

# Home/Garden

## Bee-killing mites pose problem for food chain

By GARY GEREW  
Syracuse Herald-American

SYRACUSE, N.Y. — Mites small enough to require microscopic inspection and others barely big enough to be seen on a bee's back are posing a large problem for the future.

The small parasites began infesting American honey bees four years ago and are threatening to kill off the entire population not under beekeepers' control within five years.

The result would be a dramatic drop in the production of honey and a subsequent jump in the price of produce and a crisis for animals depending on wild berries and fruits for survival.

"What you are going to see in the next five years is an increase in the cost for apples, cucumbers and squash, and you aren't going to see many berries," said Paul Cappy, a bee inspector with the State Depart-

ment of Agriculture and Markets.

"The bees you see in trees are going to be empty because the bee colonies will have been killed off," said Cappy, who keeps 600 bee hives at his home in Homer.

"They just aren't going to be there. And that's going to have an effect on everyone's gardens and on the availability of food for wildlife," he said.

The subject of mite infestation was a chief subject of discussion this past weekend at a two-day meeting of the Empire State Honey Producers Association, which drew 100 members.

"I'm in an area that hasn't been affected yet, as far as I know, but people are concerned about what could happen," said Walt Wenger, a Canastota beekeeper with about 200 hives. "Right now we're hoping to be able to keep it down to a dull roar, but bees will be dying and people are aware that you need pollination."

Wenger said studies on 10-square-mile areas have shown more than half of the pollination taking place is accomplished by honey bees not kept in commercial hives.

That proportion holds true even in areas where there are commercial hives, he said.

Wenger explained those studies indicate pollination will suffer even if a suitable treatment is found for the mites because it won't be administered outside commercial hives.

Cappy said the varroa mites have been prevalent in Europe and other parts of the world for years but weren't discovered in the U.S. until 1987.

The varroa mite was first found in Florida, but has spread since then and is now present in western New York, Cappy said.

The varroa mite, which is visible without a microscope, attaches itself to a bee and drains its blood. It usually will kill a bee within two or three weeks.

But the mites also attach to the hives brood — the collection of unattached bee eggs — and wipe it out.

Each hive is home to a colony of about 30,000 bees during the summer and fall, Cappy said.

Between 5 and 10 percent of the bees normally will die during the winter, but an infestation of mites can raise the mortality rate to as much as 50 percent, he said.

The other type of mite causing widespread damage among bees is tracheal mite, which is microscopic and attaches itself by biting into the bee's trachea.

Cappy said in addition to draining away the bee's blood, the tracheal mite also creates an incision that allows viruses to infect the bee.

"Within two or three weeks, a completely healthy bee will die," Cappy said.

The mite is extremely dangerous during the winter because the bees

stay in the hives.

"During warmer months, the bees leave and are able to gather enough food to fight off the viral infections. Sick bees also will be forced out of the colony by other bees to avoid spreading the infection."

But during the winter, the bees are a fairly captive population for the mite.

"They're closed in, so the mite will kill off a full hive," Cappy said.

Tracheal mites are normally detected only after a bee dies and is sent to a laboratory for dissection, Cappy said.

Because of that, many people who keep bees as a hobby never know why their bees die.

Commercial beekeepers, however, are giving more attention to the mites.

"They have to be very knowledgeable or they'll be put out of business," Cappy said.

There are only about 15 full-time professional beekeepers in the state,

Cappy said, but thousands of people keep a few hives as part-time businesses or for recreation.

But Wenger said he doubted the mites will deplete honey and bees supplies.

"You can always get honey," Wenger said. "People in Europe, China and elsewhere have been dealing with these mites for years and they export honey. It almost costs me more now to produce honey than it would to import it."

Cappy said European beekeepers use a number of chemicals to control varroa mites, but those chemicals haven't been approved for widespread use in the U.S.

More success has been reported in controlling tracheal mites, Cappy said.

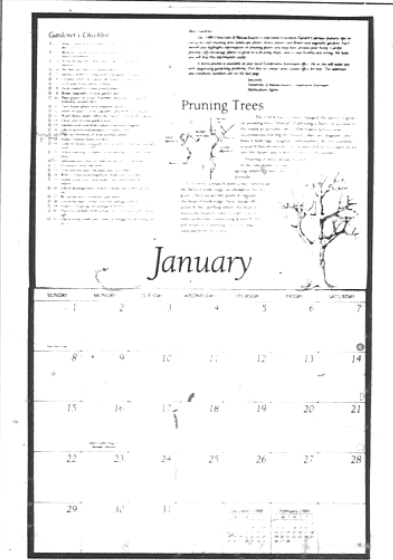
"Menthol also is found naturally in honey, so it's something that can be used without contaminating the honey," he said.

### Garden Calendar

This information is provided by Karen Idoine of the University of Massachusetts Cooperative Extension Service.

Now is the time to:

- choose gardening books as gifts for friends and relatives to encourage or inspire green thumbs.
- take a refreshing break. Visit a conservatory or greenhouse to get a whiff of that wonderful earthy, sweet smell. Discover plants that bloom fragrant in winter.
- plant amaryllis bulbs in 6-inch pots, allowing half the bulb to show above a mix of equal parts potting soil, sand and peat moss. Place in a sunny window and keep evenly moist. Turn the pot frequently. Expect flowers in late winter or early spring.
- store no more than a day's worth of firewood inside your home. The warm indoor temperatures can stimulate insects to become an active nuisance.
- choose locally-grown plants for beautiful centerpieces.
- use the trimmings from the bottom of your fresh Christmas tree for additional mulch on bulb and perennial beds. Larger branches can be used, teepee style, to provide protection from winter sun and wind for broad-leaved evergreens.
- inspect your fruit trees for damage from mice, voles and rabbits. Protect the trunk of the tree with wire guards high enough to extend above expected snow accumulation.
- give child-sized garden tools to one's young friends.
- store a bucket of kitty-litter or sand in a convenient spot close to walkways. Use instead of salt, which can damage plants. Be sure the sand is dry if stored under freezing conditions, or it will be frozen solid when you need it!
- arrange six or eight narcissus, or paper-white bulbs, in an attractive, shallow container with some pebbles. Keep water level in a bright, cool location and they will bloom in four to six weeks.



### 1989 Garden Calendar

The Cooperative Extension Service of the University of Massachusetts is offering their annual garden calendar, a page from which is shown here. This year's calendar highlights pruning techniques for trees and shrubs. It also offers tips 365 days of the year on vegetable and flower gardening, fruit production, lawn maintenance and houseplant care. The calendars, cost \$3.50 and may be ordered by sending a check for the correct amount to the Bulletin Center, Cottage A, UMass, Amherst, 01003. Specify how many you want and make the check payable to the University of Massachusetts. Calendars are also available at local garden centers.

## The art of giving plants

By KAREN IDOINE  
UMass Cooperative Extension

At this point in the holiday season, you might be tired of shopping in crowded stores. A trip to a local greenhouse will provide a welcome and refreshing change of pace. The earthy, sweet smells of plants and flowers in bloom may lift your spirits and entice your imagination.

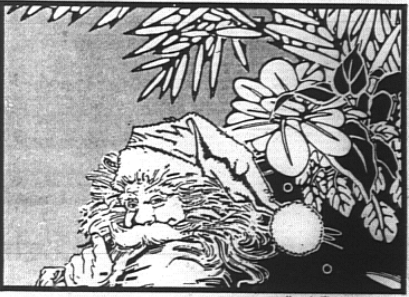
If you are thinking of giving a houseplant to a friend or relative for Christmas, you might do well to consider the habits and ways of both the plant and its new caretaker.

Think about the person for whom the plant is intended. Do they love plants to death by overwatering them? Or do they neglect them because they're forgetting to water in a random fashion, marveling that the plant responds at all? Are they busy with a work and family schedule that dictates scheduled, once-a-week watering, no matter what conditions prevail? Maybe you will choose a plant for a horticultural novice, or an expert.

For a plant to survive intensive watering, it must have excellent drainage. Holes in the bottom of the pot can make the difference between life and death for plants in the care of solicitous overwaterers. Prayer plants *Maranta leucocarpa* can absorb frequent doses of water. Their habit of lifting their leaves in response to low light at night and lowering them during the day gives them their name. They display large, rich, textured leaves. One variety has splashes of reddish-brown spots on grey-green oval leaves and another has a fishbone vein of reddish veins marking variegated green leaves.

Piggy-back plants *Tiarella menziesii* like constantly moist soil and night temperatures in the 40s or low 50s. Their common name refers to the way tiny plantlets grow at the base of older leaves. These plants drape beautifully in hanging planters and require little attention to look attractive. Ferns and palms can also adapt to swampy conditions, as can coleus and Swedish ivy.

What can you choose for a dear, but scattered friend who loves plants, but doesn't necessarily give them focused attention? Try a type of bromeliad that prefers dry conditions. Look for plants with lots of silvery scales and stiff, leathery leaves. Plants in the genera *Dyckia*, *Hechtia* and *Puya* are good choices. Some will produce tall, tubular flowers in shades of yellow, red, orange or white. Although each floret lasts for only a day, flowers may be produced over a long period. If the plants aren't labeled with their scientific name, talk to someone at the greenhouse for advice. Bromeliads have evolved to require very little food. In nature, they absorb nutri-



ents from stray dead leaves, bird droppings or insects that drop into the cups formed by their rosettes.

Remember, that for a plant-neglector who waters infrequently, a plastic or glazed pot will give the plant a buffer, because the soil won't dry out so quickly. Conversely, plants in unglazed clay pots will help plants tolerate over-watering. Consider the conditions in the house the plants will live in, too. Is it heated with wood where cool night temperatures probably prevail? Does your friend keep the thermostat turned up to a warm 70 degrees? In what direction do the windows face? Will there be room for a new plant? If you give a plant in a hanging pot, get a sturdy hook to go with it.

You may have a true green-thumb gardener on your list. These people will respond to a challenge! An unusually beautiful but difficult to grow plant might be loved the most. A wax plant *Hoya sp.* will produce lovely, fragrant and long-lasting flowers throughout the summer and fall, when given the right conditions. They prefer night temperatures of 60 degrees, with days about 10 degrees warmer. The flowers grow on leafless projections called spurs, which the unknowing gardener might prune away. They also don't flower freely when young, so it takes dedication to bring them to maturity, when the vines reach about 3 feet long.

Look carefully at the plants you buy. Choose one that is balanced, not lopsided. Cover the plant with paper or plastic, leaving a large air space, to protect the plant from cold on its way to its destination. Temperatures below 40 degrees can seriously injure tender plants, so plan your shopping accordingly.

## Keeping your poinsetta blooming

A poinsetta in full blossom is one of the most popular plants given as a gift at this time of year. It doesn't take much to keep it happy and blooming through the first season, because the "flowers" are actually made up of long-lasting bracts in white, pink or red. The flower is the small grouping in the center of the rayed bracts.

If you get a poinsetta, keep it in bright, indirect light — an east or west window is ideal. Too much sun will burn it and dim light will shorten its vigor and life.

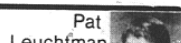
Poinsettias should be watered when the soil is dry to the touch. Depending on your household temperatures and humidity, you may find you need to water the plant every day. Let water run out the bottom of the pot and then discard. Poinsettias should never be left to stand in water.

Temperatures of between the mid sixties to low seventies are ideal for the plants. Temperatures of over 75 degrees, especially if the air is dry, are detrimental. For this reason you should never put your poinsetta on top of the TV. The heat generated by the TV is absolutely deadly to plants. Because my heated house tends to be dry during the winter I have invested in a couple of small humidifiers; they make the atmosphere more healthful for me and my plants.

Poinsettias will last well beyond the holiday season, but eventually the foliage and bracts will fade and fall off. At this point you can either toss the plant, or try and carry it over for another season of bloom.

### Getting another bloom

The first thing to do if you are carrying the plant over, is to cut it back in March, leaving only about four-to-six inches of the original stems. It's a good idea to re-pot it at the same time. Use a slightly larger pot and a soil/mix composed of equal parts of potting soil, peat moss and vermiculite. Make sure the new pot is clean and creek it well with pebbles or shards or pebbles so that the drainage holes will not clog. Gently knock the poinsetta out of its old pot, dust away some of the soil and replace it in the new pot that is partially filled



Pat Leuchman  
Between The Rows



with soil mix. Fill in soil mix around the edges firmly to eliminate air pockets that damage roots.

When it becomes really warm in the late spring and nighttime temperatures are dependably over 50 degrees, you can move your plant outdoors to a partially shaded spot. You can sink the whole pot into the garden if you wish, or put it where you can watch its progress and keep it watered. During the growing season you should fertilize your poinsetta regularly. Choose a houseplant fertilizer with a percentage of nitrogen that is roughly equal to the Joint percentage of phosphorus and potassium, for example 10-5-5.

The foliage of a thriving poinsetta will be a rich green. By early July the poinsetta will have reached about half its growth. To control the shape and size of your plant, cut off the terminal portion of the shoots between July 15 and August 1. This will give you a shorter, bushier plant with more shoots at flower-bud set-

ting time. Make sure to bring your plant indoors before there is any danger of frost. Give it lots of sun.

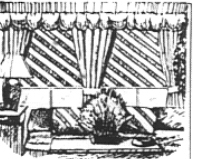
The poinsetta is a short-day plant. This means it must have 14 hours of darkness to set buds. If you have the plant in your living room and you stay up to watch the 11 o'clock news every night, you'll still have to arrange to give the plant a long dark night, either by moving it to a room that doesn't get much traffic at night, or by putting it under a big cardboard box in the evening. Nighttime temperatures should also be between 60 and 65 degrees. If it's too warm it will not set buds either.

With cool temperatures and long nights you'll get flower buds and another holiday season of beautiful bloom.

### Reader question

A reader recently asked why her chivis doesn't bloom. It seems healthy and does produce buds, but no flowers. *Chivis miniata*, sometimes known as Kafir lily, is a striking plant with heavy straplike foliage. In the spring, a mature plant will produce trumpet-shaped blossoms in orange or sometimes scarlet. It's best to use a clay pot since the weight will help keep the plant from tipping. It will need to be pot-bound before it blooms. Although it originated in Southern Africa it needs only bright light and temperatures between 65 to 70 degrees.

To insure good spring bloom, the mature plant will need a six-to-eight week period of rest in the winter. The plant then needs cooler temperatures, as low as 50 degrees and under 60 degrees. Let the soil get dry between waterings. When the flower stalk emerges you can start to water your plant regularly and begin fertilizing. The soil should be kept moist during the spring and summer when it is growing most actively.



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