a jacket so that you're comfortable driving home with the A/C cranked up to keep the bees cool and quiet. Many people opt to buy special transport bags that are made of a breathable mesh with string closure, to ensure bees are kept securely contained inside of the bag, and not inside of your vehicle; simply place your bag on the ground, set your nuc or package(s) on top, pull the bag up and seal it with the string.

Educational Tools - There are always new methods, tools, and information relating to bees. One of the most important things to have in your beekeeping tool kit is knowledge. You can follow online forums or blogs to keep up with other beekeepers' experiences and advice. Connect with other beekeepers in your area and keep an eye out for new educational tools such as books and documentaries. The more you know about your bees and the larger beekeeping community, the better your experience will be. You can even join our beekeeping club and classes to learn more!

Well, I hope this list helps you as you get started on this new adventure. I know some of the tools mentioned are just basic tools while other items mentioned are living creatures that allow the whole process to work. Tools and equipment that you will need in order to harvest and store your honey, I will leave that for a later article.

My best advice is to do your research and make sure you are buying what will work best for you. Beekeeping is a unique hobby that also enables you to make a profit if you so desire, but it requires a lot of knowledge to be successful at it.

MESSAGE from the SECRETARY

Hello Everyone,

Summer Festivals: CVBA receives many requests to participate in community events, yet we are not able to fulfill them all, nor can we adequately staff 2023 events with the current number of volunteers **WE NEED YOUR HELP!**

We need volunteers to help load up the equipment into my truck at the Treadway Fire House before each festival then deliver the equipment to the festival and help set up.
We need volunteers after the festival to take down and load up the equipment and return it to our storage building in Treadway.
We need a minimum of 2 folks to work in the booth in 2-hour blocks (you can sign up for as many blocks as you want). You will engage with festival attendees and tell them about CVBA offerings and encourage new members.

Sneedville - Mountain Memories
Sat. Oct. 7 – Sun. Oct 8
10am – 6pm

Rogersville – Heritage Days
Sat, Oct 14 – Sun, Oct 15
10am – 6pm

Morristown – Mountain Makin's
Sat. Oct 28 – Sun. Oct 29
8am – 5pm

CVBA's has participated in these festivals for many years. Our booth is a great activity for both new and experienced beekeepers to share information about honeybees & beekeeping. There will be honey tasting and an observation hive for questions and answers. Members can sell their honey and honey crafted products. We also take the opportunity to tell folks about Clinch Valley Beekeepers Association. Plus, the festivals are just plain fun!

I will have a sign-up sheet at the next meeting,
or you can email me at: cvbanewsletter@gmail.com.
Your help is much appreciated!

Speaking Engagements: CVBA gets many requests from schools and community organizations to provide speakers about honeybees, but we often cannot fulfill these due to lack of volunteers. If you like talking about hone bees, please sign up to be on our speaker list by emailing cvbanewsletter@gmail.com

Please return library materials! Many items are missing from our library. Please return your CVBA library items by bringing them to the monthly meeting or mailing them to: Clinch Valley Beekeepers Association, PO Box 736, Sneedville, TN 37869

Thank You! *Sherri*

UPCOMING EVENTS

Tennessee Beekeepers Association's 2023 Conference
•Fri., Oct. 6 - Sat., Oct. 7
•Location: To Be Determined

BEE FUNNY

If there's a bee in my hand, what's in my eye?
(answer on last page)

HIVE CALENDAR

Adapted from the Cookeville Beekeeping Calendar

TN BEEKEEPING ANNUAL CALENDAR
Of course, all dates are approximate, and dependent on weather…
Brood production restarts in early September – usually there are some small but unreliable nectar flows which end by late month even in a good year. Evaluate all hives early in the month, and combine, shake out or requeen any which are lagging. Cut your losses now before you have fed and babied lackluster hives for months only to have them fail over the winter – or fail to be productive in the spring.
Start feeding light hives 2-1 heavy syrup until they put on sufficient weight to overwinter on.

HAPPINGINGS

As you read this newsletter, you can see that we go through many photographs for each issue. We would love to have **YOUR PHOTOS** of your bee yard in all seasons, or as you are inspecting.
Send them as attachments to: cvbanewsletter@gmail.com
If they have people in them, please identify with names.

Bobbi Smith and Rocio Loor harvested 10 nice frames of beautiful honey.

Bobbi had a memorable story to tell about their harvesting day.
They hadn't gotten all the bees out of the box before they brought it into the house for extraction.

Once they started removing the frames the bees were all over the inside of the house. Bobbie had to take all the screens out of the windows and open all the doors and wait until night before all the bees went back to their hive. She said after all that she only found 4 dead bees. Not bad for all that happened.

Be sure you don't have any bees in your box when you bring it into your house for harvest!

Swarms don't only happen in the spring as Jessica Morgan found out.
She and her dad successfully retrieved a swarm and added it to her apiary.

APIARY MANAGEMENT

Hazardous Spray
Appalachian Voices (appvoices.org)

By Ashley Goodman June 7, 2018

Residents and beekeepers work with electric cooperatives to opt out of herbicide applications. Residents in Hancock, Claiborne and Union counties in Tennessee, were taken by surprise when strangers showed up in their yards and began spraying chemicals under their power lines in 2016 and 2017. Shortly after, crops, bees and even pets began dying — and community members began experiencing a myriad of health issues.

The strangers were subcontractors with Powell Valley Electric Cooperative, which residents allege utilized excessive herbicide spraying when clearing vegetation from its power line rights-of-ways.

Herbicides can have harmful effects on people and pollinators. Glyphosate, for example, a chemical used by PVEC and found in the herbicides Roundup and Rodeo, is one of many herbicides proven to negatively impact bees' health and behavior.

In response to the public's concerns about herbicide impacts on humans and the environment, some utilities are taking steps to manage the chemicals more responsibly — and are beginning by engaging with communities.

Chemicals and Concerns

According to its website, Powell Valley Electric Cooperative has over 3,500 miles of power lines that serve more than 31,500 member-owners in Northeast Tennessee and Southwest Virginia. Since Powell Valley is an electric cooperative, it is a nonprofit entity and the residents who receive energy from the co-op are also the its members and owners.

Lisa Strickland, a beekeeper and organic farmer in Harrogate, Tenn., recalls spraying occurring in nearby communities — including Sharps Chapel and Cumberland Gap — in June 2016. The following June, her community was again impacted by spraying that also took place in surrounding areas.

PVEC was not obligated to notify member-owners about when and where herbicide spraying would occur; as a result, many residents had no idea the sprayers were coming.

"I'd been in my garden, and I came in for lunch," Strickland says. "I went back outside to find strange people popping out from behind my utility building. It literally scared the life out of me."

In the months following, Powell Valley member-owners from Sharps Chapel, Cumberland Gap, Hancock and surrounding towns complained of health problems, withered crops, dead pets and decimated pollinator populations.

Residents reported rashes, high blood pressure and even hospitalization for kidney problems after touching or eating sprayed plants and crops or swimming in nearby bodies of water.

Sharps Chapel resident Mike Shelley told USA Today that soon after he and his dog swam in a nearby lake following the June 2016 spraying, he was hospitalized for unidentified kidney problems, and his dog was euthanized due to kidney failure.

Beekeepers in Claiborne County believe the spraying killed their bees, according to Strickland.

Jay Heselschwerdt, a local beekeeper, told WVLT-8 News that 34 of his 38 hives died after Powell Valley Electric Cooperative sprayed herbicides on his property in 2017, and that he believes the chemicals were the cause.

Herbicides and Pollinators

Rodeo, Method 240SL, Escort SPX, Arsenal and Aqufact were the chemical products sprayed in 2016, according to a list released by Powell Valley staff to USA Today.

Strickland says the chemicals sprayed in 2017 were Arsenal, Roundup Custom, Milestone VM, Garlon 3A and Enhance.

According to research conducted by chemical manufacturers, the majority of the herbicides are "non-hazardous," but Aqufact, Enhance and Garlon 3A may cause a range of health problems for people and animals.

While Aqufact is listed as "not classified," its manufacturer warns that the product is highly toxic to aquatic species and may cause birth defects in humans. The manufacturers of Aqufact and Enhance both cite possible respiratory tract, eye and skin irritation, though Enhance is classified as "non-hazardous."

Garlon 3A is the only chemical listed as "hazardous." The chemical causes extreme eye irritation and may damage kidneys through prolonged or repeated exposure.

Although scientists may have studied the herbicides' individual impacts on humans or pollinators, the interaction among combined chemicals has largely gone unresearched.

Multiple herbicides can overwhelm a bee's defenses. Honeybees use a specific enzyme to detoxify chemicals they ingest. If the enzyme is being used to detoxify one chemical, it may not be able to fully detoxify another, resulting in poisoning, according to BeeAware, an informational organization for beekeepers.

Further, native bees are often smaller and more susceptible to chemicals than honeybees, according to the West Virginia Pollinator Handbook. Even when they don't die of herbicide and pesticide interaction, the chemicals can affect their reproduction and pollination habits, impacting the overall health of their nests.

The herbicides Rodeo and Roundup are both composed mostly of glyphosate, a broad-spectrum herbicide that kills a variety of weeds. Glyphosate was declared "probably carcinogenic" by the World Health Organization's International Agency for Research on Cancer in 2015.

The U.S. Environmental Protection Agency lists glyphosate as "practically nontoxic" to honeybees — but other studies indicate it can still have negative health effects on pollinators.

A 2014 study by the University of Buenos Aires found that after exposure to glyphosate — in this case through glyphosate-laced sucrose — honeybees exhibited reduced sensitivity to the scent of sucrose, leading to a decreased ability to find food, and poorer memory and learning performance.

As worker bees struggle to find their way home or locate food, the study suggests this may lead to an increased likelihood of colony collapse disorder, a phenomenon in which a majority of worker bees disappear from the hive and abandon the queen.

Herbicide use is not only widespread in electric cooperatives. In Tennessee, as in other states, highway agencies, railroads and other utilities employ similar herbicide combinations.."

Holston Electric Opts For Communication

When they heard about the herbicide spraying in Powell Valley, members of the neighboring Holston Electric Cooperative decided to increase communication between member-owners and staff in their own co-op.

The Heritage Beekeepers of Hawkins County, a group with members of both Powell Valley and Holston electric cooperatives, initiated the discussion with Holston Electric in August 2017. They asked the co-op for a policy that would allow concerned residents to opt out of right-of-way herbicide spraying and manage vegetation independently.

Heritage Beekeepers Vice President Becky Johnson says their requests were met within months. An opt-out policy was made available, and Holston Electric announced in a news release that employees would visit members' homes and hang door knockers indicating what areas would be treated.

There are still problems to overcome, according to Johnson. Holston Electric primarily informs member-owners about spraying schedules via Facebook, a channel not all residents have access to. Johnson also stated that Holston was reluctant to discuss details of their spraying practices during conversations with Heritage Beekeepers representatives and the state apiarist.

Nonetheless, member-owners' communication with the cooperative was an important step for humans and bees alike, according to Johnson.

"It's about time that people stand up for their rights and their animals' rights to be paid a voice," Johnson says. "The bees are a link to everything, they're linked to the plants that grow, to other forms of wildlife and livestock, to the obvious honey. They help connect so many different aspects of our everyday life."

Working Toward Cooperation

With public concern about chemical use on the rise, Powell Valley and Holston Electric aren't the only utilities in Appalachia whose customers are sparking conversation about protecting pollinators.

In French Broad Electric Cooperative, which serves seven counties in North Carolina and Tennessee, beekeeper and member-owner Rachell Skerlec said she has heard complaints in her community about over-spraying.

"People definitely are concerned about if it will turn up in waterways, if it'll linger in the environment," Skerlec says. "I am a beekeeper and people in the beekeeping club are concerned it might contribute to honeybee losses."

Skerlec has been a beekeeper for 10 years, and experienced almost no annual bee losses in her four years in Cape Coral, Fla. But in the six years she has lived in North Carolina, Skerlec has seen bee losses every winter but 2017 to 2018.

According to Skerlec, she started opting out of pesticide use in spring 2015, just before she got goats to maintain the co-op's right-of-way on her property naturally. Despite concerns about the use of chemicals, Skerlec says she also understands the difficulties French Broad Electric faces with vegetation management.

"This area is mostly mountainous and wooded, and they were explaining to me that it's a r to keep that power reliably supplied," Skerlec says. "It's so important to have those right- maintained so if something goes wrong, they can very quickly access what they need to acce power to the people. When they explained the amount of time and money it would take trying to do this area with just manpower versus chemicals, they very quickly painted me a picture that made me realize the scale of the challenge they're up against."

Skerlec describes French Broad as respectful and communicative, and noted that she feels comfortable coming to them if problems arise in the future. French Broad Electric Cooperative did not respond to multiple phone calls.

This year, Powell Valley Electric Cooperative is working on opening up communication, according to Assistant Manager Bo Goodin and Director of Apparatus Maintenance Travis Tolliver.

Like the Holston and French Broad electric cooperatives, in early 2018 Powell Valley instituted an herbicide opt-out policy after consulting with a small group of member-owners.

According to Lisa Strickland, who was involved in the meeting, the member-owners worked with the cooperative to write and implement the opt-out policy as well as notification procedures for the general public and specifically for beekeepers. The group also encouraged Powell Valley to upgrade its website.

Since then, Powell Valley has included spraying schedules on their website, in their community magazine and twice in their bills: one general notification about the upcoming spraying season followed by specific information about spraying times in certain areas, according to Tolliver.

"We try to notify every beekeeper in our system," Goodin says. "We talk to some of the people who are in organizations like beekeepers' clubs, and we notify those especially prior to herbicide treatments. They've been very receptive to work with. They're working with us, and we're trying to work with them just as well."

Moving forward, Strickland says she hopes to continue discussion with Powell Valley and encourage them to hire a right-of-way supervisor who is versed in forestry and environmental science, so this problem is not repeated for a third consecutive year.

"It is important that members of any cooperative understand that they are actually member-owners and do govern how their cooperative operates through their cooperative's bylaws," Strickland says. "With Powell Valley we continue to engage members of the community and help them understand that they do in fact have a choice. They do have a voice, and that voice truly does matter and will make all the difference in the way that our cooperative manages its right-of-ways and so much more."

The End

APIARY MANAGEMENT cont.

My Experience

There's nothing worse than discovering your bees have been poisoned. The once busy entran silent with only a few twitching bees in carpet of dead below. The suddenness of a colony lost to pesticide poisoning is shocking. What follows is often heartbreaking, humbling and infuriating. So, how do you know if your colony has been poisoned?

That's what happened to me this year. I have opted out of spraying but some around me haven't. They sprayed just 185 feet away from 2 of my hives. That day I could feel the effects around my mouth and tongue that there was poison in my body. That night my little dog Ivory got sick and threw up and was sick the next several day also. The day after the spraying I noticed that there were no bees of any kind and no butterflies on the pollinators garden with is across the driveway from the bee hives. Then I saw my bee hives. Dead bees in front of the hive, crazy acting bees on the ground and driveway, very few foragers coming and going. Each day there were less and less live bees. Now 4 weeks later both hives are completely dead. These were strong vital hives with lots of honey. This means the honey was also poisoned and lost, 20+ full frames of amber honey gone. Can't even feed it back to the 2-surviving hives I have.

I've wrote a letter that I am going to give to each of my neighbors. It goes like this:

Dear Neighbors,

My backyard beehives have been poisoned and I need your help. Because honeybees travel up to three miles to visit flowers, they are likely visiting your yards, gardens, and pastures. Honeybees are beneficial to your garden and do not behave defensively when they are away from their hive. When herbicides and pesticides are used improperly, it kills thousands of bees. Not just honeybees are harmed, but other pollinators too, like bumble bees and butterflies, Here's how to help: 1) Sign up for the Powell Valley opt-out program! **PLEASE** 2) Avoid using herbicides and pesticides when possible or select an organic product. 3) Organic or not ever apply a pesticide when the plant is blooming. 4) Apply according to the directions on the bottle, most are best applied in the evening when there are less pollinators out. 5) Never use products that contain IMIDACLOPRID, CLOTHIANIDIN, THIAMETHOXAM, ACETAMIPRID or DINOTEFURAN. They are extremely toxic to bees and are found in many home garden products. They are often marketed as "al=in-one-care". These are neonicotinoid pesticides believed by many to be the root cause of the honeybee die offs we are experiencing worldwide.

If you have any questions, you can contact me at: imagineartstudio@hotmail.com.
You can also stop by, I'm always open to talking and teaching about honeybees.

Thank you so much

Sherri Hudson

BEFORE

AFTER

APIARY MANAGEMENT cont.

Recognizing and Reporting Bee Kills

Common symptoms of bee poisoning

- A sudden drop in foragers.
- A large mat of dead bees in front of your hive.
- Spinning, skipping and disoriented bees on the ground around your hive.
- Bees dropping from the frames when you lift them out.
- Dead bees on the bottom board.

Healthy hives may experience daily die-off of up to approximately 100 dead bees per day per hive. Higher numbers may be a sign of bee poisoning or exposure to another stress (e.g., poor hive conditions, inadequate food supply, parasites, disease, etc.).
These symptoms cannot be taken as definite signs of pesticide poisoning. Many chronic management problems such as starvation, winterkill, chilled brood, or disease may result in the same symptoms. Often pesticides may cause these problems in an indirect manner. So, it is difficult in many instances to categorically state that bees have been poisoned.
For more information on bee death, including colony collapse and how to report a bee death incident, visit the EPA's Pollinator Protection website. The EPA incident report can be found here. Pesticide incidents may be reported by email directly to EPA at: beekill@epa.gov. Some states have incident reporting forms, contact your state Department of Agriculture or Department of Pesticide Regulation for help. Additionally, Bayer CropScience provides a "Bee Health" hotline at 1-800-334-7577.

Maine put out an interesting report on
How to Autopsy a Honeybee Colony
by Jennifer Lund, Maine State Apiarist
hive-autopsy.pdf (maine.gov)

Another good article can be found at:
HOW TO SAVE A POISONED BEEHIVE

BEFORE

AFTER

POWELL VALLEY ELECTRIC COOPERATIVE
POLICY NO. 100 – 6 A
Opt-Out Policy

I. OBJECTIVE To provide a means by which to accommodate those members objecting to the Cooperative's use of herbicides on the Cooperative's Rights-of-Way crossing their lands.

II. GENERAL The Cooperative owns approximately 3,500 hundred miles of primary distribution and transmission lines serving approximately 1,100 square miles of service area. Its preferred means of keeping its rights-of-way clear includes the application of herbicides. Some members object to the use of herbicides and it is the purpose of this policy to provide them with an alternative, by which (subject to the terms of this policy) the Landowner(s)/Acting Agent(s) may restrict the Cooperative's use of herbicides on a designated portion or all of the Cooperative's rights-of-way crossing the Landowner's property for a given period of time. This alternative policy is called "opt-out".

III. NOTIFICATION

A. The Cooperative should make a reasonable effort to notify members with active accounts by:

1. Publishing a general advance notice in the Cooperative's Tennessee and Virginia Magazines; and
2. Printing a specific advance notice to be included with the member's electric bill prior to beginning herbicide treatment.
3. Website

B. The Cooperative assumes absolutely no responsibility for its failure to notify Landowner(s) of tracts of land having an active, inactive, or no electric account.

C. The Cooperative shall make available to the Landowner(s)/Acting Agent(s) a list of the herbicides that it plans to use.

D. It is strictly the responsibility of those Landowner(s)/Acting Agent(s) wishing to opt-out to notify the Cooperative of their desire to do so.

IV. SITE IDENTIFICATION

A. A cooperative representative should meet on site with the applicable Landowner(s)/Acting Agent(s) (or designees) who must then physically show the Cooperative representative the specific location of all Cooperative right-of-way limits of the opt-out area. The Landowner(s)/Acting Agent(s) must take full responsibility for the accuracy of these designated limits.

B. The Landowner(s)/Acting Agent(s) must purchase (from the Cooperative), erect and prominently display the Cooperative required signage (facing outward from the op-out tract of land) at each location that the Cooperative's line enters or exits the op-out area. Due to safety concerns, the signs may not be attached to Cooperative's owned poles.

C. The Landowner(s)/Acting Agent(s) may opt-out a portion or all of the Cooperative rights-of-way crossing the Landowner(s) property but said area must be clearly marked with signage and shown to the Cooperative's representative.

D. The Cooperative should employ GPS technology to define the Cooperative's enter/exit limits of the opt-out tract and add this information to the Cooperative's no spray maps.

V. OPT-OUT AGREEMENT

A. The Cooperative will require the Landowner(s)/Acting Agent(s) desiring to opt-out to execute a two-calendar year term opt-out agreement.

B. The agreement must include the terms of this policy.

C. The agreements are NOT automatically renewable but will require that new two-year agreements be executed every two years if the Landowner(s)/Acting Agent(s) desires continued opt-out coverage.

D. The Landowner(s)/Acting Agent(s) must certify ownership of the opt-out area. This opt-out agreement is nontransferable.

E. The Landowner(s)/Acting Agent(s) has 75 days from the date of the initial site visit in (IV, A.) above to bring the opt-out right-of-way area into compliance with the Cooperative's clear right-of-way standards. The Cooperative should then perform a follow-up verification right-of-way inspection. If the opt-out area fails to meet these standards, the Landowner(s)/Acting Agent(s) may (at the sole discretion of the Cooperative) be given a small amount of additional time if special circumstances warrant such. Once this 75-day window (or extension of same) closes, the Cooperative may, at its sole discretion, cancel the applicable opt-out agreement and clear the right-of-way by whatever means (including herbicide application) it chooses, without liability or obligation to the Landowner(s)/Acting Agent(s).

F. The Landowner(s)/Acting Agent(s) is prohibited from cutting any trees that have grown above any wires or have the potential of coming in contact with any wires when cut.

G. The Landowner(s)/Acting Agent(s) is required to indemnify and hold harmless the Cooperative, its officers, employees, and agents from and against any liability for loss of life, personal injury, or property damage and any other claims or demand, including all reasonable attorney's fees and expenses, arising from or related to the Landowner(s)/Acting Agent(s) or designee's maintenance efforts on the Cooperative's rights-of-way.

H. The Cooperative's standard right-of-way widths are 100 feet for transmission lines (lines greater than 26 kv) and 40 feet for overhead primary distribution lines (lines having voltages of 7.2 kv to 26 kv).

VI. RESPONSIBILITY

The General Manager or designee shall develop and administer this policy.

MENTORING

We encourage everyone to have a mentor, especially if you are new to beekeeping. If you need a mentor, please let Jr. Snelson or David Sams know at the next meeting, and they will try to find one. Please consider being a mentor for our club! See the secretary to be put on the list

LIBRARY

CVBA encourages each person to further their education by reading books, checking out various websites, and watching the videos that are available on bees and beekeeping.
Check out the selection of books and DVDs we have available.

If you have a book or video checked out, please return it at the next meeting.
Books can be returned to the Club Librarian, President, or Secretary.

If you have an idea for a book or DVD you think would be good for our library let us know.

REMINDERS

Tennessee law requires all colonies to be registered with the state. Use the links below or the QR code to register your apiaries.

Online Apiary Registration Form: Apiary Registration.

Online request form for hive inspection: Apiary Inspection Request

BEEKEEPING HISTORY

Honeybee Articles - Beekeeping History

September 1, 2014

Happy Labor Day to the Honeybee

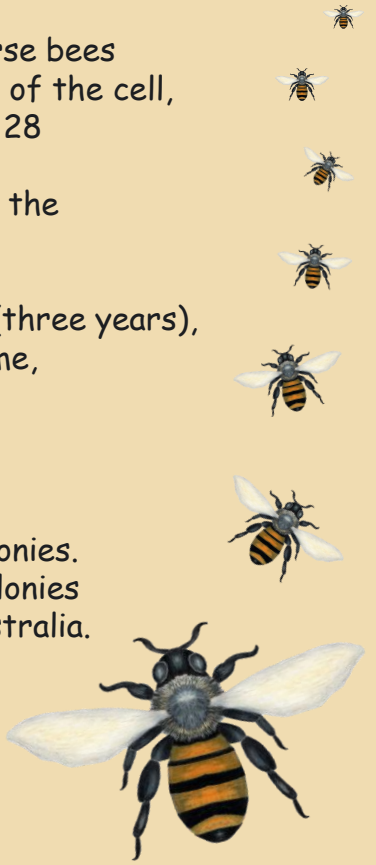
Few Amazing Honeybee Labor Facts

DID YOU KNOW?...
Thirty-five full sized colonies of bees will collect enough nectar during the season to fill a 14 x 25-foot swimming pool 4 feet deep with over 10,000 Gallons of nectar.
The CRB Commodity Yearbook By Commodity Research Bureau 2007 page 133
===
"The expedition of the bees in their labor is almost incredible; for, notwithstanding the elegance and just proportions of the work, they are so indefatigable, that they will, in one day, finish a honey-comb, a foot long, and six inches broad, capable of receiving three thousand bees."
circa. 1764; The Complete Dictionary of Arts and Sciences, Volume 1, By Temple H. Croker, Thomas Williams, Samuel Clarke
===

Image: (Photo by Hongsik Kim) National Geographic's Photography Contest 2010
===
"...about three-fourths of the time of the bees, it has been computed, is taken up in the construction of the comb..."
circa. 1879; Journal of the Society of Arts - Volume 27 – Page 910
====
"History is philosophy teaching by example..." -Abraham Lincoln - DID YOU KNOW.... Abraham Lincoln was very fond of honey?
===
"A honeybees work consumes about half the hours of daylight, the remaining hours of the twenty-four being spent in rest, according to tests made by the United States Department of Agriculture."
Freeport Journal-Standard, January 29, 1924, Freeport, Illinois
====

BEEKEEPING HISTORY cont.

" A queen will lay a half mile of eggs in her lifetime (three years), while a hen in the same time, allowing 200 eggs a year and one and one-half inch to the egg, will only lay seventy-five feet of eggs. "
Homestead, Friday, March 22, 1895, Des Moines, Iowa
====
"Research has shown that some honeybee colonies may make over a half a million flights per day. An average size honeybee colony makes about 250,000 flights per day, -almost three times as many flights than all the aircraft flights in the United States on any given day."
Jerry Bromenshenk -Data published in Army reports, Fort Worth Air Route Traffic Control Center
===
A STRONG colony of bees has been known to build one hundred square inches of comb in twenty-four hours; at that rate, over sixty sheets of comb a foot square could be constructed in three months. The Annals of Bee Culture mentions a swarm that built nine sheets of comb, ten by thirteen inches, in ten days.
The Indiana Progress, Thursday, January 22, 1874, Indiana, Pennsylvania
===
10,000 bees can produce one pound of beeswax in three days.
Robbing the Bees By Holley Bishop. 2007 page 234
===
On sunny mornings, the weight of a beehive drops about two pounds between eight and eight-thirty o'clock. That is the time when some 10,000 bees go forth on their first foraging expedition of the day. Popular Mechanics, Nov. 1926 page 82
===
According to Toshkov et al. 1973, Honeybees forage large areas, about 10,000 acres, visit innumerable flowers and travel tremendous distances.
The Bioenvironmental impact of a coal-fired power plant: fourth interim ...
By Corvallis Environmental Research Laboratory. Terrestrial Division. 1979 page 217
===
Sturtevant, and Lineburg have stated that approximately 10,000 visits from nurse bees are given each individual between the deposition of the egg and the sealing over of the cell, during which time there is an increase in weight from approximately .132 mg. to 28 approximately 155 mg.
Farrar, Clayton Leon, "A measure of some factors affecting the development of the honeybee colony" (1931). Doctoral Dissertations 1911-2013. Paper 889. page 27
===
During her prime a queen can lay 10,000 eggs in 4 days. A queen in her lifetime (three years), will lay over a mile of eggs (one million or more), while a hen during the same time, allowing 365 eggs a year and 2.5 inch to the egg, will only lay 228 feet of eggs.
A queen bee's egg is one-fourteenth of an inch in length.
The Biology of the Honeybee, By Mark L. Winston 1991
===
There are several commercial honey produces that keep in excess of 10,000 colonies. During their lifetime of 3 years, the queens in a commercial apiary of 10,000 colonies will have laid enough eggs to cover the distance from London U.K. to Sydney Australia.
The Biology of the Honeybee, By Mark L. Winston 1991
===
Over 10,000 species of flowering plants, including fruit trees and bushes would be extinct but for the activities of bees, and the bees could not thrive without the flowers.
The Welsh Bee Journal: The Official Organ of the Welsh Beekeepers' Association, Volumes 4-6, 1949 page 173



BEE INSIGHTS

Honeybee Life Cycle

Updated: 2nd January 2023

The 4 stages of the life cycle of Apis mellifera from egg to adult.

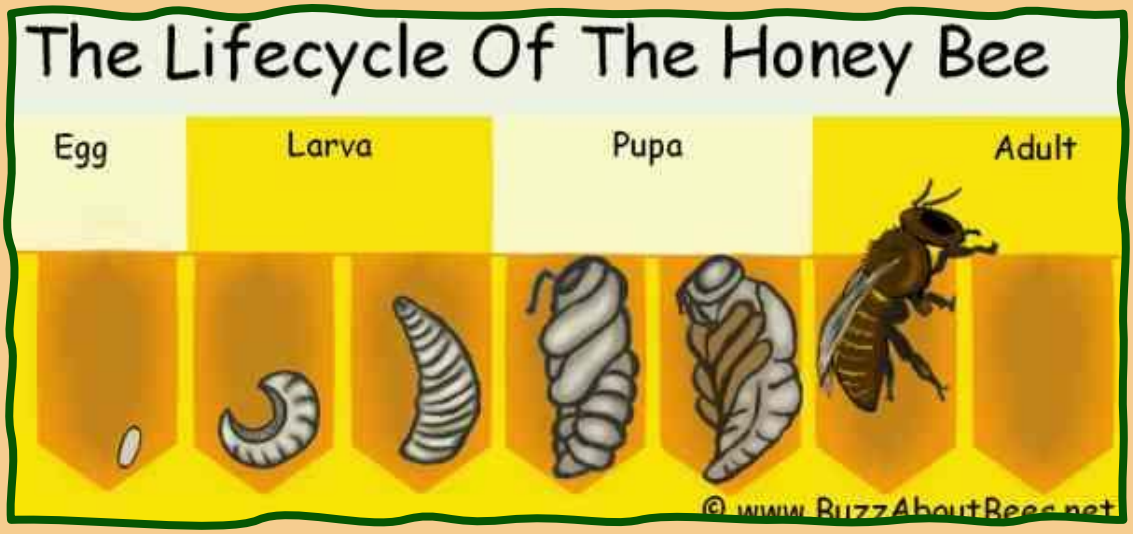
The life cycle of the honeybee begins firstly with the mating of the queen hone bee with drones (males). To do this, the queen will leave the hive or nest on a mating flight, where she will mate mid air up to 24 times.

You can watch this amazing spectacle on my page about **honeybee mating behavior**.

The impregnated queen returns to join the rest of the colony in the nest or hive, where she will lay the eggs that will develop into adult bees.

The Honeybee Life Cycle: The 4 Stages From Egg To Adult

The honeybee life cycle has 4 basic stages between egg and adult bee, whether it is a worker, drone or queen, although there will be slight variations in the time it takes for each to emerge from the egg cell. As with all insects, bees go through a process called metamorphosis as the bee develops from a larva to and adult. The development of a drone from egg to adult takes about 24 days, whereas queen and worker development is quicker.



	Average time taken for an egg to develop into an adult bee
Worker	**18 - 22 days**
Queen	**16 days**
Drone	**24 days**

As with all insects, bees go through a process called metamorphosis as the bee develops from a larva to and adult.

The development of a drone from egg to adult takes about 24 days, whereas queen and worker development is quicker.

The life cycle of all bee species passes includes 4 key stages, and honeybees are no different in this regard.

The 4 stages are:

1. **Egg**
2. **Larva**
3. **Pupa**
4. **Adult**

Let's go into this in a little more detail

BEE INSIGHTS

Egg

An egg is laid by the honeybee queen in a wax, hexagonal egg cell.

The egg is about the size of a grain of rice and initially stands upright in the cell but falls onto its side by the third day. The honeybee queen may lay up to 2000 or 3000 eggs per day.

An egg is laid by the honeybee queen in a hexagonal egg cell. The egg is about the size of a grain of rice.

Fertilized eggs will become females (workers or potential queens). Unfertilized eggs will become drones (male honeybees) and are laid in 'drone cells' which are larger cells than those of worker bees.

A potential future new queen honeybee is laid in a special cell, called a 'queen cell'.

Larva

After 3 days, the egg develops into a larva, which looks like a small white grub. It has no legs and is blind.

The larvae are fed by young worker nurse bees that have not yet left the hive or nest.

Honeybee larva inside a cell.

Larvae are fed either 'worker jelly' (female workers), 'drone jelly' (males) or 'royal jelly' (queen).

Initially, all the larvae of worker bees are fed jelly for 3 - 4 days, after which, workers are fed on a slightly different jelly containing less protein[2].

Whereas adult worker bees will feed on pollen and honey, a larva destined to be a queen is fed only on royal jelly and will continue to be fed on royal jelly throughout her life[3].

Royal jelly is a substance made in glands in the head, and the salivary glands in the mouth. Royal jelly is sometimes called 'bee milk' and is produced by young nurse bees (worker bees of between 5 and 14 days old).

Royal jelly contains water, protein, vitamins, fats (lipids), and sugar and some mineral salts.

As the larva grows, it will molt (shed its outer skin) several times. After about 6 days (depending on whether the bee is a worker, drone or queen), the egg cell is covered with a layer of wax by the worker bees.

BEE INSIGHTS cont.

Pupa

Inside the sealed egg cell, the larva begins to spin a cocoon around itself and pupate.

During this phase, the larva develops into a recognizable bee, with wings, legs, head, thorax and abdomen.

Honeybee - Apis mellifera on geranium flower.

Eventually, a young adult bee will emerge from the hexagonal-shaped egg cell, by chewing its way through the wax capping.

All in all, from the time the egg was laid, it takes new honeybee queens about 16 days to emerge from the egg cell, whereas worker bees require between 18 and 22 days to fully develop, and drones need 24 days.

The honeybee life cycle captured on video...
Here is a wonderful video from National Geographic showing the development of the eggs through to the stages of larvae, pupae and finally the emerging adult honeybees:

[Amazing Time-Lapse: Bees Hatch Before Your Eyes National Geographic]

What happens to the honeybee colony?

Unlike bumble bee colonies, honeybee (*Apis mellifera*) colonies can survive the winter, provided they have enough food resources, are able to keep sufficiently warm, and are free of diseases and predators.

However, in the winter, colonies are smaller than in the summer: there are no drones (drones are evicted from the colony), and perhaps part of the original colony left the hive (in a swarm) to form a new colony and nest elsewhere.

Some of the workers will also die naturally during the winter months, however, there may be up to 20,000 workers left, and a queen.

The queen and the rest of the colony will form a winter cluster to keep warm during the cold months.

There will be no brood to tend to, and no eggs are laid during this time.

However, as the days begin to warm up, and the flowers begin to bloom, honeybees will begin to go out foraging again, and the queen honeybee will begin to lay eggs.

Honeybees at the entrance of a beehive.

For How Long Do Honeybees Live?

What is the lifespan of the different members of the honeybee colony (drones, worker and queen honeybees)?

The life spans of honeybees differ depending on their function in the colony, and when they emerged in the season.

I have written a page comparing the lifespans of the different types of bees, called How Long Do Bees Live?

Drones

The average lifespan of a drone is 55 days. Drones that mate with new honeybee queens, will die immediately after mating. However, there are reports of drones living to about 90 days - or about 12 - 13 weeks.

By the end of the summer, they will no longer be needed by the colony. Honeybees are quite tolerant of fairly cool temperatures, but need reasonable weather conditions (e.g., no snow or heavy rain) to forage, and of course, during the wintertime, there is far less nectar and pollen available.

Drones do not collect pollen or nectar, and before winter sets in, those still alive will be elbowed out of the nest or hive by the workers, so that winter food resources are not drained!

Workers

Workers raised in the spring and summer have shorter, busier lives than those raised later in the season, and may live 6 or 7 weeks. This is the most productive time for the colony, with larvae to be fed, nectar and pollen to be gathered, and honeycomb to be built.

Those raised in the autumn will have far less to do, with no brood to care for. Their main concern will be to survive the cold until the following spring. However, they may live 4 to 6 months.

Whereas the queen honeybee life cycle revolves primarily around mating and laying eggs, the life of worker honeybees also progresses through various stages and functions within the colony.

Sometimes, workers will also lay eggs, but such activity is usually suppressed by the queen, or eggs are destroyed by other members of the colony.

Read more about the different jobs of worker bees.

Honeybee worker - Apis mellifera on Hypericum

BEE INSIGHTS cont.

Queen Honeybees

A productive queen, favored by the colony and free from disease should certainly live for about 2 yrs., but could live for up to 3 or 4 years or even longer, partly depending on whether the beekeeper decides to get rid of the queen, or whether the colony decides to replace her with a new queen.

The honeybee queen is larger than the workers and drones but may be difficult to spot within the colony. Beekeepers often use a special paint to mark her thorax, making identification easier.

The act of deposing the queen by the colony is called 'supersedure.

Queens are difficult for beekeepers to identify among the thousands of workers in the hive.

So that they can find the queen more easily, beekeepers sometimes mark her with a spot on the thorax using a special bee paint as can be seen on the photograph.

The image below give you an idea about the relative size of the honeybee drone, queen and worker.

Size of honeybee drone, queen, and worker

Average size (length) of a honeybee by colony member	
Worker	0.4 inches / 1 cm
Queen	0.8 inches / 2 cm
Drone	0.6 inches / 1.5 cm

Are all bee life cycles the same?

As stated previously, all bee life cycles go through the stages of egg, larva, pupa then adult, although there are great variations between the that of solitary, honey and **bumble bee life cycles**.

Summary

I hope you enjoyed reading about the honeybee life cycle, but you can learn a lot more about some of the specific stages, such as swarming, by exploring the site further.

HONEYBEE LUNCH

Clinch Valley Beekeepers Association

Researched & Written by: Sherri Hudson

Autumn Joy Sedum

Hylotelephium

- Perennial, 2' x 2'
- Blooms September/October
- Butterflies also visit the flowers

Last year I discovered a bee-loving flower I've grown for years.
One morning I spotted a bunch of bee activity on some reddish blossoms.
It was **'Autumn Joy' sedum**. Now that I'm keeping bees, I'm all eyes and ears when it comes to flowers that attract bees.

Sedum has to be one of the most diverse plant groups in my gardens. From low-growing, colorful ground covers to the upright stately **'Autumn Joy' sedum**, their blossoms are intoxicating for many bees.

These late-season bloomers help extend available pollen and nectar.

Sedum plants are a staple of any garden in zones 3 to 8.
These long-lived perennials have thick succulent leaves and can thrive with minimal watering.

Right now, I'm totally fixated on Autumn Joy sedum as a honeybee plant.
It couldn't be just any sedum; it has to be 'Autumn Joy'.

In late summer and into fall, thousands of tiny pink star-like flowers open to welcome honeybees in their dozens to drink from a forest of nectar.

Sedums bloom for a long time and continue to provide nectar until frost in most locations.

Its fleshy, green foliage fills in quickly and behaves well, rarely crowding out its perennial pals.

Living up to its name, this plant is pure joy, not only in autumn but throughout the growing season!

Like other types of sedum, dependable and quite respectful, rarely crowding out their neighbors.

HONEYBEE LUNCH cont.

Notorious for its low maintenance requirements, Autumn Joy is one tough cookie, thriving in average to dry, sandy to gravelly soils in full sun to part shade. It is fairly drought tolerant and require little care. Growth will be floppy in too rich soils or too shady situations. The succulent-like green leaves grow in upright clumps. The flowers appear in large, flattened heads that start out looking like broccoli; progressing from green to light pink, then pinkish-red and finally rich burgundy-bronze. Once flowering is over, leave the dried flower heads on the plants for lovely winter interest, especially when it snows.

It works wonders in rock gardens, borders, or even as a focal point – no matter your landscape design, you'll love the versatility of 'Autumn Joy.'

Autumn Joy' stands out from many perennials in the garden.

Toward summer's end, while most flowers are spent and moving toward the end of their blooming phases, this plant is just gearing up for its moment in the spotlight.

The blooms make delightful cut flowers that can also be dried for ornamental arrangements.

This hardy herbaceous perennial enchants, not only in the fall, but all year long as it moves through its growth cycle.

It begins in early spring when small green clusters of leaves emerge from the soil, resembling an adorable miniature cabbage patch.

'Autumn Joy' grows upright to a height of one to two feet tall, and fills in up to two feet wide, with a compact, rounded shape.

Upon blooming, the flat corymbs of star-shaped flowers offer exquisite visual appeal with their form and shape.

And pollinators like bees and butterflies find late-season forage and respite atop them.

HONEYBEE LUNCH cont.

Moving into September and October, the buds gradually change color from green to a light pink, dusty rose, or coral.

Over six to eight weeks, the color of the flowers deepens to a rich, deep red or pink hue, moving toward rusty bronze, and eventually to brown as the flower cycle ends.

For those splendid weeks, 'Autumn Joy' gives gardens a much-needed punch of color, which is a welcome fall surprise!

No deadheading is necessary, and when left on its own, the plant can withstand cold and frost, extending interest and texture in the garden into winter.

Since this is a sterile cultivar, if flower stalks remain untouched through the winter, there's no need to worry about unintentionally propagating new plants via spreading seeds.

Once you have established plants, the fastest way to multiply your stock is by dividing and transplanting.

'Autumn Joy' should be divided every two to four years, presenting the perfect opportunity to increase your plot, add plants in other areas of your gardens, or share with friends.

Early spring is the best time to divide herbaceous perennials like sedum. As soon as you notice new growth poking out of the soil, carefully dig the whole plant up.

Divide the clump into sections with a sharp knife. Ensure each division contains a few shoots and a portion of the root system. Replant your divisions immediately or place them into pots to share with friends.

POLLINATORS GARDEN

POLLINATORS are a diverse group of species that includes birds, bees, butterflies, bats and beetles. They are critically important to life and their numbers are in steady decline as a result of habitat loss, pests, pathogens, pesticides and other stressors.

Milkweed

Never judge a plant by its name. That's certainly the case with this wildflower that isn't really a weed at all. This tough native of North American fields, wetlands, and prairies is the sole host plant for the struggling monarch butterfly.

"Summer in a milkweed patch is a colorful place," says Aunrag Agrawal, author of *Monarchs and Milkweed*.
"Not only are the flowers beautiful, but fragrances waft by and bees are buzzing around. And you might see a monarch butterfly perched on a flower or find one of its caterpillars grazing the leaves."

Milkweed Basics

Milkweeds (*Asclepias*) get their name from the sticky white sap that oozes from the leaves when they are damaged. More than 100 species of this herbaceous perennial are native to the U.S. and Canada.

Types of milkweed:

Three species of milkweed are good all-around choices for gardens in most regions of the country:

- Common milkweed (*A. syriaca*)
- Swamp milkweed (*A. incarnata*)
- Butterfly weed (*A. tuberosa*)

Swamp milkweed and butterfly weed are highly ornamental and available in a variety of cultivars. Download this milkweed information sheet from Monarch Joint Venture for regional native recommendations.

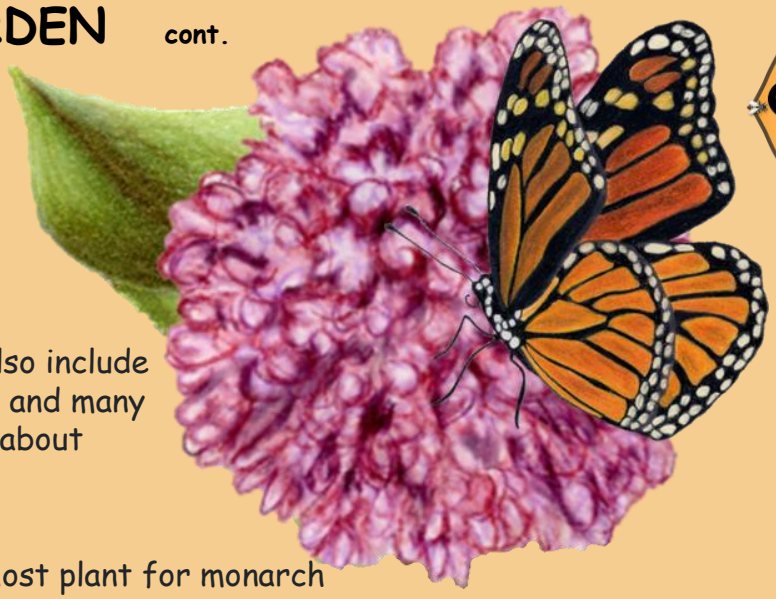
Tropical milkweed (*Asclepias curassavica*) is a non-native species that should be avoided, as it can cause harm to monarchs. Read more about it from the Xeres Society.

Flower characteristics:

The petite, star-shaped flowers of milkweed are perfectly designed for pollination. Depending on the plant, milkweed flowers bloom in yellow, green, purple, pink, or orange.

POLLINATORS GARDEN cont.

Equally well designed are the large seed pods that develop from the fertilized flowers. In the fall, these proficient self-sowers split open to release hundreds of seeds.



Attracts:

Besides monarchs, frequent visitors also include native bees, honeybees, hummingbirds, and many other types of butterflies. Read more about the best perennials for pollinators.

Height:

2 to 5 feet, depending on the species

Zones:

3-9

Why it's a must for monarchs:

Milkweed is both a food source and a host plant for monarch eggs that are laid on the underside of the leaves. The larvae feed on the leaves after hatching but cause no permanent damage to the plant. In turn, the toxic chemicals in the sap of milkweed plants make both the caterpillars and adult butterflies unappetizing to predators. "[During monarch migration] flight is fueled by nectaring on the flowers and is punctuated by laying eggs on milkweeds. To grow and sustain each generation, milkweed is the only food needed," says Agrawal.

Growing Milkweed

Where to plant:

Most milkweeds require full sun (at least 6 to 8 hours a day). Because they self-seed readily, locate your plants in a part of the garden where you can better control their rampant spread, such as at the back of the border or in a corner. A spot that's protected from the wind will also help prevent the spread of seeds while providing a more hospitable environment for butterflies. It's important to note that milkweed plants have a taproot and do not transplant well.

When to plant:

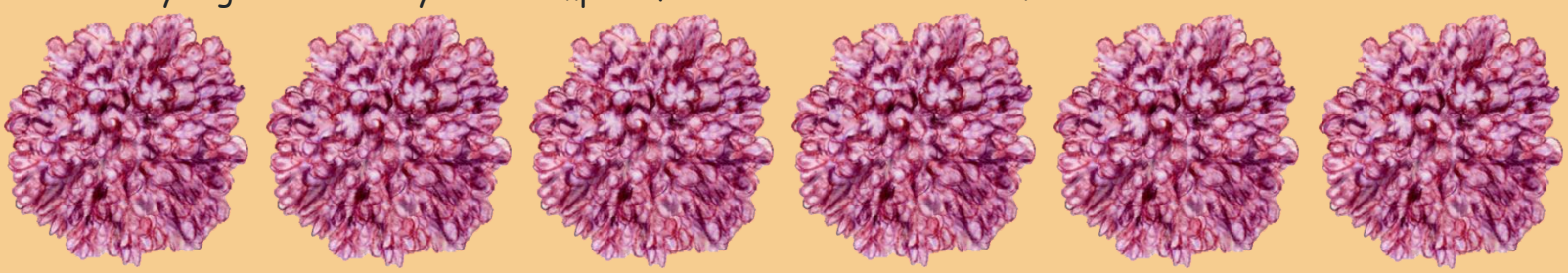
If you're planting milkweed from seed, sow the seeds outdoors in the fall, which will give them the period of stratification (exposure to cold, moist conditions) they need to encourage spring germination and ensure a good display of flowers the following summer. If you purchase starter plants, plant them in the spring after the danger of frost has passed.

Soil:

The best soil type for milkweed often depends on its native habitat. Most varieties are extremely forgiving and will grow well in average garden soil. Swamp milkweed is an exception and requires moist, humus-rich soil.

How to plant:

To ensure successful germination of milkweed seeds, plant them in a smooth, clump-free soil bed worked to a fine consistency using a rake or rototiller. After you've sown the seeds, compact them into the soil (but don't cover them) to provide good soil-to-seed contact. Keep the planting bed moist until the seedlings become established. As your plants begin to take off, thin out any plants that are spaced too closely together so they don't compete for sun and soil nutrients.



POLLINATORS GARDEN cont.

Spacing:

To attract multitudes of monarchs to your garden, plant milkweed in groups of six or more, spacing plants or thinning seedlings to about 6 to 24 inches apart, depending on the species. "Monarchs are very good at finding a milkweed plant, but the more you have in your yard, the more likely they will find it and lay their little eggs all over it. Plant as many plants as you have room for," recommends Kelly Ballard of Joyful Butterfly, a supplier of butterfly plants and seeds.

Propagating:

Many milkweed species can readily be grown from root or rhizome cuttings as well as by seed. Take the cuttings during the late fall or early spring when the plant is dormant and has more energy reserves. New sprouts will form from the cuttings when the weather warms and will often produce flowers the first year.

Milkweed Care

Like most wildflowers, milkweed is easy to grow and requires very little pampering. Most species are not seriously bothered by heat, drought, deer or other pests. And because milkweed is a native plant that tolerates poor soils, fertilization isn't necessary.

Mulching:

You can mulch milkweed if you want to control weeds or retain moisture, but not all varieties will benefit. Swamp milkweed will appreciate your water-retention efforts, but milkweeds that prefer dry soil, such as common milkweed and butterfly weed, are usually better off with no mulch.

Pruning:

As with many flowering perennials, removing withered flowers can result in new buds—prolonging the availability of nectar for monarchs and other pollinators. Simply remove the flower cluster just above the first set of leaves.

Pest control:

Some plant pests such as aphids, whiteflies and milkweed bugs are immune to the toxic effects of milkweed and may feed on the leaves and seed pods, but they rarely cause significant damage. Also remove leaf litter and spent stalks in the fall to eliminate overwintering sites.

How to control spreading:

If you don't want milkweed to take charge of your garden, remove the seed pods in the fall before they split open and release their contents or tie them closed with string. For plants with rhizomes, thin them out by hand by pulling the entire plant, including the roots, removing as much of the rhizome as possible. This will be easier to do when the plants are young and before the roots are well established.

Handling precautions and toxicity:

Be aware that the toxic alkaloids in the sap of milkweed that help protect the monarchs from predators can cause eye and skin irritation and are poisonous to pets and other animals when ingested. Take the appropriate precautions and wear gloves, long sleeves, and long pants when working with these plants. See more about Common Poisonous Plants for Dogs & Cats

Relationship between Milkweed and Monarch Butterflies

In September 1963, nearing the end of her life, biologist and author Rachel Carson recalled a morning watching monarch butterflies on the Maine coast. She wrote, "*most of all I shall remember the monarchs, that unhurried westward drift of one small winged form after another, each drawn by some invisible force.*" The arrival of autumn represents the end of another year, but it also marks the beginning of an extraordinary journey: the monarch butterfly, weighing less than a dollar bill, sets out on a 3000-mile migration across North America.

A long, shared history

This journey would not be possible—or even exist—without the monarch's well-known host plant, milkweed. The monarch butterfly species, *Danaus plexippus*, has existed for an estimated one million years. Long before that, the monarch's ancestors had similar traits that would allow for long-distance flight, suggesting that butterfly migration is even older than the monarchs themselves. It wasn't until 20,000 years ago, however, that monarchs dispersed from their origin in North America to Central America, South America, and the Caribbean. After the peak of the last ice age, receding glaciers and a warmer climate allowed milkweed to colonize new areas. The monarch butterfly followed milkweed around the world, and its range now includes the North Atlantic coast of Africa, Europe, and the South Pacific.

Milkweed is the common name for many plants in the genus *Asclepias*. It is an herbaceous perennial, recognizable by its broad opposite leaves, colorful flower clusters, or seed pods filled with silk that carries its wind-dispersed seeds. Monarch butterflies only lay eggs on milkweed and monarch caterpillars only feed on milkweed leaves. The key to this specialized relationship is found in the milky latex produced by the plant, which contains compounds called cardiac glycosides that are poisonous to most other animals. The monarch butterfly has developed resistance to this toxin, giving caterpillars a strong chemical defense against predators. In response, milkweed is trending toward faster regrowth following monarch caterpillar activity rather than increased toxicity. This is an example of coevolution, the process of living things influencing one another over thousands or millions of years.

A monarch caterpillar feeds on common milkweed, Asclepias syriaca. Milkweed plants, primarily from the genus Asclepias, are the only food source of monarch caterpillars

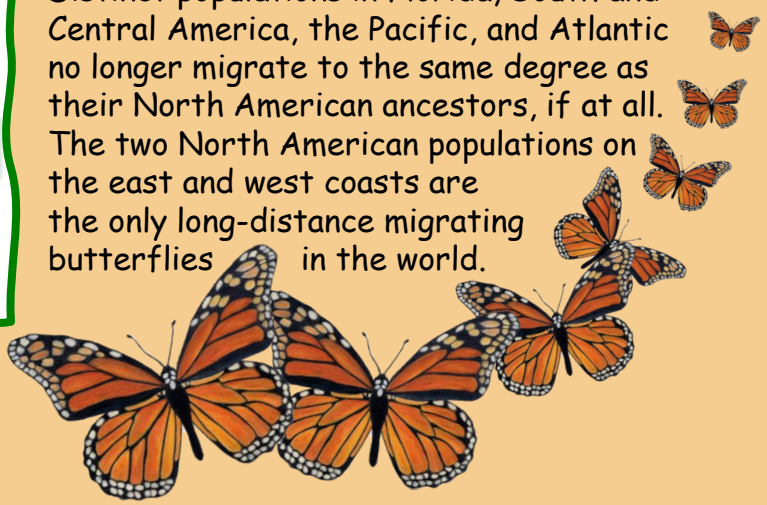
A monarch chrysalis hangs from the leaf of common milkweed, Asclepias syriaca. This is the stage in the life cycle where the caterpillar changes to a butterfly. Female monarch butterflies laid eggs in all nine milkweeds, but the swamp and common milkweed averaged the highest number of eggs.

Mexico to Maine (and back again)

Each year, the monarch population of eastern North America makes a multi-generation migration that spans thousands of miles. In March, monarch butterflies leave overwintering sites in the Sierra Madre mountains of Michoacán and México. They travel 50-100 miles a day, reaching Texas and Oklahoma to lay eggs on milkweed before the end of their lifespan. These eggs are the year's first generation of monarchs, which develop into adults in as few as 25 days before continuing the journey north. Each month from May to August, a new generation of monarchs emerges from eggs laid on milkweed, feeds exclusively on milkweed, and undergoes a complete metamorphosis. The second and third generations each travel hundreds of miles north until the population reaches the northern United States and Canada. A fourth generation develops in the northernmost part of the monarch's range—the great-grandchildren of the monarchs that spent the winter in Mexico.

The monarch butterfly populations on the east and west coasts of North America are the only migratory populations in the world.

This fourth generation, including monarchs that begin their lives in Maine, will retrace the entire route their parents, grandparents, and great-grandparents have traveled. This is the only two-way migration made by a butterfly. In fact, despite its far-reaching distribution, not all monarchs migrate. Distinct populations in Florida, South and Central America, the Pacific, and Atlantic no longer migrate to the same degree as their North American ancestors, if at all. The two North American populations on the east and west coasts are the only long-distance migrating butterflies in the world.



Conservation Status

There is increasing awareness of the environmental threats and population decline monarch butterflies are facing. The International Union for Conservation of Nature (IUCN) evaluates the conservation status of species worldwide and works with the United Nations. In July 2022, the **IUCN listed the migratory monarch butterfly as endangered** on its Red List of Threatened Species. On a national level, the Endangered Species Act (ESA) provides United States government agencies the authority to evaluate species conservation status and offer legal protections to those listed as endangered or threatened. In 2014, the **USFWS accepted a petition** to list the monarch butterfly as a threatened species under the ESA; at this time, however, the monarch is waiting in the wings as a candidate for official protection while species considered to be at more immediate risk are prioritized.

These status changes both require extensive scientific research, review, and consensus—to what extent are migratory monarch populations declining and why? The eastern population of monarch's accounts for over 90% of all monarch butterflies worldwide. Just thirty years ago, hundreds of millions of monarchs were recorded at overwintering sites annually; today, that number has fallen below 80 million.

POLLINATORS GARDEN cont.

The monarch butterfly is not alone in its plight. Insects account for 5.5 million of the 8 million estimated plant and animal species on Earth. 40% of all insect species are rapidly declining and could go extinct within decades. Lepidoptera, the order of insects including butterflies and moths, is one of the most at-risk due to their dependence on specific plant species. In Maine, one in five butterfly species is listed as a species of concern, threatened, or endangered.

The primary reasons for these losses are disappearing habitat, climate change, and pesticide use. Crop and livestock production currently occupies one third of the world's land surface, and continued agricultural expansion into natural areas and reliance on insecticides harms non-target insect species. Habitat loss due to agriculture, logging, and urbanization is worsened by fires, storms, droughts, and invasive species associated with ongoing climate change. These are complex global issues, but, for monarch populations at least, taking action at the local level is an important part of the solution.

Monarch caterpillars feed exclusively on the leaves of milkweed, the only host plant for this iconic butterfly species. As such, milkweed is critical for the survival of monarchs. Without it, they cannot complete their life cycle and their populations decline.

Indeed, eradication of milkweed both in agricultural areas as well as in urban and suburban landscapes is one of the primary reasons that monarchs are in trouble today.

Plant Milkweed

The good news is that planting milkweed is one of the easiest ways that each of us can make a difference for monarchs. There are several dozen species of this wildflower native to North America, so no matter where you live, there is at least one milkweed species naturally found in your area.

Planting local milkweed species is always best. You can collect your own seed or purchase seed or plants to add to your garden, or any landscape in your community. Three species have particularly wide ranges and are good choices in most regions: common milkweed (*Asclepias syriaca*), swamp milkweed (*A. incarnata*), and butterfly weed (*A. tuberosa*). The latter two are highly ornamental and widely available via the nursery trade.

Milkweed

Photo by member Bobbi Smith

A monarch butterfly, Danaus plexippus, feeds on a New England aster, Symphyotrichum novae-angliae, flower. Every year, monarch butterflies migrate to and from overwintering sites in mountain regions of Central Mexico. They arrive in their summer breeding grounds – the Midwest - in late spring and in two or three generations dramatically increase their populations before returning to Mexico.

POLLINATORS GARDEN cont.

Preferences

Female monarchs will lay eggs on all nine milkweed species, but they prefer some over others.

- Swamp milkweed *(Asclepias incarnata)* and common milkweed *(A. syriaca)* averaged the highest number of eggs.
- Monarch caterpillars hatching from eggs laid on tall green milkweed *(A. hirtella)* and prairie milkweed *(A. sullivantii)* had the lowest survival rates..

The height and number of blooms on the milkweed plants across all nine species weren't factors influencing the female butterflies' egg-laying preferences.

The findings indicate that while female monarchs do make choices, they don't specialize in reproducing on a single milkweed species. What's more, their egg-laying preference can change according to the time of season, the prevalence and habitat of the milkweed species they encounter, and the plants' robustness and maturity.

For these reasons, the researchers caution against focusing restoration efforts on a single preferred species, like swamp milkweed.

Instead, conservators should also consider supplementary plantings of other species especially in habitat areas subject to variable climates or soil types.

By **Jan Suszkiw**, ARS Office of Communications.

APIARY in the NEIGHBORHOOD

This feature is for CVBA members to show off your apiaries. Send me your photos and videos of your apiary with a short description and we will publish it here.

NO PARTICIPATION

MEMBERSHIP

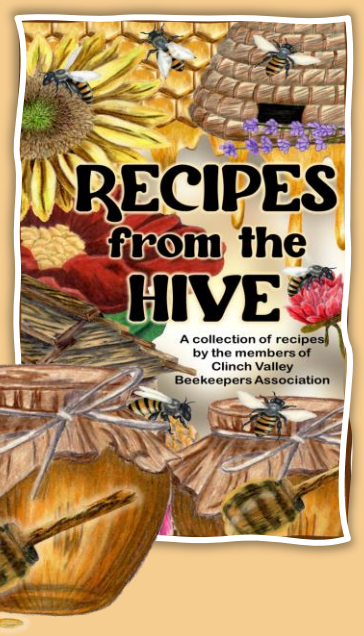
Renewal Dues become payable January 1st of each year. Dues are not pro-rated.

Single membership $10
Family (one vote per family) $15
Youth Single (No vote) $5

See a CVBA officer to complete a new membership form or click here to download a form.

Checks should be made payable to CVBA. You can mail checks to the address on the last page. Please let us know if any of your information has changed. We want to make sure you can stay connected with the club to help you get the most out of your membership!

RECIPES from the HIVE



HONEY ROASTED PEANUTS

2 cups peanuts, raw and unsalted
1½ tablespoons honey
1 cup water
¼ tsp salt
2 ⁄3 cup granulated sugar

Preheat your oven at 350°

Lay your shelled raw peanuts on a lined baking sheet and bake for 5 minutes. When cooled down, rub the peanuts lightly to remove skins.

Combine all ingredients, except peanuts, into a skillet over medium heat.

Bring to a simmer, just until sugar has melted.

Add the nuts and simmer for roughly 10 minutes, stirring occasionally, until the liquid has reduced by ¾ and has turned amber in color.

Reduce heat to low, then shuffle the pan away and back to the heat, constantly stirring, to avoid burning the peanuts.

Use to make Sweet Potato Chips, or snack as is.

from member
Bobbi Smith
page 6

SWEET POTATO CHIPS

2 large, sweet potatoes
salt to taste
8 tablespoons butter, melted
1 cup honey-roasted peanuts, chopped
(see recipe, or use store-bought)

Makes 4 servings

Preheat oven to 450°.

Line two large baking sheets with foil and lightly grease with nonstick spray.

Slice potatoes crosswise ¼ inch thick.

Dip potatoes in melted butter and arrange on baking sheets so that chips do not overlap.

Sprinkle with peanuts. Bake for 15-20 minutes. Sprinkle with salt if desired.

PICCALILLI

6 lbs. green tomatoes
1 large green pepper
1 hot red pepper
1 onion
1 cup pickling salt
6 cups vinegar
½ cup honey
½ teaspoon ground ginger
½ teaspoon ground cinnamon
½ teaspoon ground allspice
1 tablespoon whole mustard seed
12 cups freshly grated horseradish

from member
Sherri Hudson
page 19

Chop the tomatoes, peppers, and onion.

Sprinkle with pickling salt, cover with water, and let soak overnight.

Combine vinegar, honey, ginger, cinnamon, and mustard.

Drain the tomato mixture and simmer in the vinegar for 3 minutes. Do not boil.

Add the horseradish.

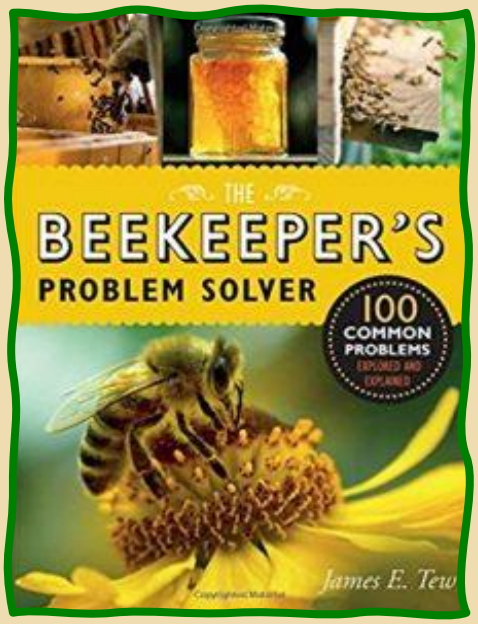
Pack into hot sterilized jars to within ¼-inch from top.

Complete seals.

Process for 10 minutes in a boiling-water bath.

BOOKSHELF

The Beekeepers Problem Solver
100 Common Problems Explored and Explained



There are many problems and challenges beekeeper's encounter. ***The Beekeepers Problem Solver 100 Common Problems Explored and Explained*** looks at these problems that beekeepers meet and further explores the solutions to these problems. This beekeeping book gives beekeepers a deep understanding of what is required for successful beekeeping. The book explores critical areas of beekeeping including hive management, health requirements of bees and beehive management.

***The Beekeepers Problem Solver – 100 Common Problems Explored and Explained* is** authored by James E. Tew. In the book, he shares useful information with attention to detail. This beekeeping book is a true reflection of the commitment that beekeeping requires. James E. Tew is an experienced beekeeper and apiary management expert. Each of the problems in the book is tackled in an in-depth manner. Diagrams and photographs are used alongside text to share a wide array of insights and practical tips with beekeepers.

Losing your hive or getting low yields of honey is a thing of the past once you are able to keenly follow and apply the information in this book. You are able to identify and address problems in your bees at their early stages. This is especially important since bees tend to disguise problems from the casual observer. ***The Beekeepers Problem Solver – 100 Common Problems Explored and Explained*** helps you develop a keen eye for these bee problems. Ready solutions from the book are a great bonus in a beekeeping book.

A downside, however, of the book is that it does not go into the details of how to implement some of the solutions given. Even with a copy of the book, you will need to have a 'how to' book separately.

You can read a sample online over at Amazon.com.

READ NOW

POETS STAGE

Lucky Man

by Mike (Houston)

What a wonder it is to see...
my wife feed honey to the honeybees.

It almost makes me wipe a tear..
the care she takes and with no fear.

She whispers sweet words as they come to eat...
and smiles like a child on a carousel seat.

The love is real and not a show, my wife loves honeybees .. this I know!

Note to readers: honeybees can certainly be given honey - as long as it is their own. Beekeepers sometimes reserve honey for their bees, after they have removed it from the hive. It is kept back, just in case the bees need it after all, when it can then be returned to the bees if necessary.

With regard to other bee species, such as bumblebees, if you are wanting to revive them, it is better to give them sugar water. This is because unfortunately, honey can be contaminated with viruses that are not safe for bees, although they are harmless to humans.

BUZZ ART GALLERY

Apiaries in ART

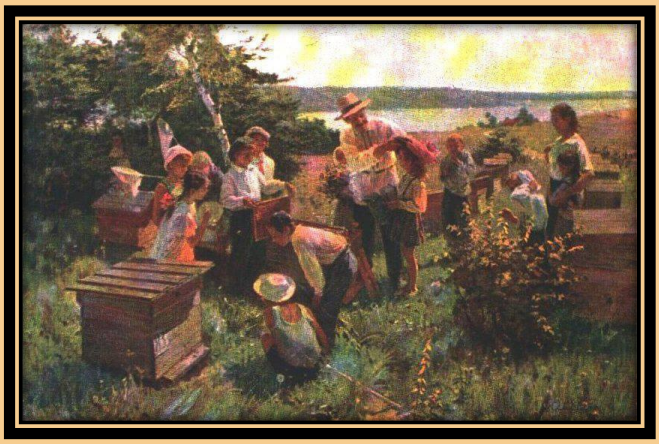
Posted on February 20, 2014, by earthstonestation

Beauty of Bee Hives

Through the ages artists painting scenes of rural life give reference to the association of humans and honeybees. Apiaries and domestic bee keeping can be traced back to the time of the pharaohs in Egypt and the use of honey for food and medicinal use has been well documented for centuries. Apiaries in art shows the relationship of man and nature in a peaceful co-existent way.

At orchard, field or farm, bees are the predominant means in which plants are pollinated. For their efforts in managing a hive and protecting it from disease, mites and mice the beekeeper is rewarded with a delicious nectar for home or to be sold at market. The honey that comes from fertilizing different types of flowers can range from light amber to dark brown and the flavor induced from what fields are foraged.

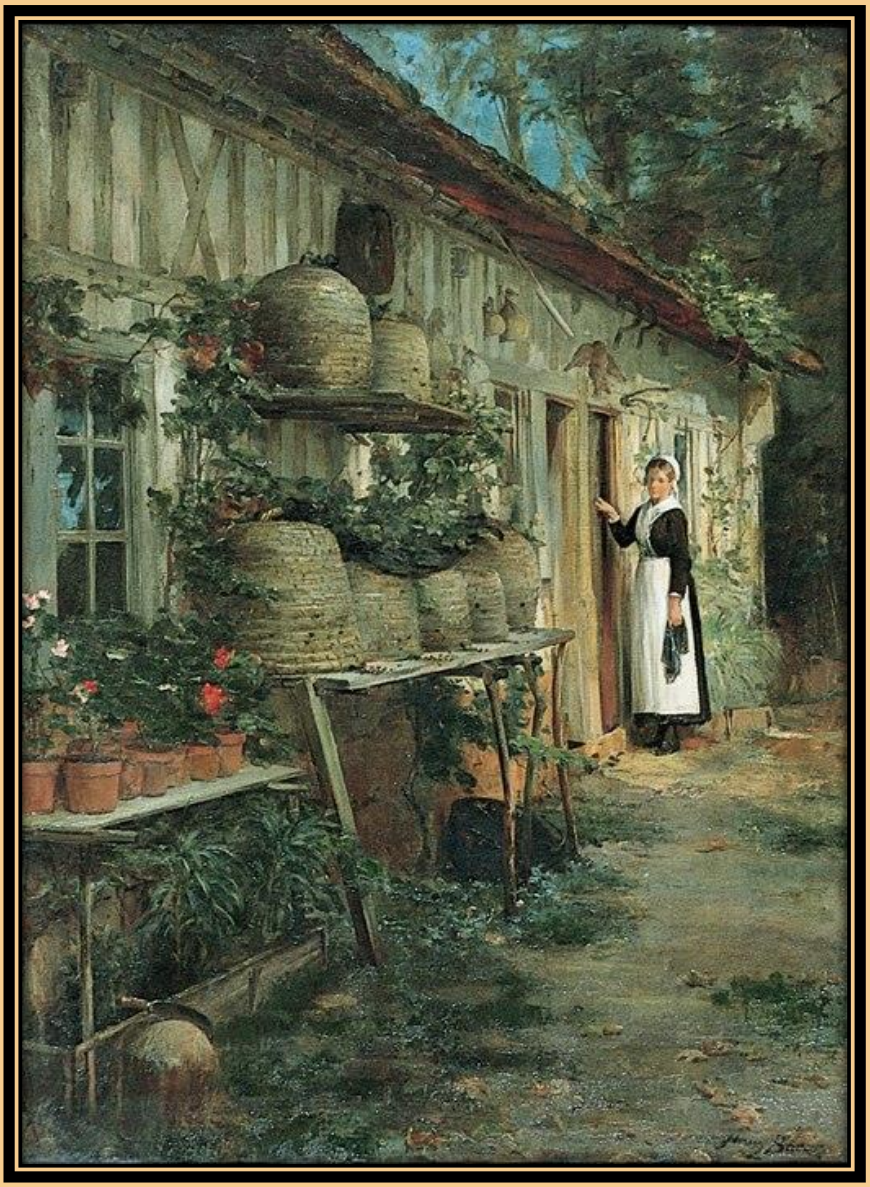
The peaceful scenes of apiaries that artists paint hardly hint at the vital role that bees play in agriculture and the economy. More than $15 billion a year in U.S. crops are pollinated by bees, including apples, berries, cantaloupes, cucumbers, alfalfa and almonds. In nearly every country bee keeping contributes to the economy. Healthy bee populations keep the agricultural industry running smoothly and tables stocked with high quality produce.

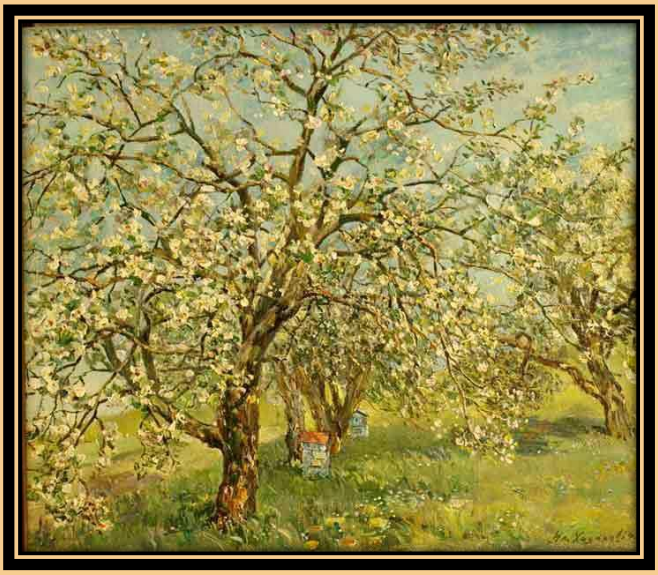


Artists creative expressions on canvas serve as an image repository of historical culture and society. In times past bees were not considered as simply an annoying summer insect. They were an integral part of the livelihood for farmers and important for a sustainable environment. Apiaries are common elements in paintings of rural life in times gone by although their importance has been largely forgotten by society today.

BUZZ ART GALLERY cont.

Bees continue to make significant contributions to the world's economy and life as we know it. One third of the food we consume is dependent on pollination from bees. Since 2006 there has been a dramatic collapse of bee colonies in the E.U and the U.S. . Links to climate change, loss of habitat and widespread pesticide use are the likely cause. The threat to our food supply is real and potentially catastrophic. I encourage everyone to educate themselves on this threat and take action to protect and support the planets pollinators, our food chain depends on it.





Pavel Dorel C-tin has collected 200 images of apiculture (from which the above pictures came) for an album titled ***Picturi Apicultura*** on his website; https://www.facebook.com/photo.php?fbid=474736319270859&set=a.474735805937577.1073741824.100002034849269&type=1&theater. Take a look (it's pretty fabulous) and enjoy the *Apiaries in Art and Society* by clicking on each image to view the entire album.

Mahalo Pavel

A Hui Hou, Dohn

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ANSWER to BEE FUNNY

Beauty. Beauty is in the eye of the bee-holder.

KIDS CORNER

Beekeeping with Kids

Young and Old…

If one thinks back maybe a decade or so, beekeeping was considered a pastime more suited to "folks of a certain age". The stereotypical image was of an older gentleman, living in a rural setting tending to his bees and enjoying a few jars of honey each summer.

While that evocative image remains as valid today as ever (and beekeeping has been a source of great joy for many a retiree!), things change.

Be it because of the Internet, greater environmental awareness, heightened concern for our bees or just the winds of change, beekeeping today is enjoying a resurgence of interest across all demographics. For man and woman, boy and girl, beekeeping is for everyone, and its benefits are becoming increasingly accessible to many.

Let's start with one of the primary concerns of many when thinking of kids alongside bees. The layman often has a concern about safety issues, reasonably enough. While there is always a need for adult supervision with younger kids and a need for common sense precautions, these concerns need not create too much of a burden.

Many beekeepers very intentionally engage their kids in beekeeping activities, exposing them to the wonders of bees at an early age.

In this lesson we look at the benefits of bringing kids into the world of beekeeping and the practical considerations in doing so.

KID'S CORNER cont.

Benefits of Involving Kids

Being Close to Nature

Most parents welcome the opportunity to engage their kids in nature. A strong awareness of the natural world in the young is positively encouraged. There are many ways to do this, of course, but few are as direct, hands-on, and personal as a close encounter with a beehive or two!

Seeing thousands of bees working together, in and out of the hive, is magical to kids. Show them the queen, find some larvae, explain how bees make honey – all of this is a new and fascinating world to a young mind.

Embrace this and actively encourage involvement.
As kids grow older their ability to explore the scope and value of bees expands too. What starts out as a brief encounter with a mysterious box in a garden or field can often translate into life-long appreciation and involvement with science and nature.

A Science Lesson

Once a child is comfortable around bees, there is a tremendous opportunity for you to play the role of the best science teacher they will ever know! As you carry out an inspection, you assess and interpret the clues that bees present to us.

There's a strong timeline associated with the rearing of brood. Explaining this to a child is a near perfect lesson in how insects reproduce. As kids look at eggs, larvae, and pupa they build an intimate knowledge of what drives the bees streaming in and out of the hive.

The production of honey is itself another lesson all wrapped up for delivery! Again, the viewing of nectar in the hive and capped honey helps a child understand the vital relationship between incoming bees bringing nectar back to the hive and the "production line" needed to store honey.

The use of frames in the hive – holding brood, pollen, nectar, and capped honey – is fascinating to a child and shows them how organization can drive a community of tens of thousands of committed members.

There's a broader lesson about collaboration, democracy and more and these lessons will start sinking in early for a child exposed to beekeeping.

A Sense of Responsibility

The physical demands of beekeeping are not too significant, with the possible exception of handling a fully laden box of honey! Most of what you will do during a hive inspection is perfectly feasible for a child, with supervision.

How do I introduce kids to bees?

Start off with simple tasks like passing the hive tool to you at the opportune time.
Then gradually build up to more involved responsibilities.

Bonding Time

As we grow up, we all tend to carry memories of distinct, magical moments in our childhood, often as a mental "snapshot" of a point in time. The first interaction with bees is a moment that has every chance of achieving that special prominence in a young person's mind – forever.

So, enjoy it, appreciate every moment and have someone video the moment!

Approaching Beekeeping With Kids

Tailor It

No one can tell you exactly how you should introduce your kids (or kids you know) to beekeeping. There are too many variables, in age and in maturity. While we provide some general guidelines below – generally assuming young kids – it's your responsibility as the beekeeper to put this in context and align with the maturity of the kids you involve.

At one end of the spectrum, it's not difficult to find very young kids who are familiar and comfortable around bees, because they were taught to respect them from a young age. At the other end, you may find older teenagers who just freak out at the mere thought of being close to bees!

Think about where you would wish your kids to be as they grow older and tailor their experience accordingly.

Respect Their Fears

Let's face it, even adults who have never been near a beehive may have significant anxiety. A lack of understanding about how bees act is a partial explanation but, for the most part, these fears are overstated. They can, however, be accommodated by a gentle and calm beekeeper and one of the joys of beekeeping is introducing others to your bees, the right way.

Strangely enough, kids' attitudes can go in either direction.

- More cavalier kids may see beekeeping just as a fun challenge and throw themselves (possibly literally, if you are not careful!) at the hive.
- Others may be just plain scared. Not all in this bucket will show that clearly, so be aware that it may be there even if not fully evident.

Of course, there are those kids that fall in between. Whatever their perspective, as the adult and the beekeeper, it's your job to carefully assess how they feel about being around bees and adjust accordingly. A certain level of caution isn't a bad thing, if kept within certain boundaries. This can translate into a healthy and pragmatic attitude to being safe at all times, which is a good thing.

As you introduce your kids to beekeeping, ask and show. Ask them what questions or concerns they have. Reflect those questions with positive, honest, and empathetic responses which show you understand their concerns. Then, as you engage with your bees, show them how a calm, relaxed manner is important. Their seeing you comfortable around your bees can have a profound impact on their experience.

Under no circumstances should you force a scared child to participate. Beyond being plain cruel, that's also a surefire way to build a distrust and a greater fear of beekeeping. Read what your little one is telling you – even if they don't say it out loud – and help them gently over any concerns they might have.

KID'S CORNER cont.

Be Prepared

The "Gentle Movements" Speech

Kids are kids – and that often means tons of energy.
That needs to be constrained around bees.

How to prepare children for going near a hive.

You will need a calm yet curious demeanor around the beehive. Before you go anywhere near the beehive with kids for the first time, inform them about the important of slow movements and staying calm.

If the kids involved can't maintain a certain level of calm around your bees, then they are not yet ready to accompany you to the hive. Most kids, however, have just enough initial concern to be perfectly capable of doing everything you say as they approach 10,000+ insects – with stingers – for the first time!

Keep an eye on the kids. Their calmness will be rewarded by bees who get on with their jobs and largely ignore us mere humans.

Which is good…

Small Steps

Don't be overly ambitious from the outset. It's quite normal and beneficial to have visitors – whether kids or not – maintain a comfortable viewing distance from the hive. 5 – 10 feet away from the hive is comfortable for most people, while also allowing a good view of the action.

Depending on the maturity and attitude of the kid, we'd suggest that first visit is merely an observational event. Even that will be something he or she won't forget in a hurry!

With the next visit you might take it a small step further and ask for a little more help, taking a closer look inside the hive and so on. As we say, small steps.

At some point you will reach a point where the child is able to pull out a frame and look carefully at the small world it carries. Once you know the child is comfortable and happy, take that picture and record that video. These are special moments indeed!

Kids Equipment

This is easy – suit up kids.

Properly.

Every time.

It doesn't matter that you might eventually reach a level of comfort around your bees such that you don't always suit up completely. That's your decision. But don't pass on an overly relaxed attitude about protective clothing to kids. Teach them sensible, considered habits from day 1 and, if they want to make a different call in the future, that is their choice.

Thankfully, beekeeping clothing for kids is now readily available so there's really no excuse.

So, involve kids, whether yours or others! Be cautious about it, do it right and make sure the kids are on their best behavior and absorbed by the bees (they will be).

But do it. It's a wonderful part of being a beekeeper.

BEE MARKETPLACE

Advertise your honey, beeswax candles, honey soaps, salves, hive equipment, etc.
Send me the info along with a photo and contact info.

This feature is available **FREE** to any CVBA member who has honeybee products to sell/trade/give away.

"HELP KEEP the WORLD SWEET" Specialty Club T-Shirt

Click Here to Order Online

"Honeybee World"

8 original watercolor pencil art note cards/envelopes by:
Sherri Hudson

On the back of each card, you will find a fact about honeybees.
$20 per set + $5 shipping/handling

Send check to:
Sherri Hudson
124 Shortt Road
Treadway, TN 37881

Emerald Hollow Farm

Beeswax Melts and Beeswax Candles
100% beeswax – locally sourced – hand poured

Fay and Brian Kleppinger
Thorn Hill, TN, 37881.

Variety of designs, sizes, scents.

More info coming soon.

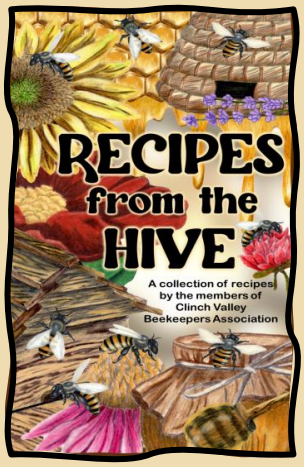
Clinch Valley Beekeepers Association

T-shirts are available;
S, M, L, XL sizes - $12
XXL and larger sizes - $15
Hats - coming soon
Cookbooks –
$10 each to members
$13 each non-members
Shipping $5

The club has a full line of bee equipment for sale.
** **See Jr** for an inventory and price list.

Available at regular meetings.

Take home a treasured collection of recipes from many outstanding beekeepers, cooks, and crafters.
This attractive book makes an ideal gift or keepsake!



Original artwork by
Sherri Hudson

Clinch Valley Beekeepers Association

Help Keep the World Sweet

Buy a Specialty T-Shirt &/or Sweatshirt and Help Save Honeybees.

Help save some bees and never get stung.
This is the Official Clinch Valley Beekeepers Association Fall T-Shirt!
Support honeybees & other pollinators! Our future depends on it.
In fact, 1 in every 3 bites of food we eat depends on pollinators.
You can in fact Help Keep the World Sweet!

Campaign Starts: Sept. 21st
Campaign Ends: Nov. 20th
Shirts can be picked up at our Dec. 21st meeting

$30
Gildan Women's 100% Cotton
Ladies T-shirt
Adult Only
Carolina Blue or Gold

$40
Gildan Midweight 50/50
Unisex Crewneck Sweatshirt
Adult Only
Gold or Carolina Blue

$30
Gildan 100% Cotton
Unisex T-shirt
Adult and Youth
Gold or Carolina Blue

VERIFIED CHARITY

All proceeds go to the club for education of beginner, intermediate, & experienced beekeepers. and anyone interested.
All funds raised will go directly to **Clinch Valley Beekeepers Association**

CVBA is a trusted group of beekeepers & educators focused on pollinators, specifically honeybees, and provides a model for beekeeping in East Tennessee. Through education we increase knowledge around pollinators and are a recognized advocate for honeybees. Our nonprofit provides honeybee hives through a yearly scholarship and beekeeping training for individuals, families, startup businesses and anyone interested.

Help Keep the World Sweet

T-Shirt and Sweatshirt ORDER FORM

Please print legibly

$30 Gildan Women's 100% Cotton T-shirt Adult Only	Quantity Gold	Quantity Blue
Small		
Medium		
Large		
X-Large		
XX-Large +$2.50		
XXX-Large +$3.50		
Amount Shirts Ordered		
X $30		
+ extra large sizes		
Sub Total		

$40 Gildan Unisex Midweight 50/50 Crewneck Sweatshirt Adult Only	Quantity Gold	Quantity Blue
Small		
Medium		
Large		
X-Large		
XX-Large +$3.00		
XXX-Large +$4.00		
Amount Shirts Ordered		
X $40		
+ extra large sizes		
Sub Total		

$30 Gildan Unisex 100% Cotton T-shirt Adult and Youth	Quantity Gold	Quantity Blue
Adult Small		
Adult Medium		
Adult Large		
Adult X-Large		
Adult XX-Large +$2.50		
Adult XXX-Large +$3.50		
Youth X-Small		
Youth Small		
Youth Medium		
Youth Large		
Youth X-Large		
Amount Shirts Ordered		
X $30		
+ extra large sizes		
Sub Total		

Please print legibly

Name _____

Phone or Email

just in case we need to contact you about your order

_____

If order is to be shipped to you or another address.
Please add $5.00 for shipping & handling

Name _____

Address _____

_____

Total Sub Totals	
Shipping $5 each shirt optional	
Total Enclosed	

Make checks payable to:
Clinch Valley Beekeeping Association
124 Shortt Road
Treadway, TN 37881
423-921-3140

Click Here to Order Online

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