Bees search for nectar on a *Nelumbo* 'Maggie Belle Slocum'

Friends of the Bees

Despite challenges, beekeepers care for these 'old souls.' Gardeners can, too.

Story and photos by Soni Forsman

In January 2010, Matthew Meyer and Christine Fankhanel visited friends in northern California who kept bees. The St. Paul couple returned home and immediately began researching the subject. "I was blown away by the inner workings of the bee colony and knew we needed to try it," says Matthew.

Two months later, they took a class taught by Marla Spivak, Distinguished McKnight Professor of Entomology at the University of Minnesota and a nationally recognized expert on bees. A month after that, Matthew had made two wooden hives, which the couple set up on land owned by Christine's family near Vergas in north-central Minnesota. The rolling terrain had never been farmed, leaving the native wildflowers untouched by chemicals, an ideal source of food for bees. Matthew and Christine had been married in a clearing around the corner from where they set up their first hives.

Christine Fankhanel, Matthew Meyer and hive

Over the years, Matthew and Christine have experienced the challenges of keeping bees, from poor weather to battling bears and skunks with electric fencing to a second search for pristine land for the bees. What started as a hobby became a business, Old Soul Honey, and a way of life.

"When you find the thing you love in life, you act on it," says Matthew, who now works full time at the business and is a stay-at-home dad with their toddler. Christine works at a nonprofit as a senior program director. Over time, they have expanded from two hives to two apiaries of 10 hives each, all made by Matthew.

They chose the business name because they think of bees as "old souls." "They don't care about you, the beekeepers, they just care about the colony and working to assure its future," says Matthew.

Bees in Trouble

As most gardeners are aware, the nonnative or European honeybees that are used to pollinate acres of food crops are dying. Pathogens and pests that infest bees, loss of habitat and chemicals used to control insects and fungi on plants are suspected of causing the deaths. The populations of native bee species are also declining.

Speaking at a State of the Bee event in April, Spivak did not talk a lot about what is causing bee decline but rather focused on the positive pollinator research taking place at the University and what gardeners can do to help native and nonnative bees stay healthy.

The view inside a hive

Bees need a good diet, she says. They need pollen and nectar from a variety of clean flowers, flowers free of pesticides and fungicides. Pollen and nectar taken from these sources are good for the bees' immune systems, helping to ward off diseases and pests, says Spivak.

Each bee has a role to play in the colony. The workers (females) gather pollen and nectar while tending to the welfare of the hive. Drones (males) hang around to mate with a queen. A queen lays eggs daily, lots of them, except during the coldest months. A worker bee will produce about one-twelfth teaspoon of honey during its 20- to 30-day life span. Drones die after mating but a queen can live for several years. Honeybees will search up to 5 miles for flowers emitting fragrant nectar. They recruit workers from the colony with an elaborate dance that tells the direction and distance, but they stop foraging when it rains or the temperature drops below 50 degrees.

Healthy Hives

Up north, the bees begin foraging in April, visiting maple trees and dandelions. In May, white Dutch clover begins blooming. The bees find even more options in June with yellow and white sweet clovers, thistle and basswood trees. June flowers overlap into July when the yarrow blooms. In August, it is sunflowers and goldenrod.

Matthew and Christine say it would be impossible to keep bees without some parasites and diseases. Their bees and hives have been minimally affected, however, and they don't use chemicals. To stay ahead of problems, they replace frames and combs every three years, sooner if needed. Beeswax, Matthew says, harbors many pathogens.

The beekeepers have harvested honey three of the four years they have kept hives. The bees made honey the first year but the couple left it for the bees' winter food. In 2013, they had their largest harvest yet, nearly 700 pounds. The bees made a lot more—150 to 200 pounds per hive—but most of that was left with the bees to keep them through winter.

Matthew and Christine bottle the unprocessed honey from each hive separately, capturing their unique flavors. One hive's honey may taste more of basswood, another of citrus, a third is described as medium-bodied with flavors drawn from thistle and clover.

Despite all the honey left in the hives last winter plus supplemental feedings, none of their bees survived. The winter up north was even harsher than in the Twin Cities. "There was only so much we could do until Mother Nature does what she does," Matthew says.

A Healthy Place

Matthew and Christine are moving ahead. Last summer, they purchased 50 acres near Northfield to build a new home for themselves and a new location for the hives. "The property is nested into a valley with varied nectar sources," explains Christine. "It is a healthy place for our bees."

The new location is a winter zone warmer than Vergas. Flowers will start blooming a month earlier and bloom a month longer. They expect the bees will have better winters. They have already relocated the hives and each is stocked with a queen and 15,000 workers.

Old Soul Honey donates 5 percent of its profits to the Cystic Fibrosis Foundation. Matthew has lived with cystic fibrosis since he was 6 years old. "A big part of doing beekeeping is because I elected to do something I love as time is finite, and it goes by fast," says Matthew. "Our business will always be small as that is what I can handle." However, he refuses to let this disease define him. It has affected his life but it is not who he is. ng

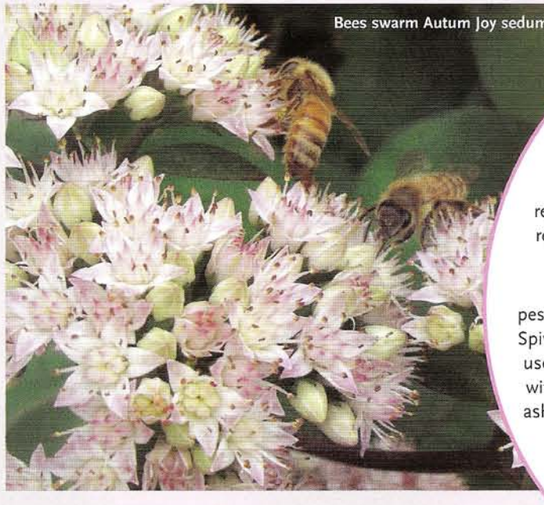
Soni Forsman writes and gardens in Eagan.


Matthew shows off a frame filled with honey.

Gardening for Bees

Home gardeners can create sanctuaries for honeybees and native bees through simple garden practices and plant selection.

- Don't use pesticides or fungicides. If you must use a pesticide, choose a contact (rather than systemic) pesticide and apply in the evening when bees are not present.
- Plant for bloom from spring into fall and choose native plants, if possible.
- Let some vegetables bolt. Plant lots of herbs and let some of them flower.
- Plant colorful flowers in abundance, including blues, violets, whites and yellows, which honeybees prefer.
- Site plants in full- or part-sun locations with some protection from the wind. Plant more clumps of the same variety.
- Add flowering trees and shrubs to extend the bloom season and offer more nectar and pollen sources.
- Dandelions are one of the earliest food sources for bees. Let a few of them go to flower. —*S.F.*


Bees swarm Autum Joy sedum.

What's Happening to Honeybees?

In 2006, a migratory beekeeper reported the first incidence of adult honeybees disappearing from their hives. There were more reports of almost empty honey-filled hives the next year. When scientific research could not uncover specific causes, the phrase Colony Collapse Disorder (CCD) was coined to describe what was occurring.

One possible component in CCD is a newer class of systemic pesticides known as neonicotinoids. (For more on neonics, see page 16.) Spivak does not support a ban on neonics now but suggests that they be used "judiciously." For example, treatment for the Emerald Ash Borer is with trunk or root injections of neonicotinoids. Pollinators seldom visit ash trees. If the root system is treated, she suggests that flowers not be planted around the base of the tree.

"Pesticide labeling is a huge issue," says Spivak, who stresses that home gardeners should ask whether plants are free of systemic insecticides and avoid using the insecticides themselves. —*S. F.*

Suggested Plants

Perennials

Anise hyssop (*Agastache foeniculum*)
Purple coneflower (*Echinacea purpurea*)
Blanketflower (*Gaillardia* spp.)
Cranesbill (*Geranium* spp.)
Russian sage (*Perovskia atriplicifolia*)
Sedum (*Hylotelephium telephium*)
Turtlehead (*Chelone oblique*)
Black-eyed Susan (*Rudbeckia hirta*)
New England aster (*Symphyotrichum novae-angliae*)
Goldenrod (*Solidago* ssp.)


'Mystic Spires' salvia

Annuals

Bachelor button (*Centaurea* spp.)
Cosmos spp.
Zinnia spp.
Sunflower (*Helianthus annuus*)
Moss rose (*Portulaca* spp.)
Sweet alyssum (*Lobularia maritima*)
Snapdragons (*Antirrhinum majus*)
Spider flower (*Cleome hassleriana*) —*S.F.*


A bee dives for nectar *Nelumbo* 'Trudy Slocum'.


Asters provide late-season food.