

# Practical Beekeeping



**How  
I learned  
to stop  
worrying  
and love the  
bees**

BY AMBER VEVERKA

PHOTOGRAPHY BY  
CARROLL FOSTER

**I LUMBER LIKE A SPACEWALKER** in my bulky white suit, lagging behind my teacher. Noticeably behind. She's striding with casual confidence over to the white boxes beneath the oaks in her T-shirt and jeans, the veil over her head not even tied shut.

I, on the other hand, am sealed in, top to toe, yet anxiously fingering the zipper on the veil for the ninth time to be sure it's shut. I edge nearer the hive, where about 40,000 stinging insects raise a dim hum. Jennifer Tsuruda, my instructor, puffs smoke over the hive entrance. The air around us is peppered with bees, sisters returning from fields of goldenrod to deliver their goods.

Tsuruda, 35, is Clemson University Cooperative Extension's apiculture specialist for South Carolina, and we're here at the hillside of hives where she does her bee research. Just now, she is explaining that the smoke interferes with the bees' ability to communicate chemically, to warn one another of our approach.

This is all fascinatingly scientific, but I'm finding it hard to focus because it's taking all my >>



Jennifer Tsuruda, Clemson University Cooperative Extension's apiculture specialist, is all smiles behind her bee veil when she works with hives of honeybees.



## GET THE GEAR

**T**he S.C. Beekeepers Association recommends beginners budget \$400 to \$500 for the first year, most of which will buy supplies that will last for years to come. That money will pay for a beekeeping class, woodenware (that's the hive), tools and clothing.

Most beekeeping supply houses sell beginner's kits for around \$200, not including the bees. Most of those kits include a veil and gloves rather than a full suit. And that works for many beekeepers, says Jennifer Tsuruda, Clemson University Cooperative Extension's apiculture specialist for South Carolina, because bee suits get hot, making hive work tough in the summer. A long-sleeved shirt with a veil and a hive smoker "are probably the key things, because you don't really want to get stung in the face," she says.

Still, there's something deeply reassuring about a full suit with a tie-on or zip-on veil plus gloves. That full outfit can range from about \$80 to \$180, depending on the supplier and the size needed. The bees themselves, which are ordered in advance and supplied in the spring, typically cost \$90–\$200, depending on the variety and amount.

The most basic tools for working with bees include a smoker, a brush for gently moving bees off frames and a hive tool, which is a curved metal bar used for prying open a stuck-on hive lid.

As for the hives themselves, think of their structure like a multi-level factory. At the bottom is the **hive stand**, which keeps the hive off the ground. Next is the **bottom board**, the hive's floor. Then there's the box where the bees live and raise young in wax-foundation-filled frames. That's the **brood box**, or **hive body**. On top of that goes a board called a **queen excluder**, which allows worker bees to venture up into the next frame-filled box, the **super**, to make honey, but keeps the queen from entering to fill it with eggs. In a big honey year, a beekeeper may stack additional supers on top to accommodate the bounty. Capping the entire hive are **inner** and **outer covers**.

A key decision a new beekeeper must make is whether to get an eight- or 10-frame hive. Whatever size you start with will determine the components you get later. Typically, beekeepers make their choice based on how much weight they want to lift. Ten-frame hives are the most common style used in the U.S.



A smoker and a hive tool are two essential beekeeping tools.

concentration not to wildly swat at the bees landing all over my suit. Slowly, Tsuruda lifts the hive cover and sends smoke inside, and the bees' hum crescendoes.

*Don't wave your arms, I tell myself. Don't run.*

We are here on this warm afternoon to see if I have what it takes to become a backyard beekeeper. So far, it is not looking too good.

### The new chickens

When it comes to urban farming, bees are the new chickens. Once relegated to farm fields, hives are popping up in city lots and suburban yards. Fueled by the DIY and locavore movements and a rising concern about the disappearance of honeybees due to pesticide use and invasive pests, beekeeping is growing rapidly in popularity.

I got curious about beekeeping after hearing so much about crashing honeybee populations. Apparently, so did a lot of other people, because beekeeping classes offered through state and local beekeeping associations are seeing record attendance (see "Join the club," page 20).

The S.C. Beekeepers Association's own membership has doubled in the last five years, now reaching 1,300, says Larry Haigh, association president.

"Most of it is backyard beekeepers and urban beekeepers," he says. South Carolina has few commercial beekeepers, Haigh says, making the role of the hobbyist that much more important for pollinating both farmers' fields and backyard gardens.

"Everybody knows we need pollination for fertilization of our crops," says Abbeville resident Larry Lawson, president of Lakelands Beekeeping Association and himself the owner of 20 hives.

"About 30 percent of our crops need pollination and about 18 percent of that is done by honeybees," he says. "Honeybees have the distinct advantage [among pollinators] in that we can manage them, take care of them, keep them from getting killed."

I've taken a beginners class, but until this outing with Tsuruda, I'd never moved past that point to handle bees.

### Beekeeping supplies can be purchased from these vendors:

**THE CAROLINA HONEY BEE COMPANY**, based in Travelers Rest, sells equipment and honey and offers personal beekeeping lessons. (864) 610-2337; carolinabeecompany.com.

**BEE WELL HONEY**, based in Pickens, offers equipment and packages of bees. (864) 898-5122; beewellhoneyfarm.com.

**DIXIE BEE SUPPLY**, based in Lancaster, sells bee-related gifts along with equipment and honey. (803) 285-2337; shopdixiebee.com.

**BRUSHY MOUNTAIN BEE FARM**, based in Moravian Falls, N.C., offers instructional videos on its website. (800) 233-7929; brushymountainbeefarm.com.

**ROSSMAN APIARIES**, based in Moultrie, Ga. (800) 333-7677; gabees.com.

**DADANT**, based in Hamilton, Ill. (888) 922-1293; dadant.com.

**MANN LAKE**, based in Hackensack, Minn. (800) 880-7694; mannlakeltd.com.



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—LARRY LAWSON, PRESIDENT OF LAKELANDS BEEKEEPING ASSOCIATION



Pine shavings provide the smoke that keeps the insects calm when beekeepers like Jennifer Tsuruda need to work inside the brood box (top left). While many experts are confident enough to forgo the full protective gear, beginners—including the author (above)—prefer the security of a full bee suit. Enjoying honey straight from the comb is one of the sweet rewards for amateur apiarists (left).



But even before such practice, would-be beekeepers should find out if their community allows backyard hives, typically by calling the animal-control office. Some municipalities, such as Columbia, are fine with beekeeping, so long as neighbors don't deem the hives a nuisance. Many homeowners associations, however, are more restrictive.

You should also make sure you've got a bee-friendly yard. Bees like early-morning sunshine—it gets them out foraging early. Surrounding soil that is generally dry will help control populations of insect invaders.

Hives should be sheltered from the wind and located away from areas heavily trafficked by people and pets. Some beekeepers plant shrubs around the hive to force the bees upward in their flight, away from people's heads. I've learned from bee classes that, although my yard is small, shaded and too busy with ball-throwing children to accommodate bees, beekeepers often arrange for their hives to be hosted in a more welcoming yard. If you find a willing



# THE LAND OF HONEY

## AMATEUR APIARIST

**W**hen Jerry Dickinson moved to Conway about five years ago, he set about recreating the little garden he had enjoyed in his New Jersey backyard and noticed something strange.

“There were no bees around,” says Dickinson, 70, a member of Horry Electric Cooperative. “And I started asking questions.”

Dickinson’s questions took him to the S.C. Cooperative Extension, where he learned his area didn’t have an active beekeeping association. Today, Dickinson is the outgoing president of Blackwater Beekeepers Association, which he ran for more than three years.

Dickinson keeps eight hives and sells honey at festivals, though he and his wife, Marie, make sure to stash a few jars away for themselves.

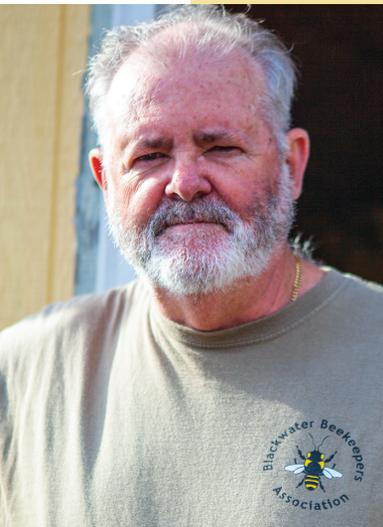
This time of year, Dickinson knows to watch for the tiny blooms of the red maple, the bees’ first wild food of spring.

“That [makes] a fairly light honey. Then the flowers start to bloom,” he says. “I can sit by my hives and watch bees going in and out. You can see them bringing back pollen. If they’re moving fast, you know there is nectar flowing.”

The honey is great, but it’s having a front-row seat to the life of a colony that keeps Dickinson hooked on his hobby.

“It’s just fascinating,” he says. “If you’re gentle enough when you’re going to a hive, the bees will just keep on doing what they normally do. You can watch them on the frames, feeding the young larvae. The queen is laying eggs. There’s always something to learn.”

Horry Electric Cooperative member Jerry Dickinson enjoys beekeeping at his home in Conway.



PHOTOS BY MATTHEW SILVER

neighbor, an offer of honey can sweeten the deal. (Just be sure to ask if they spray their yard for mosquitoes and other insects, because those chemicals can kill bees.)

Once my family and I found a good spot for locating hives, it was time to connect with a pro. Joining a beekeeping association “can be a great way to find mentors and to pick up tips,” Tsuruda says. “Finding a mentor can be a great way to try out beekeeping before financially investing in it.”

It’s not the cheapest hobby. Several backyard beekeepers who sell a little excess honey told me they are happy to cover their annual expenses. To get going the first year, you should expect to spend \$400 to \$500, according to Tsuruda and the S.C. Beekeepers Association. This budget will provide for classes, a hive, starter bees and basic gear (see “Get the gear,” page 16).

That gear includes, in my case, a \$130 bee suit with hat and veil, which is tempering my anxiety just enough to edge closer to Tsuruda on our day at the Clemson hives. She is confident enough to forgo the suit, but she keeps her smoker at the ready, loaded with store-bought pine shavings for fuel. “Always have a smoker if you’re opening a hive,” she says.

A smoker and, apparently, plenty of affection for the insect population within: Tsuruda croons to her bees and puts out a bare finger, watching a worker land on it.

“She’s just a baby,” Tsuruda says. “She’s just looking for food. See? Her tongue is out. When you look at them up close, they’re like little teddy bears.”

### ‘No jerks in the bee yard’

But even fuzzy creatures can turn fierce.

Despite the silvery smoke trail curling over the colony, one angry girl lands on Tsuruda’s thumb and stings. Tsuruda casually scrapes the black stinger out of her skin. The attacking bee is worse off: When she deposited her stinger in Tsuruda’s skin, she left behind part of her digestive tract, dying in defense of her hive.

For some people, stings are a serious matter. It’s possible to develop a life-threatening allergy to bee venom at any time in life, even if you’ve been stung without incident before, says Dr. Richard Herring, an allergist with Carolina Asthma & Allergy Center. Some beekeepers carry injectable epinephrine, which can halt anaphylaxis, the closing of the body’s airways in reaction to an allergen. The medicine can give someone enough time to get to an emergency room.

These are the kinds of facts moving through my mind as I take the next step in my introduction to beekeeping: handling the bees myself.

I remember Tsuruda’s caution to move slowly and deliberately. “No jerks in the bee yard!” she says brightly as she hands me the smoker. I puff smoke over the open hive. The buzz crescendoes to a roil. Instinctively, I flinch.

As I reach into the box to lift a frame heavy with insects, sealed bee babies (called “brood”) and honey,



The queen is easily spotted among the female worker bees, having been dabbed with a dot of green paint. Males make up just 2 percent of the hive population, and their sole purpose is to mate with the queen.

Tsuruda leans in to say, “One of the early things you learn is if you are holding a frame of bees and you get stung, *don’t drop that frame of bees.*”

Yes, that calms me down.

But I hold my breath and lift the rectangular frame, which is surprisingly heavy. Without thinking, I nearly rest it on the hive edge, a move Tsuruda quickly stops, pointing out that I would have squished the mound of bees clinging to the frame’s underside. Instead I raise it to the late-afternoon sun. The light illuminates the golden, hexagonal cells like a stained-glass window.

When we have a couple of frames out of the hive, Tsuruda points out the male drones, which make up just 2 percent of a hive’s population and whose sole purpose in life is to mate with the queen. We spot her, too: a long, cinnamon-colored bee Tsuruda has marked with a dot of green paint.

The bees aren’t the only residents. As we watch, a small hive beetle skitters out of a frame, looking like a tiny black Volkswagen. Hive beetles eat honey and destroy wax comb, and they are one of the main things new beekeepers have to watch for. Prevention makes a difference: Beekeepers should buy their first bees from a supplier that certifies them as beetle-free and shouldn’t allow hives to stand with the excess honey and unguarded comb the beetles find attractive.

An even bigger challenge for beekeepers is the varroa

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—SAGE ADVICE FROM JENNIFER TSURUDA

mite, an invader species that entered South Carolina in 1990 and has spread rapidly since. Tsuruda points out the mites, which look like shiny, red-brown beads attached to the backs of bees. On several, the mites have already done their damage, a virus they transmit deforming the bees’ wings, leaving them too crippled to fly. As Mark Sweatman, president of the Spartanburg Beekeepers Association, says, the mite isn’t called *Varroa destructor* for nothing.

### A taste of honey

Hearing about all of the pests that seem intent on destroying bees has started to make me wonder if this hobby is really worth it. That’s when Tsuruda says, “Want to taste some honey?”

She cuts a piece of comb from a frame and hands it to me. Now, I like honey on a smoking-hot biscuit as much as the next person, but I’ve never eaten a chunk of honey-filled



## JOIN THE CLUB

**T**he best way to get started with beekeeping is to take classes offered by bee associations or “bee clubs.” These clubs typically start their beginner beekeeping classes each January, although some start in fall. For a list of the more than 20 local beekeeping associations in South Carolina, go to [scstatebeekeepers.org](http://scstatebeekeepers.org). After the beginner class, you can rise through the educational ranks to journeyman, master beekeeper and master beekeeper craftsman.

If you don't want to wait until classes begin to get a hive, you can join a bee club, acquire bees in spring (bees purchased later won't have enough time to build up the colony before winter) and see if the club will pair you with a mentor. You can also get going with the help of some good books, says Allen Johnson, president of the Aiken Beekeepers Association. He recommends four:

- ▶ *The Backyard Beekeeper* by Kim Flottum (the 2014 edition includes information on urban beekeeping)
- ▶ *Storey's Guide to Keeping Honey Bees* by Malcolm T. Sanford and Richard E. Bonney
- ▶ *Honey Bee Hobbyist* by Norman Gary
- ▶ *First Lessons in Beekeeping* by Keith S. Delaplaine. This one is required reading at many of the beekeeping classes.



## GET MORE

**STUDY UP ON BEES.** Clemson University Cooperative Extension's beekeeping program offers a wealth of resources. Visit [clemson.edu/extension/beekeepers](http://clemson.edu/extension/beekeepers).

**GARDENING FOR POLLINATORS.** S.C. Gardener columnist S. Cory Tanner shares tips and advice for a bee-friendly landscape. See page 27.

**ONE HONEY OF A HOBBY.** Some of the state's top apiarists share their love of backyard beekeeping. Read this bonus article from the June 2011 issue online at [scliving.coop/honey](http://scliving.coop/honey).

**TAKE THE BEE SMART QUIZ.** How much do you know about bees and other pollinators? Find out with our interactive quiz at [SCLiving.coop/beequiz](http://SCLiving.coop/beequiz).

**SHARE YOUR STORY.** Share your beekeeping adventures and photos at [SCLiving.coop/backyardbees](http://SCLiving.coop/backyardbees).



comb before. Tentatively, I bite. The delicate wax gives way to something clearer, purer—OK, more *golden*—than anything I've ever tasted from a grocery-store jar.

Oh, wow. Just—wow.

I turn to Tsuruda, and even through the veil I know she can probably see my wide eyes.

What these lovely, striped insects have been making in the dark of their hive tastes like pure goodness. And there's really only one thing to say after that.

“Could I have a little bit more?” I ask.

These bites of liquid summer we are tasting started as nectar from wildflowers. The bees brought the nectar home, stored it in the honeycomb, added enzymes to it, and then fanned the droplets with their wings to evaporate most of the water. Once the ripened nectar was concentrated enough to be called honey, Tsuruda says, the bees capped it with wax to store it away for the time of year when the nectar stopped flowing.

Most of the beekeepers I've talked to think of the honey their hives produce as a beautiful bonus to their hobby's main attraction, the bees themselves. Typically, they don't take honey—the old-fashioned term is “rob the bees”—in a hive's first year, because the bees will need that food to see them through winter. But later, a strong hive can produce 60 to 100 pounds of surplus honey, Tsuruda says, and when conditions are very good, as much as 200 pounds.

At the hive we are visiting, the circling girls have scented the honey dripping down my hands. One lands there to investigate. I'm not as brave as Tsuruda yet, so I'm not about to take off my gloves. But now, instead of instinctively flicking the bee off in fear, I hold my hands up near my veil to get a closer look.

She is fur-bodied and shiny-winged, and I can see all the tiny, bristling hairs on her legs as she explores my gloved hand. Her eyes are a metallic brown. I let her crawl between my fingers as her sisters swirl in the air around my head, and then carefully lower my hand like an elevator to let her enter the hive.

I realize that I'm not nervous anymore. I could do this after all. 🐝