Clinch Valley Beekeepers Association

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

Volume 14, Number 8 August 2023 Sherri Hudson, editor

CONCEPTS of TREATMENT-FREE BEEKEEPING

**"Everything takes time.
Bees have to move very fast to stay still."**

David Foster Wallace

NEXT MEETING

Date

Thursday, August 17, 2023 - 7pm
Treadway Fire Hall
189 Hwy 131
Treadway, TN 37881

Food Theme

FRESH FROM THE FARMER'S MARKET POTLUCK

This theme will delight lovers of fresh, local fare. Think of the many dishes that are becoming popular at farm-to-table restaurants and allow that to help guide some ideas. A quick glance at any local farm-to-table restaurant menu will provide the ideas you need. Continue to delight friends and fellow beekeepers by sharing your harvest of snacks, salads, soups, main/side dishes, & desserts from your gardens.

SPEAKER

The speaker will be Tim Andrews. He will talk about the **ESSENTIAL GEAR and TOOLS for BEE KEEPING**. He will help you navigate through the mess of gadgets & stuff and lay out the absolute must-haves, along with a few items you may want to consider. He'll also provided a few tips when selecting among the many available options.
As long as you have the basics in your bee bucket, you will be prepared.
Members are encouraged to bring any gadgets or stuff they find a must or want to ask questions about.

LAST MEETING

The July meeting opened with prayer by association president, Jr. Snelson.
There were 25 members. 3 youth, and 2 guests in attendance.
Financial report was given by Jr. and approved.
He then talked about the festivals coming up in October. There will be a sign-up sheet at the next meeting for volunteers. Please help us out.
Click here to read more about this.

While the meeting went on inside, outside Tim manned the grill while he and David grilled hot dogs and hamburgers.
The meeting was adjourned, and we ate from a table layered with salads of all kinds, veggies, fruits, and of course all the desserts.

SPEAKER NOTES

Association vice president David Sams is a long-time experienced beekeeper. He led the round table discussion that asked the members for questions and encouraged discussions. Beekeeping is learning various methods to do the same job. Sharing those ideas and experiences enriches all of us in our knowledge of these insects we care about so much.

The first topic was raised when Starla asked about removing bees from super frames when harvesting honey.

David talked about four methods; shaking/brushing, escape board, fume board, and blower.

[3 Ways to Get Bees Out of a Honey Supers]

Beekeeping Made Simple

Get Bees Out Of Honey Supers (Make Honey Harvesting Easier)

When it's time to harvest honey, you will want to get bees out of the honey supers so it's easier to remove capped frames.

Here are several methods/devices you can use for this task:

- Shake or brush bees from the frames
- Blow the bees off
- Add a fume board
- Use a bee escape

We'll explain each of these bee removal methods and discuss their pros and cons.

With each of these methods, you'll be removing frames or boxes from the hive. If removing frames, replace them to avoid cross-combing issues. If removing boxes, consider adding a box below the super to provide adequate space for the colony.

Once you get honeybees off the frames, you need to keep them off (as best you can) to transport them indoors for extraction. Move your honey frames to a closed box. Once they're in the box, the bees cannot access them.

Take the boxes full of honey away from the apiary. Limit the amount of time it takes to transfer the frames into your honey house. The goal is to minimize (or even eliminate) the chance of any bees hitching a ride indoors with you.

Shake Or Brush Bees Off Frames

Shaking or brushing bees is a simple way to remove bees from any frame.

Lift the capped honey frame from the hive, hold it firmly and give it a good shake in front of, or over, the hive. You can also use a bee brush with a gentle, upward stroke to knock the bees off. (We often use a large turkey feather instead of a bee brush when we want to move bees around).

This is the most cost-effective method for removing bees from the frame as it requires no additional equipment (assuming you have a brush or feather as a primary tool anyway).

Since you lift individual frames to remove bees, you only shake bees from entirely capped honey. Other methods involve getting the bees out of the entire super before you take out frames.

Removing bees one frame at a time can be time-consuming. It might be fine if you only have a few colonies. As your apiary grows, this is probably not the most efficient method of harvesting your honey.

Pay attention to the bees. If they become defensive from the shaking and brushing, your job can get more difficult. Usually, your smoker comes in handy in such a case. However, you need to use it sparingly, if at all, unless you like smoke-flavored honey.

Blow Bees Out Of Honey Supers

To blow bees out of honey supers, you can use a specially designed bee blower (which can be very expensive especially if designed for "commercial" use) or a leaf blower (which may benefit from an attachment that directs the air more effectively).

To blow out the bees, set the super on its short side (frames are perpendicular to the ground) near the front of the hive. This arrangement will keep frames aligned and blow the bees out close to home. Using a stand to keep the box off the ground makes the task easier.

Aim the blower from the top bars to avoid blowing the frames out of the box. If needed, move frames slightly to create more space to blow air in between them as you go.

Blowing the bees out of the super should be relatively short work. I can see the value of this method if you have a lot of hives to work on. But moving a lot of heavy supers is probably a two-person job.

If you opt for blowing the bees out of the super, make sure the queen is not in the box by using a queen excluder.

For the hobby beekeeper with only a few hives, the work of manipulating heavy supers into proper position plus the cost of an effective blower may not be worth it.

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Fume Boards

The fume board is a wooden frame with a cloth cover (typically felt) that serves as a temporary cover when you want to remove bees from the supers. Treat the cloth with a bee repellent that drives the bees out of the super into lower boxes.

Some bee repellents vaporize better on hot days. A black cloth can add to the solar power of the vaporization process.

Fume boards work very quickly. We're talking minutes, not hours, for bees to vacate the super. The speed and relatively low cost of fume boards make them particularly useful in commercial honey operations. One trip to the hive is all it takes.

If you have a queen excluder, remove it so you don't impede the bees' movement downward.

Some examples of repellents are Bee-Go, Honey Robber, Honey-B-Gone, and Fischer's Bee-Quick. Follow the directions of the repellent carefully. Pay attention to the temperature requirements needed for any repellent to be effective. If it has a particularly noxious odor, try hard not to spill it on your clothes, in your car, etc.

You don't need a fume board for each hive. Fume boards work so quickly that you can move them from hive to hive as the supers are cleared of bees. If you spread the cost of repellent and fume board over many colonies, this is a relatively inexpensive option and can be a huge time saver.

Removing Bees from Honey Supers with a Fume Board

Kamon Reynolds - Tennessee's Bees

Bee Escapes And Bee Escape Boards

Bee escapes and bee escape boards (also called "clearing boards") are placed below the honey supers you plan to harvest.

Bees move down from the super, through the escape, attracted to the queen's pheromones or to join the rest of the colony as temperatures drop at night. The escape's design keeps the bees from easily navigating back through it to the super.

All escapes work similarly and require certain steps to be effective.

Place the escape below the honey super, making sure the exit is on the downward-facing side. This assures the return is difficult.

Make the super "bee tight." If your inner cover is notched for ventilation or as an upper entrance, close it off. If you put a hole in the super for similar reasons, close it off. Once bees are out of the super, you don't want them coming back quickly.

Bee escapes require no chemicals and do not agitate your bees. They are relatively inexpensive.

Bee escapes should vacate most of the bees in 24 – 36 hours. If you leave the supers on longer than that, bees may figure out how to get back and any openings you missed can be exploited by the colony, robbers, wax moths, etc. to ruin your honey supply.

The time lag required with a bee escape means multiple trips to the apiary to complete the process.

With any bee escape, a few bees may remain the super. A little shake is all it takes to remove the stragglers.

Like the fume board, you don't need a bee escape for every hive. However, due to the time needed for the bees to vacate the super, bee escapes require multiple trips to the apiary to harvest all your honey making them less efficient in large apiaries or for out yards that require travel.

Since you don't want to leave bee escapes on too long, check your weather reports before starting. Coming rains may delay your ability to get back in the hive.

Types Of Bee Escapes

There are a variety of bee escapes available. We'll cover some of the most common ones here.

Porter Bee Escape

The Porter Bee Escape is a small device you insert in the oval opening of the inner cover. Place the inner cover below the honey super you want them to clear out.

Bees exit the super through the inner cover opening and the Porter Bee escape, unable to easily return. Porter Bee Escapes are very inexpensive and make use of your existing hive inner cover.

Porter bee escape inserted on an inside cover. The cover is placed under the honey super with the circular opening facing up.

Open Porter bee escape showing wires that inhibit bee movement

Rhombus Bee Escape

The Rhombus Bee Escape is a variation on the Porter Bee Escape and attaches to the inner cover. Rhombus escapes are a little more expensive than Porters.

What the heck is a rhombus? A rhombus is a geometric figure with four equal sides in which opposite sides are parallel.

8 Way Bee Escape

The 8-way bee escape is another variation on the Porter escape. Shaped like a starburst, this escape has 8 exit routes for bees and attaches to the inner cover. As with other escapes, the 8 paths take time for honeybees to figure out how to return.

8-way bee escape attached to inner cover. Place the cover under the honey super with this side facing down into the hive.

Triangle Bee Escape Board

Instead of using your inner cover, the Triangle Bee Escape Board is a specially designed board placed below the honey super you want to harvest. We've used this type of bee escape with great success.

The side facing up (into the super) has a large circular opening, much like your inner cover. Bees exit the super through this opening into a screened triangle. The triangle forces bees to choose a direction out into the main hive body.

The complications of the triangle make re-entry very difficult.

A triangle bee escape board is placed under the honey super with the round opening facing upward.

As bees exit the honey super, they enter the triangle to join the colony.

Other Considerations

If you do anything other than shake bees from individual frames for harvesting, make sure there is no brood in the super. Brood indicates the queen may be in the box. Also, you don't want to chase nurse bees out of the box as they attend to the brood. You're unlikely to encounter this issue with a queen excluder.

The goal of removing bees is to have bee-free frames for extraction and to avoid getting a lot of bees in your honey house or home. When you start the removal process, have a box ready for the honey frames where you can stop the bees from jumping on board again. Cover the box with a lid or damp cloth to keep bees out.

Avoid harvesting honey if you spot robbing activity. Robbers make it extremely difficult to keep the pulled frames and boxes bee-free.

Conclusion

As a beginner or backyard beekeeper, we recommend either brushing bees off frames or using a Triangle Bee Escape to remove bees from your honey super at harvest time. We think it strikes the right balance of cost, minimal bee agitation, ease of use, and effectiveness.

As your apiary grows, consider some of the alternatives, particularly a fume board.

[What Is A Bee Escape Board](#)
Beekeeping For Newbies

The next topic was raised by George. He asked about the moisture content of honey.

When harvesting honey, the moisture level is important to consider. For most beekeepers, we simply let the bees tell us when the moisture level is around 17-18%. This is when the bees cap off the comb to prevent the honey from absorbing any moisture.

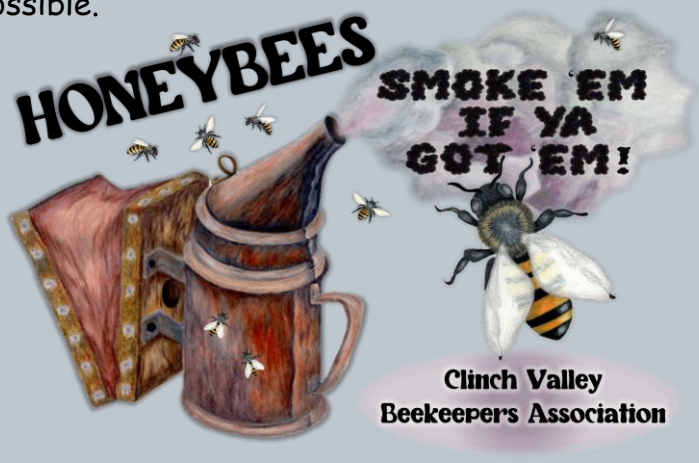
Some beekeepers get in too big of a hurry and take off the honey supers before the comb is completely sealed off. This means the honey can have a higher amount of moisture than 18%. Moisture above this level can cause problems in the future, namely, allowing the honey to ferment even when the moisture level is higher than it should be. But if customers buy it and keep it around for a while, then honey with a high moisture content can ferment.

If you pull off your honey after it has been capped, then you know the moisture level is good to go. However, if you pull off the honey supers that are partially capped, then the honey in the uncapped cells will begin to absorb any moisture in the air.

To safeguard your honey from drawing moisture while it is being processed, you can monitor the humidity in the honey room (kitchen). I keep it very dry using a dehumidifier. I usually keep it around 45% in the room. If I cannot process my supers the same day, I pull them off the hives, I will stack them in the honey room (kitchen) so that they are staggered. I leave the dehumidifier on maximum dry and use a fan (ceiling fan) to circulate air in the room.

Honey from different nectar sources can have different moisture contents. Clover honey is around 23% and is perfectly good honey with this level of moisture. However, other honey will ferment at 23%. In fact, moisture levels higher than 21%, other than the honey where this is permissible, is not fit for sale. Honey is hygroscopic which means it can easily absorb moisture from the air around it. But, if the air is dry, then honey will lose moisture, thus improving its quality. Some beekeepers use a refractometer to check the moisture level in honey.

The easiest way to ensure your honey is at the optimal moisture level is to wait until the bees seal off the comb. Then, try to process your honey in a dry room and bottle it as soon as possible.



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

What do unionized bees ask for?
(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…
In August there isn't a lot to do other than keeping an eye on things and completing mite treatments by the 15th. Hive populations fall off. Robbing continues with any nectar source getting mobbed by out of work foragers.

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.

Home School

This spring I started giving small talks to homeschooled youth. They pull into my driveway, sit in their air-conditioned vehicles where it is cool and safe as I open the hive which is right next to the driveway. They get to experience the bees through their car window and hear me talk about them. It is working out very well and the kids and parents really love it. I'm sure I have inspired several to become beekeepers when they are older, and all are getting an introduction to the importance of these sweet little critters and the environment. I tell them that being a beekeeper is not an easy job: I had to learn to put my fear aside and replace it with curiosity. It is important not to be afraid of making mistakes.

Future Beekeepers in the Makin'

What a most wonderful day it was.
A former art student of mine brought her 4 children to my house for a lesson on honeybees and pollination.

Nicole & her husband Jeremy, home school their 4 children who are inquisitive, imaginative, intelligent, creative, bright, insightful, and absolutely delightful.

Fellow beekeepers and CVBA members Starla Thompson and Fay Kleppinger dropped by to help out.

Jessica's First Harvest

APIARY MANAGEMENT

Concepts of Treatment-Free Beekeeping

by Jeff Steenbergen

Whether you just started keeping bees or are an old pro you are likely no stranger to the long list of chemicals a beekeeper might use inside the hive to address issues. The list changes over time as pests adapt relatively quickly to whatever treatments are used and so books and classes devote a good portion of time to discussing when and how to apply them. However, what is often not discussed in much detail is the concept of treatment free beekeeping which is beekeeping that does not use any treatments in the hive. The generally accepted definition of a treatment is defined as: "A substance introduced by the beekeeper into the hive with the intent of killing, repelling, or inhibiting a pest or disease afflicting the bees." Going treatment free means you are going down a difficult road where you let the genetically weak bees die and take steps to propagate the most resistant genetics. By selecting the most resistant bees you help to accelerate the natural selection process so they can develop natural defenses to pests and disease, breaking the treatment cycle. Resistant bees are those that survive despite having been exposed to a pest as opposed to bees that survive because they are in a protected location or fortunate to have been spared exposure. Taking the treatment free approach is not an easy path and for the most part if you simply stop treating bees that have been regularly treated you will likely have low survival odds. However, there is a way around this problem and that is by getting bees from a breeder that is already successfully raising treatment free bees, or rearing queens from your own hives which have successfully overwintered without treatments. Having treatment free genetics is only part of what is necessary to be successful and you will also want to take steps to maximize bee health and reduce stresses in the hive. Many ideas exist as to how to reduce stresses and improve health: from allowing the bees to build natural comb to only feeding their own honey. There are also management steps to allow brood breaks to occur that would naturally happen as part of the swarming cycle. Using natural comb and turning over combs more quickly helps to prevent contaminates from building up in the wax so that larvae can be raised in uncontaminated wax cells. There is also much to be learned about the natural microbial environment of the hive that exists when treatments are not used and how those microbes can also help to keep diseases in check. Treatment free beekeeping is not lazy beekeeping and can often be more challenging because you need to be able to make decisions several steps ahead of the hive's needs to prevent problems from occurring to ultimately be successful.

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.

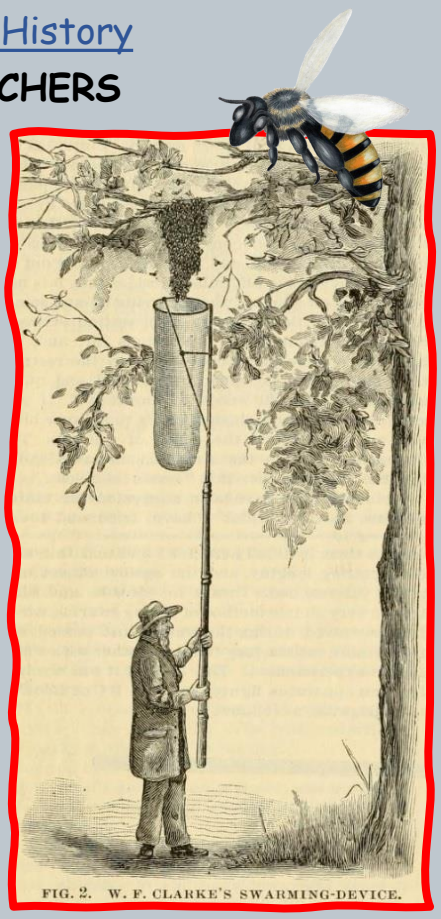
Online Apiary Registration Form: Apiary Registration.

Online request form for hive inspection: Apiary Inspection Request

BEEKEEPING HISTORY

Honeybee Articles - Beekeeping History

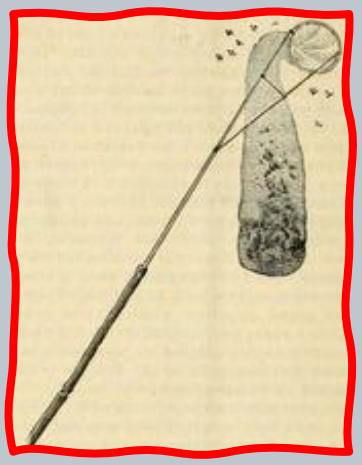
SWARMING and SWARM CATCHERS



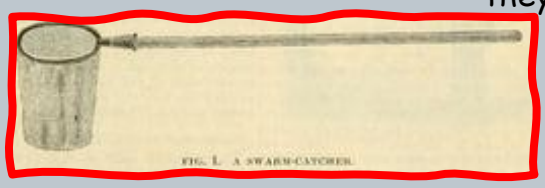
circa. 1887 ~ Clarke's Swarm Catching Device

For one, I have settled down to the belief that swarming is to accepted as one of the unchangeable conditions of bee-life. In common with many others, I hailed the plan of division sometimes called "artificial swarming," and practiced it long: enough to become convinced that it was indeed, artificial and abnormal. I never had a stock of bees that was thus, started on an independent career, whose energy, industry, and efficiency would begin to compare with those qualities as displayed by a natural swarm. I have also tried clipping the queen's wing and abandoned it for several reasons. First and foremost, it is a fraud on the bees. Nature is constructed on honest principles, and I believe that even a stock of bees resents deception and imposture. They start for that grand gala-time which Nature provides them once a year; and instead of having a holiday excursion they are obliged to turn back in dire confusion and disappointment. It is their annual celebration of independence; and man, by wicked artifices, prevents their enjoyment of it. They feel and act as if balked, which they are, and no mistake. Again, dissatisfaction springs up in the hive. They become disloyal toward their queen. They don't want a leader who can't lead. Something is the matter with the queen.
They cabal, scheme, and finally conclude to supersede the reigning monarch. I have no doubt many of our queen-troubles have arisen from clipping and otherwise disturbing the queen. Furthermore, it is very difficult for me to handle a queen without hurting her.
I have not that delicacy of touch, nor that control of my nerves, which is necessary for handling such soft bodied little creatures. I think real injury often done to queens in the process of clipping impairs their efficiency and leads to their being superseded.
I forbear discussing other preventives of swarming, lest this article should become too long.

BEEKEEPING HISTORY cont.



Manner of Confining the Bees



Swarm Catcher

Taking it for granted that we are going to let our bees swarm within due limits, we ought to arrange accordingly. First, we want a spacious bee-yard, or for I don't believe in a bee-yard, like a door-yard, devoid of trees and shrubbery. An apiary should be located on a roomy lot and be environed by evergreens and low growing deciduous trees. My experience has been, that bees prefer Norway spruces and apple trees to all others, for clustering on. In my lot they have had a choice of maples, willows, mountain ash, chestnut, plum, cherry, pear, and various other trees, together with lilac, syringas, and other shrubs, also pines, balsams, and other evergreens; and in over twenty years they have invariably chosen Norway spruces or apple-trees to cluster on.

I may add, that in all that time they have never gone outside my own lot of about an acre in extent, to find a clustering place, except once.

When things are handy for cutting off the bough on which the cluster hangs, that is a nice way of getting possession of your swarm. But it has its objections. A properly trimmed Norway spruce is disfigured by the removal of an important bough, and the symmetry of an apple tree is spoiled by the cutting off here and there a large branch. It is remarkable what a tendency there is in swarms to pick out certain trees, and they soon get cut out of all shape by sawing off limbs. Besides this, it is not easy to saw off a limb without jarring it; and sometimes at the critical moment of separation between bough and trunk there is a serious jar, and lower half the cluster parts company with the rest; or the whole swarm becomes disorganized, and, quick as wink, is "over the woods and far away." If you get your bough and cluster safely to the new hive, you are not beyond the reach of mishap. The queen may rise in the air again instead of going into the hive, and then it is "love's labor lost."

Various devices have been suggested for taking swarms, most of which I have tried and found wanting in some particular or other. I can not discuss them in detail here, for I find that this article is getting lengthy, and the special object of it is not yet reached. I want to describe and illustrate a very simple method of taking swarms, which I have evolved during the season just passed and found more satisfactory than any other with which I have experimented.

The idea of it was evolved from an apparatus figured in the A B C of Bee Culture, page 336, as follows:

The drawback to this device is its being horizontal. You must climb a ladder, get even with the cluster, and in such a free position that you can readily operate the handle; for unless, as described in the ABC, you instantly twist the bag so as to confine the bees, a large portion of them will get away, and, in all probability, along with them you will lose the queen.

This drawback is obviated by the use of a wooden handle, as shown in Fig. 2. The construction of the swarm-catcher is also shown, together with the manner in which it is shoved under the swarm. The rod is made in joints, the two lower joints being of stout bamboo, and the upper one of tough ash. Fig. 2 shows the device with the lower joint removed, and which I have so far found quite long enough for such swarms as I have taken with it.

As soon as the swarm has dropped into the bag, slant the rod a little, give it one twist, and the bees are all your prisoners. Not a solitary one of them can escape, and the bag lies against the rod snug and secure (see Fig. 3),

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!

BEEKEEPING HISTORY cont.

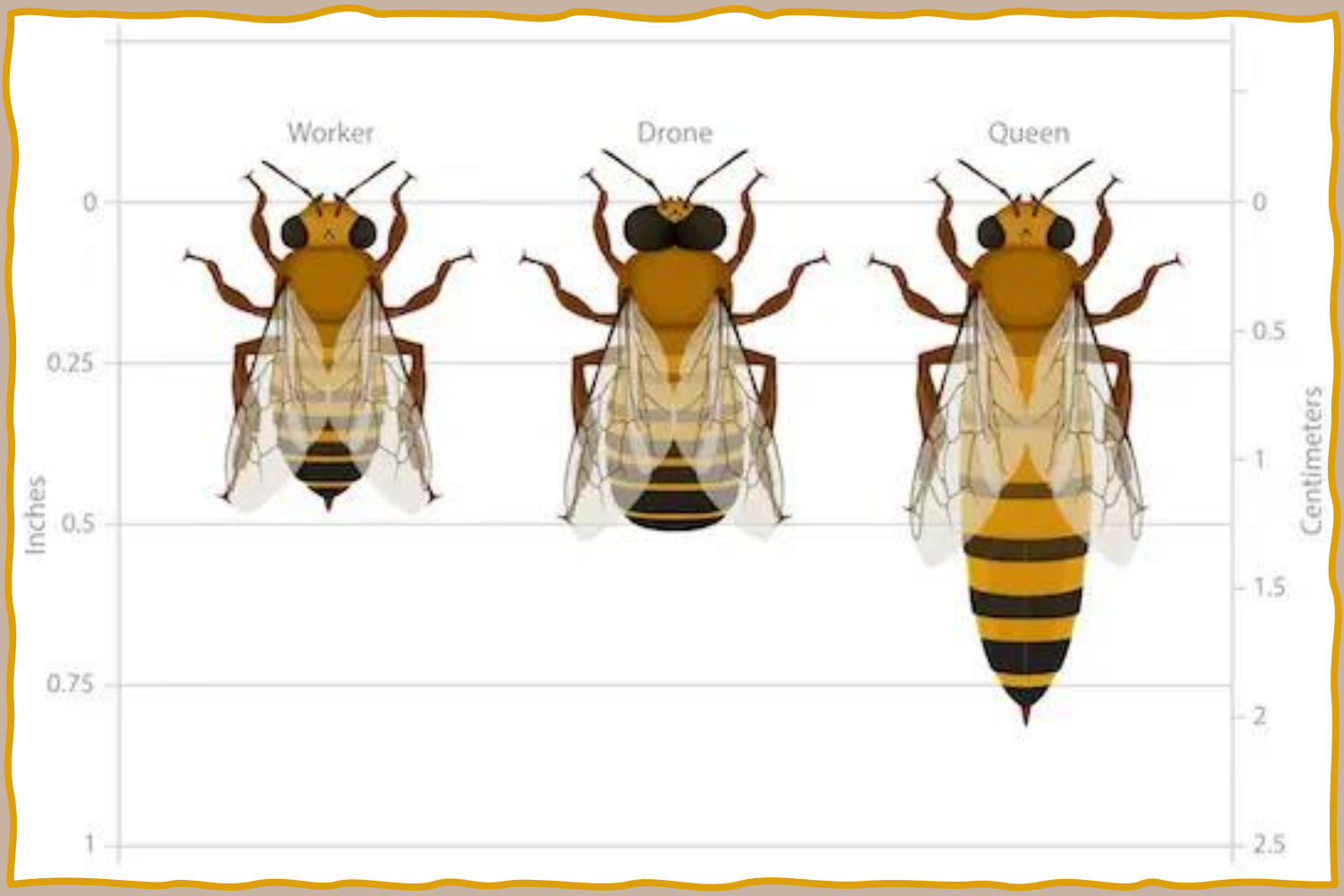
to await your convenience. If the hive is not quite ready for the reception of the bees, they can wait a little while. The bag being made of cheese-cloth, or some such porous material, they will not smother. When all is ready, their infallible entrance into the hive may be secured by the hoop of the bag being so placed that the bees must escape into the hive or not at all.
The superiority of this plan over all swarming boxes, even those with a frame of comb in them, lies in this— that you are not dependent on the will of the bees whether they enter or not. Bees are freaky little creatures. You poke a box among them as the cluster is forming; and if they do not take a notion to enter, you must secure them in some other way. Or if you are too persistent in obtruding your box upon them, they abscond, and so get rid of the annoyance. Or, again, you coax them into your box, and then lose them at the entrance of the hive.
I have tried the method— I do not know whose it is, but I first saw it practiced at Mr. Heddon's — of shaking the cluster into a light box or large tin pan, and instantly covering the bees with a muslin or linen cloth. It is better than some of the modes practiced, but not wholly satisfactory to me. You can not always get a good fair shake; and if you do, perhaps fail in getting the cover on properly, or after it is on it is brushed aside while you are climbing down from the tree; and, lastly, perhaps there is a miss in getting the queen out of the box or pan into the hive.
It will, perhaps, be said that my device will answer very well where the cluster hangs in a nice convenient shape as in the pictures; but when it gets among small limbs of trees, and in awkward places it will not work. To which I reply, that apple trees with properly trimmed open heads and Norway spruces with symmetrical branches, offer no chance for the tangling up of swarms we sometimes witness. There will be here and there an exceptional case; but an apiary having a right environment, such as described at the outset of this article, will give off swarms that will cluster in a ship-shape form, nearly every time. If we surround our bees with high trees, or thicket trees, or plant the apiary where there are no trees at all, we must, of course, take the consequences. Swarms like, above all things, to cluster on trees; and if we provide such as are convenient for ourselves as well as them, they will use them, so reducing our trouble and risk of loss to the minimum point. -W. F. Clarke.

Source:
Gleanings in Bee Culture,
circa. 1887, September, Pages 651-652
https://www.biodiversitylibrary.org/item/57116...

BEE INSIGHTS

Learning about the occupants of the hive invokes learning about the components of the hive and the importance of learning how to recognize, test and treat for diseases and the importance of hygiene in all your activities as a beekeeper and not 'a keeper of bees' which is not advisable. We need to know what we are doing and have a network, e.g., being part of an association or maybe even befriending an experienced beekeeper who will be only too happy to share his/her expertise.
Our eventual aim is to be proficient and competent in managing these wonderful creatures and learning how to work, care and protect them and the natural environment.

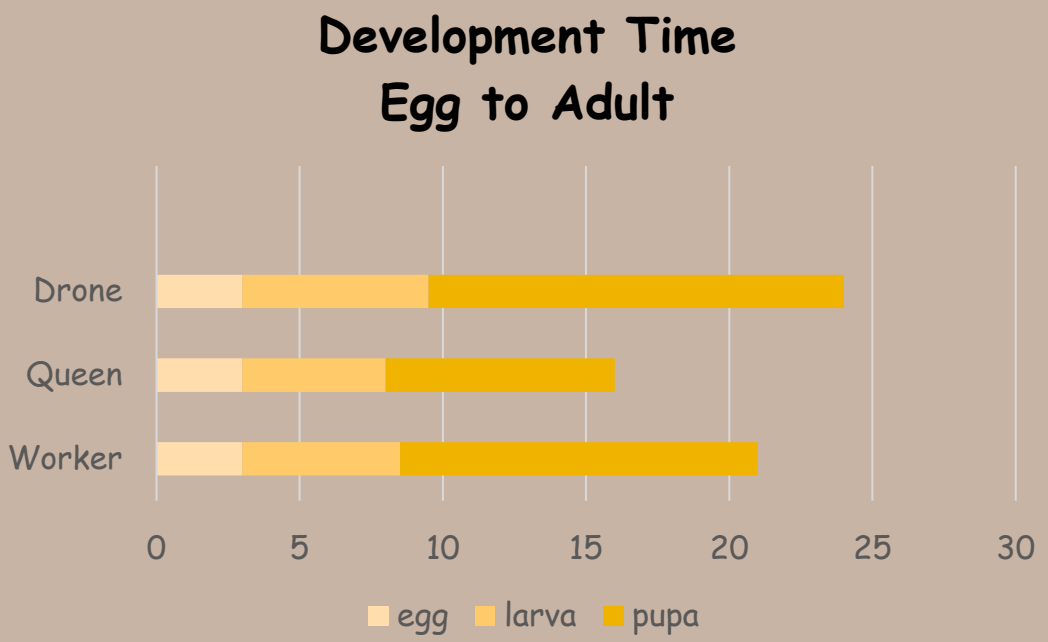
Occupants of the Hive



When one investigates a bee nest, three different and distinct adult bees and three immature stages can be seen. The three adult stages present in a bee colony are the queen, the worker, and the drone. Queen and workers are females, the two members of the caste system characteristic of eusocial insects. They have different tasks – termed division of labor. The male bee adult is called a drone.

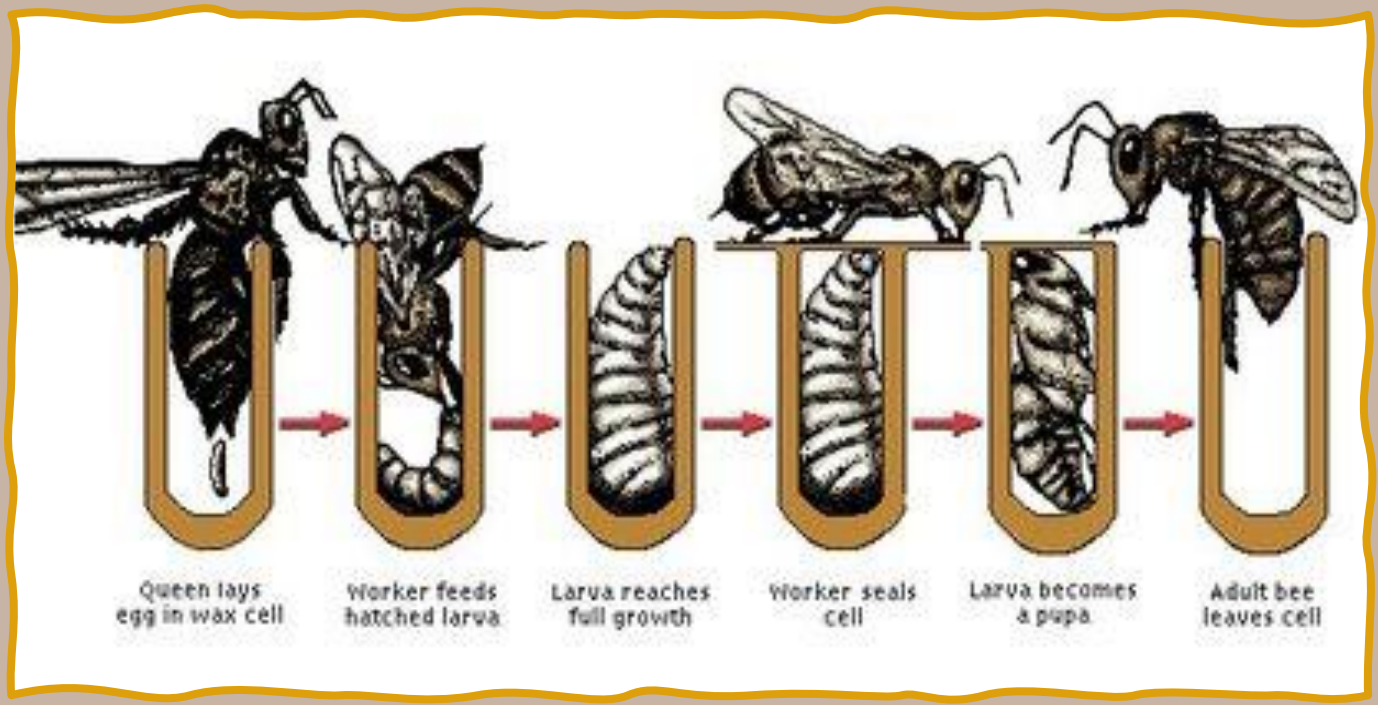
BEE INSIGHTS cont.

From Egg to Adult



After mating, the queens' ovaries expand and within three to four days, she begins laying eggs. The eggs take another three to four days to hatch. After hatching, the worker bees visit the larva and feed them for five days until they are finished growing (drones, take an extra sixth day).

One the ninth day, the worker bees seal off the cell with a wax cap in which the larva transforms into a pupa. Sixteen days after the eggs is laid by the queen bee, a new queen bee will hatch. Worker bees take 21 and drones, 24.



Both the workers and queen bees are from the same type of fertilized eggs but yet both worker and queen bees are born. The determination of the bee, to either become a queen or a worker, is determined by the food that the larvae is fed.

During the first 3-4 days both the worker and the queen bee larvae is fed the same thing- a protein rich substance from the hypopharyngeal and mandibular glands inside the throat derived from large amounts of pollen. Later, the food given to the work larvae becomes diluted with honey and pollen while the queen larvae continues to feed on the secretion. (Jones, Sweeny-Lynch, 99)

Queen

Not only is the queen the largest bee in the hive, but she is also considered the life of the hive, the matriarch. Why? The queen is a fully developed female whose two functions are to mate and lay eggs to keep the colony thriving and she also secretes a 'harmony' pheromone that keeps the colony happy and productive whilst she is healthy and strong. The queen is very specialized for these duties and cannot survive alone or perform the usual basic necessities such as feed herself, groom her own body hairs or leave the hive to excrete waste. A colony has a single queen, although for short periods there may be a mother-daughter queen situation in a colony or multiple, newly emerged (virgin) queens present.

Queen Development

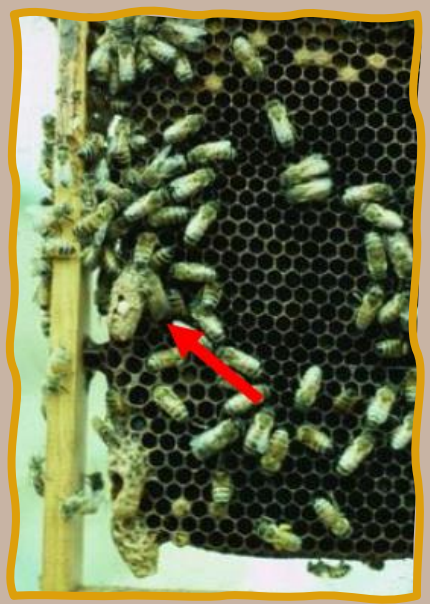
Develops from a fertilized egg or young female larva.

Queens are reared in special cells – hang vertically and extended as larva grows.

Queen larvae are fed a diet of "Royal Jelly".

Cell capped on day 5, larva spins cocoon.

Completes development and emerges after about 15½ to 16 days after the egg was laid.

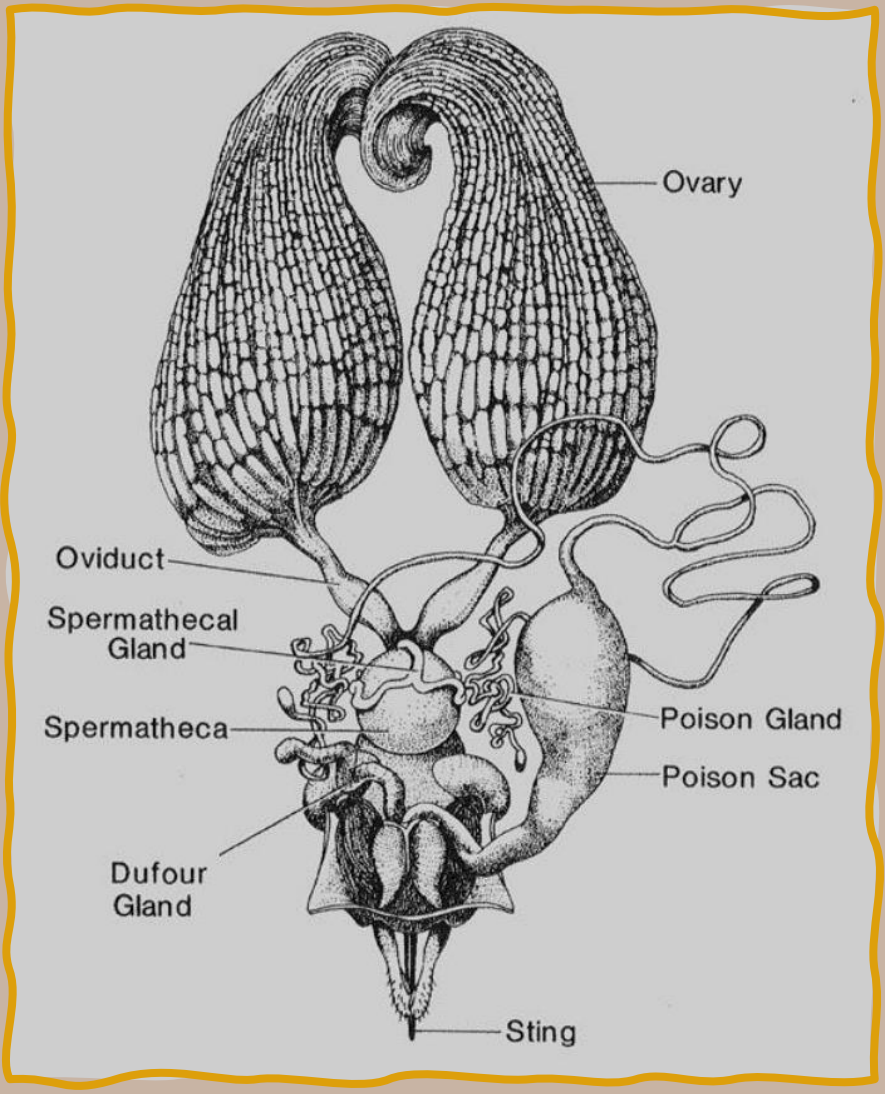


Seeks out rivals and attacks cells or two queens may fight.

Initiates mating flight at 5-6 days of age.

BEE INSIGHTS cont.

A new queen mate early in life and store up millions of sperm within their bodies.
They will leave the hive to mate with drones. After mating, she will start laying her eggs in just a couple of days. Spring and summer are the busiest time for the queen when she can produce 1,500 – 2,000 eggs in a day when the colony is in full development. This will slow gradually until the queen stops laying eggs in early October in preparation for the winter to come. In her prime, a healthy queen can produce up to 250,000 eggs per year, a truly amazing feat. This number gradually decreases as the queen ages. Most of these eggs are fertilized and go on to be her worker daughters. The queen also lays unfertilized eggs which produce her sons, called drones. Only the queen can produce new queens.



Queen Reproductive System

Queens typically live only 1-3 years; however, they get a lot done during that time. Queens lay an average of 250,000 eggs in their lifetimes!

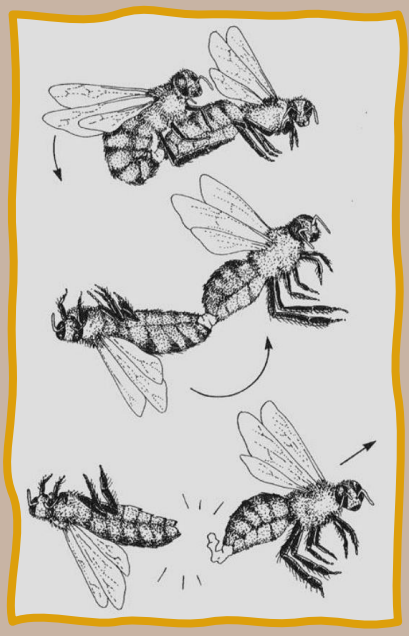
A queen is very different in appearance to her counterparts. The body is usually much longer and the wings shorter, only reaching 2/3 of the way down the abdomen. Her sting is slightly longer and curved but more slimline in appearance with fewer smaller barbs. She can even sting more than once and live to tell the tale, unlike typical honeybees who can only sting once before dying.

The thorax is larger than that of the drone and worker bees with no functioning pollen baskets or wax glands.

Despite her regal status, queenie is not a royal ruler, as the colony acts as a social unit where the workers make the decisions for the longer-term survival of the hive.

BEE INSIGHTS cont.

Reproduction



Before a queen can fertilize eggs, she must first collect sperm from male drone bees. Approximately 7 days after the queen hatches, she will take flight in search of drone bees from other colonies to mate with. The queen will leave the hive and fly in circles to orient herself with the terrain for her return later. She will then rise to around 20ft to mate.

Mating occurs in mid-air and normally involves 15-20 drone bees to ensure the queen collects enough sperm for the task ahead. Sperm is collected in the spermatheca, or sperm pouch, the organ used to collect and hold sperm during and after mating. This journey ensures that interbreeding does not occur and cause defects and poor health within the hive.

The 'queen substance' pheromone released by the queen allows the drone bees to identify her in flight. Mating normally occurs in the afternoon on warm sunny days. Poor weather and rain will leave the queen grounded until the weather clears. In instances when this continues for over 20 days the queen will lose the ability to fertilize eggs within the hive. If this occurs only unfertilized drone bees will hatch, and the queen will quickly be superseded by a younger replacement.
Providing the queen is able to perform a mating flight she will return to the hive approximately 12 minutes later. Within 48 hours she will begin to lay and fertilize eggs as she chooses. As she lays eggs, she will choose to fertilize based on the size of the cell. The worker bees will feed the queen royal jelly continuously to provide her with the energy required for producing eggs on such a grand scale.
The number of eggs a queen can produce and fertilize is entirely based on the amount of food she can ingest, and the speed worker bees can create new cells. Larger hives and colonies will be able to produce young at a much faster rate due purely to the numbers of worker bees within.

The Queen Substance Pheromone

As soon as a queen hatches, she will begin to produce a pheromone called queen substance. Queen substance is secreted via the mandibular glands within the queen bee. This substance will ensure that the worker bees within the hive will not begin rearing a new queen unless required.

It also functions as a method of identification for drone bees from other hives. When a queen ages, her queen substance will begin to weaken and in turn worker bees will start to feed royal jelly to a fertilized female larvae. This process is called supersedure and will occur when a queen is either ageing or suffering from a disease.

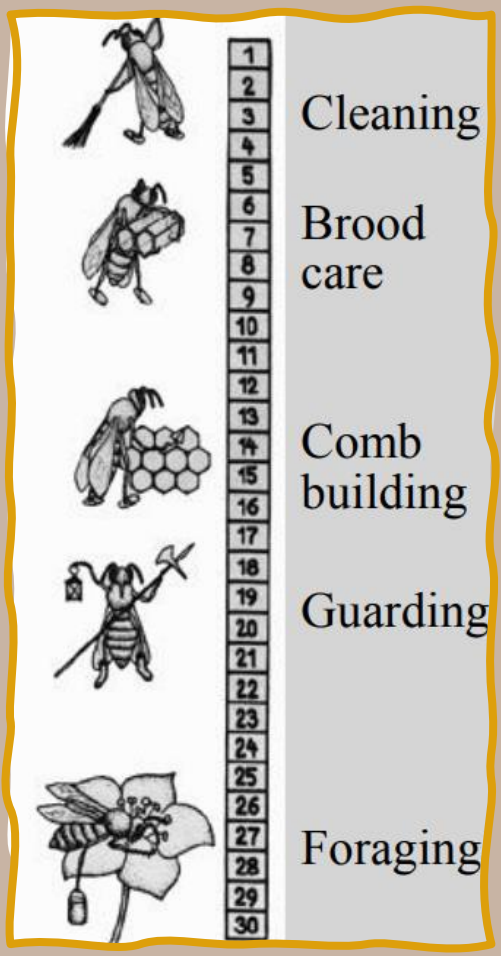
Worker

In the colony of 50,000 bees of labor between the workers ensure the future of the new construct, protect, and nest. The vast majority of population in the beehive are queen, they are classified as lack full development of their organs. Worker bees can still to their inability to fertilize, they can only produce male drones. Worker bees differ in several anatomical aspects from queens including smaller size, possession of pollen baskets on hind legs, wax glands on the abdomen and mandibular glands that are unable to produce the queen pheromones.

Worker bees, as the name implies, do the majority of the heavy lifting in the hive. They have many duties to help keep the hive running smoothly. The working roles are usually age-related to her. Younger bees and older bees often have different responsibilities.

Standing guard

Just like humans a bee's hive will have guards stationed at or around the entrance. These worker bees are charged with defending the hive against any unwanted invaders like wasps.



Cooling Down the Hive

A hives brood chamber must be kept at a consistent 34.4 degrees celsius for the young to develop properly. When this temperature is exceeded the worker bees will collect water to deposit inside the hive. After collecting the water, the worker bees will fan their wings to cause evaporation and begin to cool the hive.

Keeping the Hive Warm

Just like temperatures soar in summer the bees have to deal with the plummeting temperatures of winter. If the hive temperature is at risk of falling worker bees will band together to generate body heat. The constant movement from their small bodies quickly warms the surrounding bees and in turn the hive.

BEE INSIGHTS cont.

Queen Duties

As well as their role as door staff, young worker bees will attend to the queens needs, feeding her almost constantly. This chore has secondary importance to the successful upkeep of the hive. The queen bee releases a queen substance that highlights her continued reign to the hives existing inhabitants, by feeding the queen worker bees become unknowing couriers of the queens will proceeding to spread the queen substance throughout the hive. This process ensures that worker bees at a distance from the queen do not begin to make new queens to supersede her unnecessarily.

Undertakers

As bees age and die the need for a form of undertaker becomes urgent. Worker bees are tasked with removing dead bees and larvae from the hive to prevent the spread of disease and infection.

Sibling Watch

Young drone bees are unable to feed themselves, at this young age worker bees must keep their fierce appetites at bey. Luckily for the worker bees, drones are able to begin feeding themselves from the hives honey supply after about 4 days.

Honey Production and Storage

Worker bees are tasked with collecting nectar, returning to the hive, processing, and storing honey. They extract nectar from flowers using their proboscis and fly back to the hive to begin the honey production process. Enzymes within the bee instantly start to break down the nectar into sugar.

Upon returning to the hive the worker bee will regurgitate the transforming nectar into the waiting stomach of a nurse bee. This process concentrates the enzyme in the nectar, speeding up the honey production process. Once this process is complete the honey will be stored within cells in the honeycomb. These cells are capped with wax to complete the transformation much like the young larvae.

Pollen Collection

Pollen is used as a source of sustenance for the brood. Much like honey pollen is collected and stored within the cells of the honeycomb. Unlike honey however pollen is rich with bacteria and must be mixed with honey for its antibacterial effects, this ensures the pollen does not spoil in storage.

Propolis

Propolis is collected from young tree buds and used for various tasks within the hive. Propolis is mixed with an enzyme from the worker bees to give it antibacterial and anti-fungal properties making it a perfect disinfectant for the hives entrance and embalming fluid for oversized invaders the workers are unable to remove from the hive.

BEE INSIGHTS cont.

Worker Bee Characteristics

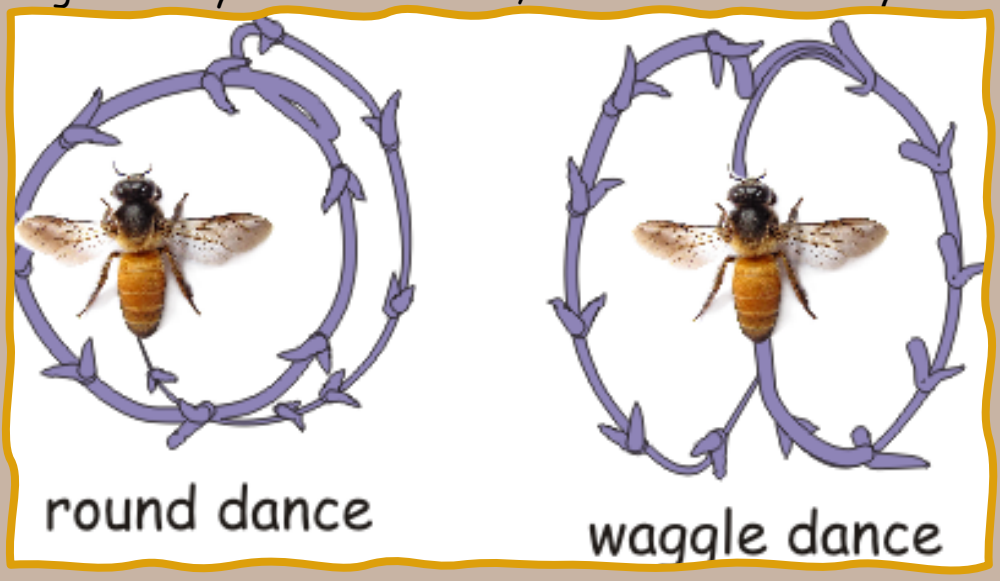
Of the three types of bees in the hive, the worker bee by far outweighs her counterparts in numbers. The pollen baskets and proboscis (long tongue-like organ) make perfect foraging equipment honed over years of evolution.

Unlike the other three types of bee in the hive, the worker bee may need the use of her stinger. This complex organ attached to the back of the abdomen is a blessing and a curse. When a worker bee stings very often, she will leave the sting and toxin sacks in the victim, this, in turn, prolongs the pain caused but, in most cases, will forfeit the worker bee's life.

They don't call them worker bees for nothing! Because of all this hard work, most worker bees will only live for about 6 weeks in the foraging season and still manage to pass on the work ethic to their remaining sisters who can live through the winter for about 6 months, so the next generation has progeny to build up the following year. It really is marvelous! Sometimes during the busy summer months, worker bees will only live for 3-4 weeks.

Communication

The bees are able to communicate the presence, direction, distance, and nutrient strength of nectar and pollen sources while foraging. In the late 1880's Australian Zoologist Karl von Frish artificially manipulate forage sources and describe the two danced of the bees: the waggle and the round dance.



If a forage site is relatively close to the hive the bee will signal the others by doing the round dance. Moving in a clockwise, then counterclockwise circle, repeating the dance to give direction to the other worker bees.

The most remarkable dance of the bee is the waggle dance. This dance is performed when a new forage source is found telling them what direction to fly and what to expect when they get there. (Jones, Sweeny-Lynch, 112)

A worker, a drone, and a queen.

Drone

Drone Bee Characteristics

Drones are the male bees in the hive. He is bigger than the queen and roughly barrel shaped. The drone is a haploid adult, developing from an unfertilized egg (termed parthenogenesis or haplodiploidy) a situation often found in the insect order Hymenoptera. Drones do not have any of the organs required to gather pollen. The pollen baskets and wax glands are not present meaning their role in the hive is minimal. The large eyes of the drone bee meet at the top of the head and are an easy identifier. No stinger means that drone bees are unable to defend themselves and an easy target for potential predators.

The drones' main purpose is to grow and go out and mate with virgin queens from other hives and pass on their genes aiding genetic diversity. Typically, they can only be found spring through early fall. They become sexually active at 7 days old and will take flight on warm sunny days to mate. They do not lay eggs, do not work but they gather on comb just outside the brood area and help the brood (the bees who are still developing) by covering them up and keeping them warm. This activity helps the worker bees by giving them a break to go out and forage for food. Drones are not very active inside the hive. Drones do have a secondary function while inside the hive. By vibrating they increase the temperature in the hive and aid the process of reducing the honey stored in cells. They move about only for 2-4 hours in the afternoon when they leave the hive to mate.

Reproduction

After 7 days spent in the hive, drone bees will begin to take flight. Late afternoon on sunny days is ideal flying conditions and drones will take to the air to familiarize themselves with the surroundings. After a few flights, the drones will rise to 20ft in search of a queen bee from another hive.

Drones locate the queen using the queen substance. When a queen is located the male bee will fly just above her placing his thorax just above her abdomen. The male drone bee will extend his endophallus and place it inside the queen's sting chamber. The sexual contact will last only 5 seconds and will be repeated with up to 20 mates. A drone bee has completed its task and is killed when the endophallus is torn off after the act of mating.

Few drones actually mate and those that are successful die in the process. After drones have completed their job of fertilizing queens, the majority of them will die very soon after. For those that remain into the cooler weather, their fate is not much better. Unfortunately, the worker bees will evict the remaining drones from the hive, leaving them to starve and eventually die. How rude! A drone usually lives about one month. Interestingly in cases where a hive is missing a queen, workers will allow drones to stay indefinitely.

Worker bees collect all the food for the drones while they are in the hive, but they are capable of feeding themselves at 4 days old. A drone bee eats about three times as much as a worker bee and is a real strain on the stored honey.

HONEYBEE LUNCH

Lavender

If you are a lavender lover and grower like me, you have discovered that if bees are nearby, they love lavender in bloom. Lavender and bees, both honeybees and bumble bees are, simply put, very good friends! There are varying thoughts on bees and the flavor of their honey, but since bees will travel up to 6.5 miles from their hive, unless you own half the county, few hives will have honey from only one source. But, simply put, bees love lavender in bloom, as they love anything in bloom where they can get nectar or pollen.

Like humans and other animals, bees are actually very picky about the flowers they like and are attracted to. However, they have their own preferences for where to get their nectar and pollen. Lavender is at the top of this list.

While lavender growers have varying purposes for growing the type of lavender, they grow or even the color of the blooms or length of stems, bees have discarded human reasoning, for they tend to be both smarter and less discriminating than lavender growers are! Some lavender growers may want to leave a certain percentage of plants uncut at harvest time, and the bees will say a collective 'thank you' to this practice.

It may be strange that bees love lavender so much, the most obvious reason being that lavender doesn't even contain a ton of nectar. Scientists claim that lavender contains only a small amount of nectar, so it takes a bee a whole week and 300,000 lavender plants to collect a teaspoon of lavender nectar. These numbers are highly counterproductive, considering that honeybees are considered to be creatures that tend to use the most efficient routes for collecting nectar rather than laboriously collecting small amounts of nectar from lavender plants.

The numbers also showed that the lavender plant contained 0.02 microliters of nectar. So, if a bee can fill its stomach with 50 microliters of nectar, it will take 2,500 flowers to fill its stomach with lavender nectar. This could take hours, which doesn't make sense considering it goes against the nature of bees as efficient foragers.

By comparison, a bee should be able to visit an average of 5,000 flowers in a day and make at least 12 trips back and forth from the hive after filling. Therefore, if bees feed on lavender nectar during a season, their nectar foraging quota will be extremely difficult. In short, this could affect their ability to produce large amounts of honey, or even food for the entire hive.

So, with all that said, why do bees love lavender so much in the first place? After all, if they're going to be efficient workers, shouldn't they be looking for other flowering plants that have more nectar to collect and are easier to collect? Basically, what makes lavender so attractive to bees is their general nature, as they rely more on smell than common sense. In a way, they like lavender very much because they find it easier to like lavender compared to other flowering plants.

Bees often have poor eyesight, and if they rely primarily on vision, they may have a little difficulty finding the best flowers for foraging for nectar. As a result, bees only forage when the sun is shining because they can't see well in low light.

Given their poor eyesight, bees rely on their sense of smell to find flowers for nectar. Honeybees have 170 olfactory receptors on their antennae. To put it bluntly, their sense of smell is 50 times that of dogs. Since a dog's sense of smell is 40 times that of a human's, that means a bee can smell much better than a human. This allows them to smell nectar from great distances, as bees can travel more than 6 miles from the hive just to forage from flower beds far from the apiary.

Now let's summarize all these facts. Bees tend to have poor eyesight, which makes it difficult to see in low light, and they prefer to choose bright colors that are easy to see. At the same time, they have some of the strongest scent receptors in the world, as these insects can easily smell nectar from flowers up to 6 miles from their hives.

What does this have to do with why bees love lavender so much?

The answer is simple. Lavender, although it contains trace amounts of nectar, is attractive to bees precisely because they are inherently attractive to their senses. The bright purple hue of lavender, along with its strong and captivating scent, is simply irresistible to any bee looking for a flower. Although lavender is not the most common in terms of nectar, it is more attractive to bees than other plants and its nectar scent.

All in all, lavender may not be the most effective plant for bees to gather nectar, but it still ranks high on their list of preferences, mainly because of its bright color and strong smell that will instantly attract any bee.

If bees forage from lavender plants earlier in the day, they may be lucky enough to collect maximum nectar.

As you can see, bees are no different from why we love lavender. They love it because the color and smell of lavender plants appeal to the natural instincts of bees. Meanwhile, for the same reason, we love lavender plants because they are very attractive to the eyes and have a relaxing scent that helps us feel better.

Growing Lavender for Bees

Lavender needs a sunny spot in well-drained soil and will thrive quite well in drought conditions.

Lavender also looks great in pots on the patio, but despite being fairly drought tolerant, they could dry out in containers and so will need to be watered in hot, dry spells. However, one advantage of growing in pots is that if you have a greenhouse, you can pop the plants inside to shelter in winter if necessary.

You can grow lavender from seed or from cuttings. Softwood cuttings can be taken early to mid-summer. Hardwood cuttings can be taken from late autumn after flowering.

It's best to take multiple cuttings since they may not all take.

If you would like to keep the plant compact, it's best to prune after flowering.

I have tended to leave the flowers in place until the following year, so that the birds can feed from the seeds, although the plant can become a bit untidy in appearance.

There can be no doubt that L. Angustifolia varieties, which bloom either continuously or multiple times, offer a greater opportunity for bees to have a regular 'diet' of lavender pollen and nectar. You might even grow some varieties which seem less suitable for your purposes as a lavender grower and let them bloom as long as they want, and the bees will find that practice quite compatible to their 'mission' to sustain their hive and produce honey. As you have relaxing moments, tour your gardens of perennials, herbs, vegetables and especially lavender, and when you see bees present on the blooms, increase the number of those plants in subsequent years … and as time moves on, you will see thousands of bees everywhere you walk.

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.

Plants for Honeybees in East Tennessee

by member **Bobbi Smith**

Hello to all. I've been keeping bees for three years now. I got started when I joined Clinch Valley Beekeepers and received a grant of a starter hive, smoker, veil and gloves. I now have three hives, which are in my front yard, so I am able to observe my bees every day, at different times of the day, and throughout all seasons of the year.

I've learned a little bit about what my bees are foraging for and bringing into their hives by observation, by reading, and by listening to and talking to other members of CVBA.

I've learned that my bees need continuous sources of nectar and pollen from early Spring, on through to Summer and into late Fall. Continuous food sources throughout the growing season means my bees are more likely to be able to winter over well. I've learned that early Spring is a critical time to observe food sources, as there is always a threat of killing frost during early and sometimes even late Spring in Appalachia. Sources of nectar and pollen need to as diverse as possible. If the weather is warm in early Spring (March and April), my bees will be out after Creeping Charlie, Dead Nettle and Violets – all considered pest weeds in 'perfect' lawns. They will also be feeding on Crocus and Muscari (Grape Hyacinth), which are the earliest-blooming bulbs I've planted. As for feeding from early-blooming trees near me, that will be the Red Maple, and some willows. Sometime during April, fruit trees will be blooming as well.

Sometime in early May, food sources will expand to include Dandelions, wild and Indian strawberries, vetch, Veronica (Speedwell), and vine Honeysuckle. Redbud will bloom. Around my neighborhood, we have many Tulip Poplar, and when they bloom in

POLLINATORS GARDEN cont.

May, my bees make a beeline for them, pretty much ignoring other food sources for a few weeks. But beware novice beekeepers, sometimes late frosts will kill off the blooms on this major food source! In later May, the Black Locust and Black Cherry bloom. Finally, the Blackberries, Blueberries, Raspberries, grapes and other berries bloom.
By June, my bees are harvesting from planted annuals, herbs and vegetable crops as well as wild food sources. Their favorites seem to be the squashes and cucumbers.

As for wildflowers, they are feeding on some of the inconspicuous plants like the Ribwort Plantain, and the ubiquitous White Clover. In late June into July, roadside annuals that reseed are plentiful, like Brown-eyed Susan, Chicory, Queen Anne's Lace, Coreopsis and many others.
Late summer food sources include many wildflowers that bloom from July through late fall, including Smart Weed, sunflower varieties, Goldenrod, Iron Weed, Joe Pye Weed, Milkweed and Canada Thistle, among others. Elderberry will also be blooming now, as well as Sumac.

For those wanting a 'honeybee friendly' pollinator garden, I suggest first making a decision to let the small plants in your grassy areas grow. Don't be fussy about your yard looking somewhat messy. Mow less often. Weeds are some of honeybees' favorite foods. You can set aside an area and scatter bee-friendly wildflower and annual seeds or maintain cultivated and cared for flower beds. All good.
Just remember that bees forage far and wide, crave variety, and delight in some plants that we humans consider weeds!

POLLINATORS GARDEN cont.

Below is my list of favorite food sources for honeybees for all seasons:

In the grass – Dandelion, Creeping Charlie, Dead Nettle, Speedwell, Smart Weed, violets of all types, wild and Indian strawberry, white clover, wild onions (a type of chive), ribwort plantain, are just a few.

Vines and shrubs – Blackberry, Raspberry, Thimbleberry, grape vine, Honeysuckle vine, Poison Ivy (watch out), Autumn Clematis (White Star Clematis).

Small trees – Elderberry, Redbud, Hawthorne, Sumac, Blueberry/Huckleberry, Privet, Amur Honeysuckle (the last two are invasive species in TN, so you wouldn't want to plant them, but can take advantage of what's already there).

Annuals/perennials that reseed and bees love – Zinnia, Sunflower, Bachelor Button, Cosmos, sweet clover, red/purple clover (really, all clovers), Bee Balm, Poppy, Rudbeckia, Crocus, Muscari.

Large trees – Fruit trees like apple, peach, pear, mock-pear, Tulip Poplar, Black Locust, Red Maple, Boxelder, Hackberry, Black Locust, Black Cherry, Chokecherry, Sourwood/Tupelo Black Gum (depending on where you live).

Garden Vegetables – squashes, gourds and pumpkins, cucumbers, broccoli, watermelon, mustard and other greens (when they flower).

Herbs – Lavender, Rosemary, Oregano, Thyme, Parsley, Chives, Garlic and many others.

Wildflowers – Brown Eyed Susan, Goldenrod, Ironweed, Joe Pye, Queen Anne's Lace, Iron Weed, Milkweed, Vetch, Asters, Canada Thistle, Marigold.

Generally, the more diverse a forage area is, the better for a stationary apiary. Urban, suburban, and uncultivated areas provide more consistent warm-season nectar forage than areas that are heavily cultivated with only a few agricultural crops.

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.

This month we visit my apiary located on the side of Clinch Mountain, in Treadway, Hawkins County.

Article & photos by **Sherri Hudson**.

Hi Fellow Beekeepers. I've been keeping and caring for honeybees for the past 5 years. But that's not when the story starts. I got interested in honeybees over 22 years ago when the Clinch Valley Beekeepers Association first organized. It was through a grant from Heifer International that

I received my first 2 hives. I along with several others traveled to UT to take the master beekeeping class with Dr. John Skinner. After a year I started teaching visual arts at Grainger High School plus working on my Masters in Art Education at ETSU. I found that my time didn't allow me to care for my bees, so I returned them to the club. Fast forward to today and I have 4 healthy buzzing hives. Three of the hives are from this years nucs and one is from last years nuc.

What I love best about keeping bees… is that I am continuously learning. I talk about bees constantly. Not everyone enjoys this so much, but I'm always gratified by the response, "I had no idea!" – I know, right?!

APPIARY in the NEIGHBORHOOD cont.

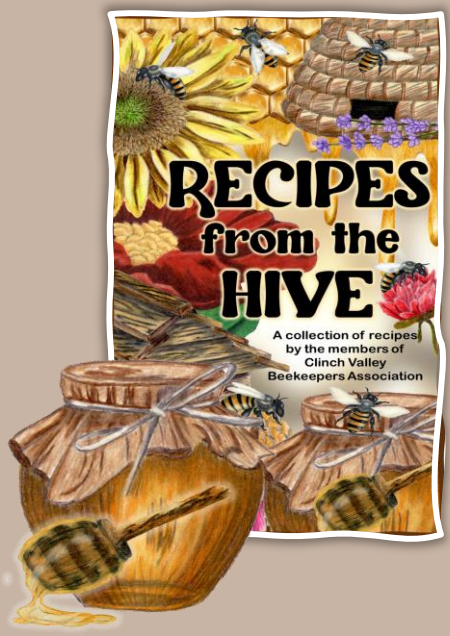
Bees are fascinating beings; they have a complex social network, and they can overcome great challenges. They are tenacious and can withstand intense cold, adverse weather and human threats. Humankind has proven unable to live harmoniously with all other living beings.

Over the past 23 years I have been building raised beds. The front hives sit in the pollinators garden and the hives in the back sit under a ginko tree next to the chicken 'condo' which is in the vegetable gardens. The pollinator garden is built out of rocks, rocks, and more rocks.

It is on the terraced hillside. I grow lots of poppies being that is the favorite of my bees, 4 types of lavender which is a favorite of little bumble bees and honeybees, coreopsis and black eyed susans which are favs of Frillary butterflies, columbine, foxglove, monarda (bee balm), echinacea (cone flower), a couple types of thistle, hyssop and several other wildflowers. The vegetable garden has all the vegies and berries that pollinators love plus 4 types of mint, oregano, basil, catnip (which the honeybee love when it flowers), zinnia's, marigolds, and much more. I also have several other type garden areas for shade plants such as ferns and mosses and wild plant specimens such as Ginseng.

In the spring I plan on starting an area dedicated to Monarch butterflies.
I'm also thinking of raising Monarchs for tracking.

RECIPES from the HIVE



SWEET - HOT JALAPENO PICKLES

3 quarts ripe, sliced jalapeno
3 cups white vinegar peppers
3 cups water
¾ cup canning (non-iodized) salt
1 tablespoon whole cloves
3 quarts water
6 - 1-inch pieces stick cinnamon
2 trays ice cubes
1 thinly sliced lemon, seeds removed
4 cups sugar
3 cups honey

Makes 4-5 pints.

Cover sliced jalapenos with brine made from canning salt and 3 quarts water.
Add ice cubes, cover and let stand 5-6 hours, or overnight.
Drain off salt brine, and rinse jalapenos in cold water.
Cover with cold water, and cook until fork tender, about 10 minutes.
Do not overcook. Drain.

from member
Bobbi Smith
page 21

Make syrup by combining
sugar, 3 cups water, and spices, tied up in a cheesecloth or spice bag.

Boil syrup for 5 minutes, then pour over jalapenos.
Add lemon slices.
Let stand overnight.
The next day, heat in stock pot until boiling, and cook for about 10 minutes.
Ladle hot mixture into clean, hot pint jars.
Add 1 stick of cinnamon and 1 lemon slice to each jar
(you can also add a few of the whole cloves to each jar).
Cover with remaining boiling syrup to within ½ inch of top of jar.
Adjust lids, and process in boiling water bath for 5 minutes.
Save any extra syrup for other uses
(you can process it in a canning jar to preserve).

WHOLE WHEAT PUMPKIN BREAD OR MUFFINS

2 tablespoons butter
1 teaspoon baking powder
2 eggs
½ teaspoon baking soda
¾ cup sugar
1 teaspoon salt
¾ cup honey
½ teaspoon ground nutmeg
1 cup pumpkin purée
½ teaspoon cinnamon
¼ cup water
½ teaspoon allspice
1 ¾ cups whole wheat flour
¼ teaspoon cloves
2 tablespoons wheat germ

Use butter to grease a loaf pan or muffin tins.
Break eggs into a large bowl.
In another bowl, mix all other ingredients together.
Add to eggs and mix until well blended.
Spoon batter into loaf pan or muffin tins (2 ⁄3 full).
Bake at 350° for 60 minutes for loaf pan, 45-55 minutes for muffins.
Toothpick inserted into center should come out clean.
Note: For less sweet recipe, use all the honey, but only ¼ cup of sugar.

from member
Linda Eskola
page 74

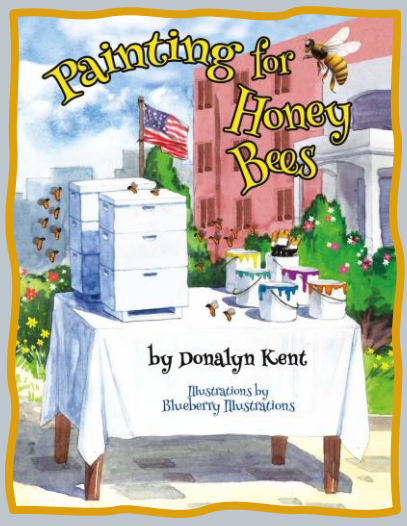
BOOKSHELF

PAINTING FOR HONEYBEES

A Beekeeper Educates With Art

by Donalyn Kent

Overview



Based on a true story and inspired by a beloved beekeeper uniquely named Uncle Ray, this picture book blossoms with its educational twist on the importance of our busy little pollinators. Throughout this charming story, young artists are colorfully engaged with honeybee knowledge. It's a delightful tale that visually nurtures honeybee awareness for all readers. The book also features additional perks for its readers like honey bee fun facts, 10 ways to help protect honey bees and even includes a 30-word glossary.

BUZZ ART GALLERY

The Artwork of Bees Can Be Absolutely Stunning

Sunny Skyz

Have you ever seen honeycomb as beautiful as this?

It's what happens if you leave it to the bees and do not put frames in the box.

This particular heart-shaped honeycomb was constructed by bees at Bodiam Castle in Robertsbridge, United Kingdom. And these shapes are certainly not random! They are specifically built that way to regulate airflow inside the colony to maintain an ideal temperature.

This colony was discovered in a cottonwood tree in the high desert community of Maupin, Oregon

POETS STAGE

The Bee-Boy's Song

by Rudyard Kipling

Bees! Bees! Hark to your bees!
"Hide from your neigbours as much as you please,
But all that has happened, to us you must tell,
Or else we will give you no honey to sell!"

A maiden in her glory,
Upon her wedding - day,
Must tell her Bees the story,
Or else they'll fly away.
Fly away -- die away --
Dwindle down and leave you!
But if you don't deceive your Bees,
Your Bees will not deceive you.

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ANSWER to BEE FUNNY

More honey and shorter working flowers..

KIDS CORNER

It's back to school time. I've been thinking a lot lately about educating young beekeepers for the future. This month I'd like to use the KIDS CORNER to explore making that possible and safe for the children. This means starting with a bee suit of their own (or to share) but one that fits well and provides extra protection. We want this to be a positive fun experience for them to encourage them to continue learning and about beekeeping, pollination, and conservation for years to come.

The future of beekeeping lies with our children. This is just one of the reasons as to why we ought to encourage kids to familiarize themselves with honeybees. This will enable them to assist with hive inspections and the like, and in the future to be able to manage their own bee colonies. Boost your child's confidence by purchasing them their own beekeeping suit. This should be made of almost 100% cotton and should be accompanied with a veil that is detachable and fits well. The market is flooded with several kids' beekeeping suits, but there is one I like and recommend. You do your own research to find the best one that meets your needs and budget.

NewBee Children's Beekeeping Suit with Domed Veil

This is a great choice for your kids with its signature domed veil. It is designed with the needs of the final user in mind. You will love the design at the arm and leg area which is designed to accommodate your growing child. He or she could probably use it for a number of years before outgrowing it.
The elastic wrists and thumb loops are also worth noting. Furthermore, it has plenty of pockets.
It is available in Extra Large, Large, Medium, Small and X-Small – all of which are kid's sizes.

Pros
- Domed veil.
- Elastic wrists and thumb loops.
- Many pockets
- Grows with your child.
- Available in many sizes.
- Excellent quality zippers.
- Lightweight.

Check Price

Cons
- It does not come with any gloves.

Given the various kids' beekeeping suits available in the market for children, purchasing a proper suit might prove difficult. The good news is that once you are equipped with tips on how and what to look at when purchasing a suit especially for kids, you can easily find one that perfectly matches your budget and various needs. As a passionate beekeeper who wishes to pass this practice on to generations in the family, you not only want a beekeeping suit that fits excellently, but one that is also durable and is of good quality.

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.

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.

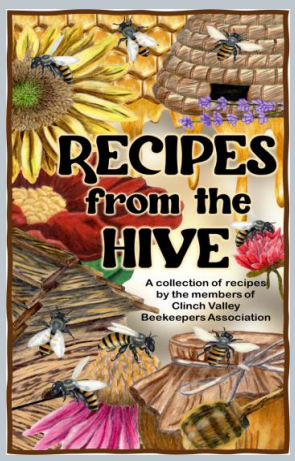
More info coming soon.

Clinch Valley Beekeepers Association

T-shirts are available;
S, M, L, XL sizes - $10
XXL and larger sizes - $12
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!

"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