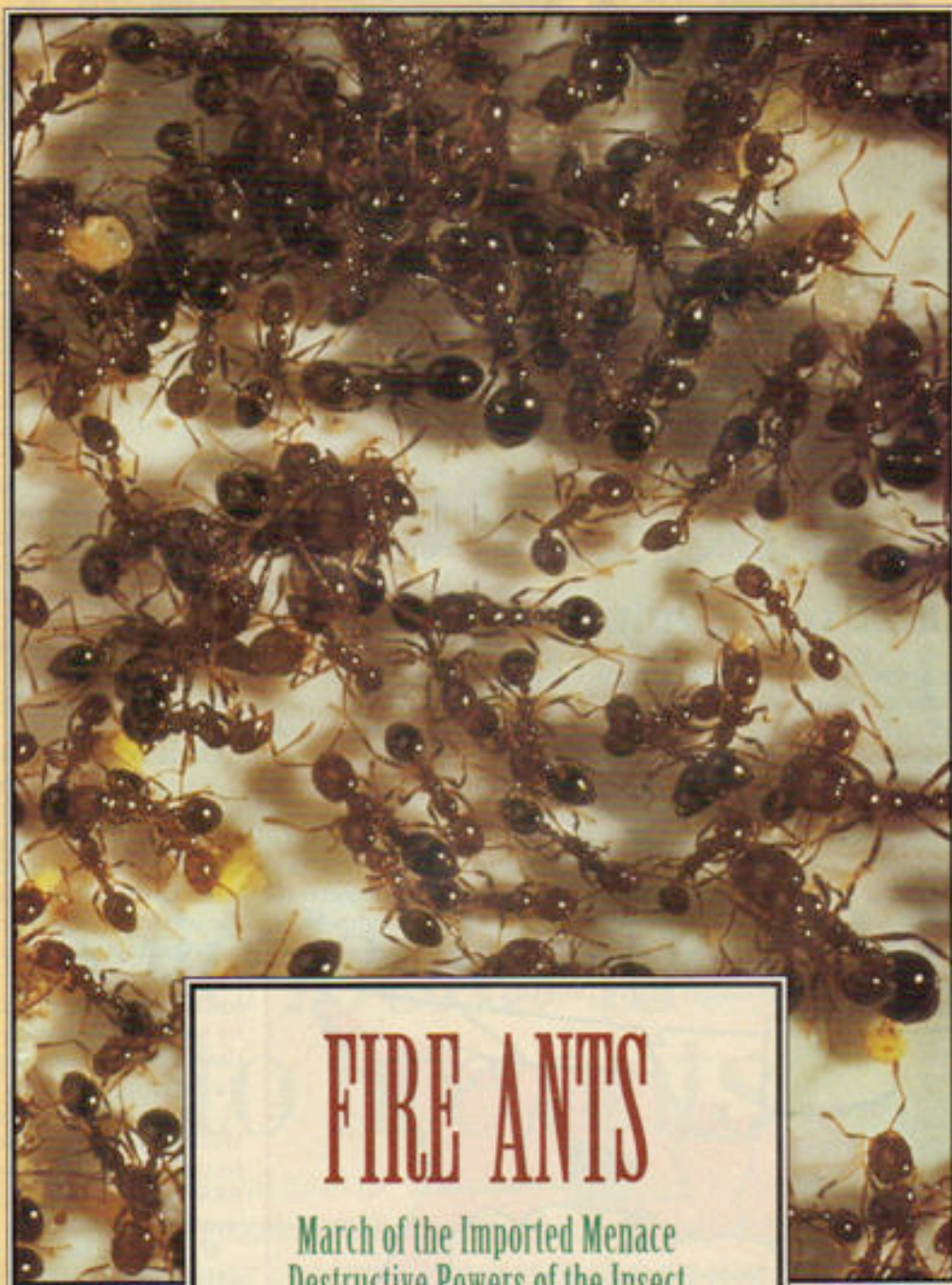


Progressive Farmer

SPECIAL  REPORT



FIRE ANTS

March of the Imported Menace
Destructive Powers of the Insect
A Sexy Union in the Sky

PHOTO: EMMA MARRAS/ISTOCK.COM



The Red Menace

The March of the Imported Fire Ants

Fire ants could be the South's most infamous immigrant. The ant, whose mounded beds have been called agricultural acne, sneaked its way into the U.S. from South America sometime before World War II.

The imported devils have been spreading ever since. Today, they infest about 260 million acres from Florida to Texas.

How did the Brazilian ant become an American insect? One likely scenario casts the ant as a stowaway, leaving the swampy Panatela area of Brazil and docking in Mobile, Ala., in the mid-1930's.

The American coastal city boasted a refinery plant that produced cake decorations made from Brazilian coconuts. Because the produce was lightweight,

soil was probably used as ballast. The dirt, believed to be infested with fire ants, was left behind on the shores of the port city when the ship was unloaded.

Like modern-day locusts, fire ants have been fruitful and multiplied. The insect immigrants have spread from Alabama to Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas. The ant has also infested Oklahoma, Tennessee, and Virginia.

Another fire ant — this one black — came to the U.S. probably about 1918. Although the black variety is not as much of a problem as the red fire ant, the two have interbred. The result is a fertile hybrid that could be more cold tolerant than either of its parents.

Territorial Terror

The USDA Agricultural Research Service (ARS) recently began studying a 3,000-acre ant infestation around Calhoun, Tenn. This area is 50 to 70 miles farther north than places where the ant has survived previously.

Prior to this discovery, wayward colonies made their way north by hitching free rides on nursery stock or by some other means of transportation. But the misbegotten ants always died during the harsh winters.

"These colonies are huge," David Williams says about the Tennessee infestation. Williams, who is with the ARS, believes the ants have overwintered at least once.

If there is a brave new breed of fire ant churning out cold-hardy survivors, what happens next?

"They could simply continue moving into areas where we thought they could not survive," says Williams.



Know Thy Enemy! A Quiz

1. During what type of weather are fire ant mounds least likely to be seen even though fire ants are present?
2. What sex are all workers in a colony?
3. True or false: Other insects can live in a mound with fire ants.
4. Do fire ants currently live in northern parts of the U.S.?
5. Is flying or walking the only means fire ants have of reaching a new colony location?
6. Are fire ants universally detested by farmers?
7. Which sting do most people rate as worse, the honeybee's or the fire ant's?
8. Where do fire ants mate?
9. What happens to the male ant after mating?
10. How long does it take for a single queen colony to become established after she lays her eggs?

ANSWERS

1. During the hot, dry summer, fire ants often tunnel underground to reach the water table. 2. Female. 3. True. Some bugs, such as scarab beetles, silver fish, and earwigs, can share the same chemical pattern as fire ants. They may even be protected and fed by fire ants because the ants assume the imposters are nest mates. 4. Yes, but this is a trick question. In certain ecological niches, such as around steam pipes or other artificially heated areas, fire ants may survive. But they have not spread or colonized beyond these heated territories. 5. No. Any ant that made its way from Brazil to America knows a few transportation tricks, such as floating to dry land or hitchhiking on boats and cars. 6. No. Some farmers actually welcome the insects because they chow down on the sugarcane borer, boll weevil, cotton bollworm, pink bollworm, tobacco bollworm, pecan weevil, and hickory shuckworm. Fire ants also eat fleahoppers, lone star ticks, horn flies, houseflies, horseflies, deerflies, and cockroaches. 7. The honeybee. But painwise, fire ants make up in quantity what their stings lack in quality. 8. In the air. 9. He dies. 10. One to two months.

How Did You Do?

0 to 3 — Get an education. Go poke around in a fire ant mound.

4 to 7 — You probably know all the curse words for fire ants.

8 to 10 — You don't by chance have a stinger, do you?



A rubber "queen" scented with a pheromone fools fire ants. PHOTO: USDA ARS, BARRY FITZGERALD

Destructive Powers of the Insect

One definition of evil is "something that brings sorrow, distress, or calamity." Maybe such a moral term isn't appropriate for an insect. But the devastation these modern-day locusts leave in their wake certainly fits that description.

Nothing Is Safe

The fire ant's list of victims is long: men, women, and children; livestock, wildlife, and crops; beneficial and destructive insects; even electrical transformers and highways fall prey to the ravenous bugs. Estimates of financial damage range from \$20 million to \$100 million.

Says Homer Collins, "A lot of urban entomologists say fire ants are the No. 1 urban pest." Collins is with the USDA Animal and Plant Health Inspection Service in Gulfport, Miss. People in rural areas are all too familiar with what the ants can do as well.

Losses to Farmers

"They made holes in the tubers just like someone had stuck a dinner fork in them," says William R. Cotton. The Hastings, Fla., farmer's potato crop was infested with fire ants.

"We tried to grade the stuff out, but they saw enough of that fire ant sign to make a difference.

"People say it's not an economic pest, but they haven't had my experience," he adds. Cotton's load was discounted \$1,000. Other crops such as

okra, peppers, egg plants, and sunflowers have also been destroyed.

Young animals born in fields where fire ants are present are also at risk. The ants can overwhelm a young animal with their massive numbers. They have been known to blind calves as well as other livestock.

Pets and Wildlife Attacked

Caged or restrained pets can also be targets of fire ants. If a pet or valuable animal is badly stung, treatment by a veterinarian can prevent blindness or other diseases.

"I've gotten more calls in the last four or five years from wildlife groups than I've ever had in my entire career," says David Williams of the ARS.

"Because they are so aggressive, because they are so numerous, fire ants actually simplify the habitat."

Any ground-nesting bird or animal is subject to fire ant attack.

Danger to People

Some people are extremely allergic to fire ant stings. They can suffer anaphylactic shock, which is potentially fatal. The very weak and the very young are also at increased risk.

"In nursing homes, I've heard of situations where people who couldn't move have been attacked," says entomologist Bradleigh Vinson of Texas A&M. Fire ants have also been known to attack victims of highway accidents. They even attack highways.

The Sting

How Bad Is It?

The fire ant's sting is little worse than a mosquito's bite, but nowhere near as bad as a wasp's sting. However, quantity, not quality, is the key to the power of fire ants, which tend to attack en masse.

How To Prevent Stings

One estimate has about 30 to 35% of people in fire-ant-infested areas stung each year. About 10% of these require medical attention. Around 1% suffer a severe allergic reaction, leading to anaphylactic shock, which can be fatal.

For most people, however, fire-ant stings are just a nuisance. Here are some preventive tips:

- Warn children and visitors.
- Wear shoes or boots.
- Wear gloves if you will be working where ants might be.
- Act quickly to brush off ants. If you have to take your clothes off, put modesty aside and do it. Remember, each ant can sting you over and over again.
- For hypersensitive people, an emergency kit containing epinephrine might be appropriate. Allergists have also made strides in desensitizing people.

If You Are Stung . . .

- Wash the sting sites with a weak solution of chlorine and water or alcohol.
- Apply an over-the-counter insect bite remedy. One treatment you might try is Sting-Kill External Anesthetic containing benzocaine. Or you could try Basic H, a product of Shaklee distributors.
- Don't touch the skin where you were stung. Touching or scratching can introduce bacteria that can lead to a secondary infection.
- See a doctor if the sting sites turn red, hot, or tender.

"They will chew on the plastic sealer used between the concrete joints," says Collins.

He adds: "Anywhere you've got an electrical current, be it a traffic signal box, runway lights on an airstrip, or an automatic catfish feeder, there is potential for fire ants to raid the box."

International Incident

When the small river town of Envira, Brazil, was literally overrun with fire ants, the mayor called Williams and the USDA for help. Even with his years of experience, Williams found the scene in Envira horrific.

"I had never seen mounds that big," he says. "They were as large as a full-size office desk, with somewhere between 800,000 and a million ants."



Fire ants in the U.S. generally take a few seconds to position themselves before they insert their stingers, he says.

"Not down there," Williams says. "As soon as the ant hit your skin, it injected the venom. I got stung at least 80 to 100 times."

The fire ants moved into the town when forest was cleared to make room for a rapidly expanding population.

"The ants were down in dry riverbeds and on the banks," Williams says. "When the riverbeds filled, the ants simply floated and moved into the houses. They were stinging the people, the animals — they were just all over."

USDA officials were able to slow down the ants. They left behind bait, equipment, and instructions on how to continue the control measures.

A Sexy Union in the Sky

Flying fire ants? When they are about to mate, sure. They love the sky and it shows. But first, the right conditions must occur.

"They need a warm rain, followed the next day by sunny and not very windy conditions," explains Bradleigh Vinson.

Vinson is an entomologist at Texas A&M University.

Researchers know that the actual mating act occurs in the sky, even though this has not been observed.

One possibility creates an image worthy of a horror movie. In this theory, the male ants clump together, forming ominous clouds and await females who are cruising the skies looking for mating partners.

The male ant promptly dies after mating, having fulfilled his genetic destiny in this death-do-we-part relationship. The female then drops to the ground and chews or tears off her wings.

The homeless queen then scurries toward subterranean refuge.

If nature is going to stop a fire ant colony, the newly grounded queen is especially vulnerable at this time. But barring demise, she digs a small burrow, lays her eggs, and tends them.

Fire ants often colonize in disturbed areas, such as a cleared forest or a plowed field.

These adaptable creatures can delve as deep as hundreds of meters to reach the water table during hot, dry weather.

To cope with the opposite conditions, the versatile ants can build mounds that are tall enough to escape wet, soggy ground. Even if they build in an area that floods, the ants can form a raft for their queen and easily float to a dry spot.

The worker ants fiercely protect their queen, much like the food testers did in the royal courts of yesteryear.

They sample all sources of nourishment — or poison — before it reaches the queen.



A single queen mound has about 200,000 ants. PHOTO: VANN CLEVELAND