

E-NEWSLETTER

Ants: Fact & Fiction (by Eleanor Spicer Rice, NCSU)



Carpenter ant worker.
(Photo: Alex Wild, www.alexanderwild.com)

Think you're an ant expert? Quiz yourself with these quirky questions about some of our favorite insect friends. The answers may surprise you!

Question 1: (True/False) Most ants are pests.

This is false! In fact, most ants are NOT pests! Of the more than 30,000 ant species in existence worldwide, fewer than 100 of them are pest species. And in North Carolina alone, fewer than a dozen of the over 250 known species are pest species.

What do all of the other ant species do? Ants are a valuable part of our ecosystem. Because they fill so many jobs, from predators and scavengers to plant protectors, they play a central role in maintaining the ecological balance and biodiversity present in our natural world.

Some ants, like a group in North Carolina called *Aphaenogaster*, are responsible for

planting seeds in the forest floor. Many seeds have evolved a tasty outer layer that ants love to snack on. After they remove this delicious shell, the ants plant the seeds in the ground. Without *Aphaenogaster* and ants like them, we would be missing a lot of our forest herbs.

Ants also protect plants from harmful insects and even aerate the soil as they dig out their nests. It has been estimated that ants turn more soil than earthworms!

Question 2: (True/False) All ants have nests.

This is also false! African driver ants and army ants do not have nests. These restless wanderers travel around without stopping, eating everything in sight (see photo below). When the driver ants come through villages in Africa, residents pack up all their things and move out, allowing the ants to clean up after them.



A group of army ants moves through the forest while a soldier stands guard (Photo: Alex Wild, www.alexanderwild.com).

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Question 3: (True/False) There is an Argentine ant colony right now with billions of workers that spans nearly 4,000 miles.

It's true! Argentine ants are little brown ants that look a lot like odorous house ants, also known as sugar ants, which are pretty common around here. Unlike odorous house ants, Argentine ants don't fight each other, which allows them to form tremendous colonies called supercolonies like the one that spans nearly 4,000 miles of the Mediterranean coastline. We have a couple of supercolonies in North Carolina, too! Although they don't sting, these miniature marauders are ruthless and can wipe out native ant populations when they move in. As we learned from question 1, we need our native ants!

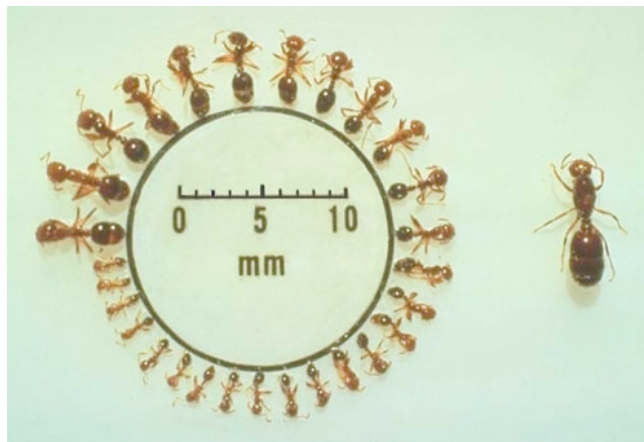
Question 4: (True/False) Ant workers are both male and female.

False! All ant workers are females. Ant colonies have a female queen and female workers. Colonies only produce males once or twice a year. However, males don't do any work. Their only purpose is to eat and mate (sound familiar, anyone?). After mating season is over, the female workers take girl power to a whole new level by either kicking the males out into the cold or eating them.

Question 5: (True/False) Smaller ants never grow up to be bigger ants in the colony.

It's true! Although some colonies have workers of many different sizes, the littlest ones are fully grown. That's because ants have something called complete metamorphosis. That means they're like

butterflies, flies, and beetles in how they develop from egg to adult. Just how a beetle baby is a grub, an ant baby is a grub-like larva. Ants pupate like butterflies and moths do, too. After they pupate, they emerge as fully grown ants (see photo below).



Fire ant workers vary greatly in size. A range of sizes, along with the queen is shown above (Photo: Texas A&M Univ.).

Question 6: Which of the following is an effective home remedy for killing fire ants? (A) dumping grits on the nest; or (B) dumping a pot of boiling water on the nest.

The answer is B. A lot of people have tried dumping grits on a fire ant nest, but it just doesn't work. First of all, as many North Carolinians can attest to, grits aren't poisonous! Second of all, ants have tiny waists and can't process grits by themselves.

Even so, some people insist they've poured grits on fire ant nests and come back to find the fire ants all gone. This could happen, as fire ants move around frequently and don't like people tampering with their nests. However, it's important to note that these fire ants just *moved*; they were not killed by the grits.

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Dumping boiling water over the nest can put a swift end to fire ant mounds. This is because the scalding water boils the ants alive. Adding a little detergent to the water can increase effectiveness, too! The water must be boiling, however. Fire ants are used to flooding and can make rafts out of workers (see photo at right). If the water is not hot enough to kill them, they can just float away.

Using boiling water to treat a fire ant nest does have its limitations. First, you've got to get the boiling water outside to the nest without scalding yourself. Second, the boiling water can actually damage and/or

kill any vegetation that's around the treated area. So, while it does work, boiling water is not always the most practical way to treat a fire ant nest.



Red imported fire ant colony floating in flood water
(Photo: Bart Drees).

New EPA Regulations for Rodenticides

In an effort to protect children from accidental exposure to rodent-control products and reduce the risk of accidental poisonings of pets and wildlife, EPA has announced new regulations for ten rodenticides. Following is a summary of the new restrictions.

“Consumer Size” Products (products containing ≤ 1 pound of bait)

- May not contain brodifacoum, difethialone, bromadiolone, or difenacoum (the second-generation anticoagulants).
- Loose bait forms such as pellets are prohibited.
- Each retail unit must include a bait station.
- Bait refills may be sold with bait stations in a single retail unit.
- All outdoor above ground use must be in a bait station and be applied within 50 feet of buildings.

First Generation Anticoagulant (warfarin, chlorophacinone, and diphacinone) **and Non-Anticoagulant Products** (bromethalin, cholecalciferol and zinc phosphide) **for Professional Applicators**

- Products must contain at least four pounds of bait.
- Bait stations are required for all outdoor, above-ground placements of first-generation anticoagulant and non-anticoagulant products.
- Bait stations are required indoors if exposure to children, pets, or non-target animals is possible.
- Distribution to and sales in “consumer” stores including grocery stores, drug stores, hardware stores, club stores will be prohibited.
- All outdoor above ground use must be in a bait station and be applied within 50 feet of buildings.

NEW EPA REGULATIONS FOR CONT.**Second-Generation Anticoagulant Products** (brodifacoum, bromadiolone, difenacoum, and difethialone) **for Professional Applicators**

- Products must contain at least 16 pounds of bait.
- Bait stations are required for all outdoor, above-ground placements of second-generation anticoagulants.
- Bait stations are required indoors if exposure to children, pets, or non-target animals is possible.
- Distribution to and sales in “consumer” stores including grocery stores, drug stores, hardware stores, club stores will be prohibited.
- All outdoor above ground use must be in a bait station and be applied within 50 feet of buildings.

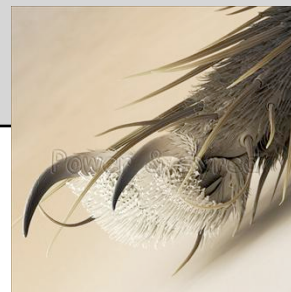
The new regulation requiring all bait stations be placed within 50 feet of buildings will probably impact the pest management professional the most. The goal of this new guideline is to reduce the potential for secondary poisoning to wildlife. The closer the bait is to natural areas, the greater chance a rodent that has ingested bait may be eaten by a predator or scavenger.

Many businesses have protocols that call for bait placement along the perimeter of the site, which may be more than 50 feet from buildings. Educate your clients about the new regulations and the reasons they have changed. Work with your client to develop a revised protocol that follows the new regulations for rodenticides.

Did you know...

- Houseflies find sugar with their feet, which are 10 million times more sensitive than human tongues.
- Ticks can grow from the size of a grain of rice to the size of a marble.
- While gathering food, a bee may fly up to 60 miles in one day.
- Ants can lift and carry more than fifty times their own weight.
- Wasps feeding on fermenting juice have been known to get "drunk" and pass out.
- Blow flies are the first kind of insect attracted to an animal carcass following death.
- Male mosquitoes do not bite humans, but rather live on plant juices and other natural liquids from plants and decomposing organic material.

(From Encyclopedia Smithsonian: Fun Facts About Bugs)



Detail of a housefly foot
(Photo: SEM Images).