The ants came marching...into my yard. Now what?

Do ants in your landscape get you down? Cheer up—there are ways to manage these tiny neighbors.

Why are ants important?

Ants are more than just tiny insects crawling across the ground in almost all habitats. They serve several useful purposes in the environment:

- **Soil aeration:** As ants dig tunnels, they loosen and mix the soil, which improves drainage and helps plant roots grow.
- **Pest control:** Some ant species feed on plant pests, such as leaf-eating caterpillars.
- **Decomposition:** Ants help break down dead plants and animals and return their nutrients to the soil.

Despite their benefits, ants can sometimes cause problems in lawns and gardens. Some species build unsightly mounds and others may protect plant-damaging insects like aphids (Fig. 1). Knowing the types of ants present in your yard can help determine the best management approach.

Experts on Wyoming ants

In 1988, the Wheelers, a famous (at least among entomologists) husband-and-wife team, published a checklist of 92 ant species found in Wyoming at the time. Some species are very "pesty," while others are innocuous or beneficial. However, only a few species are actually common in Wyoming yards and gardens.

Figure 1. A typical "field ant" (*Formica* species) ant worker tending her "livestock" (aphids). The single node visible on the thin junction between her thorax and abdomen are characteristic of the subfamily Formicinae species. Photo by Scott Schell.

Common ants in Wyoming lawns and gardens

Five species of **field ants (*Formica* spp.)** are commonly found in Wyoming yards. They cannot sting, but can bite and spray formic acid on your skin. Field ants protect aphids from predators; in return, the ants receive the honeydew excreted by the aphids as they feed on the plant's sap. Many species of ants have these mutually beneficial relationships with aphids and other sap-feeding insects.

Some plant species, such as lupines, vetches, sunflowers, peonies, and willows, have extrafloral nectaries, nectar-oozing structures that are not part of a flower. Ants receive nectar directly from the extrafloral nectaries and guard the plants against leaf-feeding insects.

The *Formica* genus includes thatch ants, which build mounds covered in short pieces of plant debris and are usually found in rural habitats. They can be all black, all reddish brown, or have a reddish-brown head and

Ant sizes

Most ants are pretty small, even for insects, and it takes magnification to see some of the diagnostic characteristics on their bodies to determine species. There can also be large size differences between minor workers, workers, and soldiers within the same colony.

Fig. 2. These pavement (*Tetramorium* spp.) ant workers are well adapted to living in human-created landscapes. They are also predators and, in this instance, have captured a tachinid fly. Photo by Scott Schell.

thorax and a black abdomen. Rarely do the workers invade homes. Some species tunnel under landscape rocks and timbers.

Cornfield, **turfgrass**, and **citronella ants (*Lasius* spp.)** are common in Wyoming yards. These ants only have one size of workers, approximately ⅛ inch in length. They are tan to light brown and make inconspicuous colonies with very low berms of soil around the entrances. Some of these ants prey on plant pests but many tend aphid species, including root-feeding species that can water stress the plants.

Other ants you may find in your yard

Pavement ants (*Tetramorium* spp.) are non-native species but have become common in many Wyoming towns and are spreading to the suburban areas around them (Fig. 2). They prefer to nest under pavement, concrete slabs, sidewalks, and flagstones. They can become household pests.

Carpenter ants (*Camponotus* spp.), harvester ants (*Pogonomyrmex* spp.), and tiny red or black species of the Myrmicinae subfamily (Fig. 3) can also inhabit Wyoming yards. Since carpenter ants are different enough in behavior and also pose a threat to structures, they need the detail of a full article of their own (see https://bit.ly/csu-carpenter-ant for a fact sheet from Colorado State University).

Harvester ants make conspicuous conical mounds surrounded by completely bare soil for their colonies. These ants are more common in fields and pastures than in yards or gardens. When harvester ant colonies occupy sensitive areas and need to be eliminated, they are susceptible to granular insecticidal baits with "harvester ant" specifically listed on the label.

Small red or black ant species from the **Myrmicinae subfamily** are very common in yards. Usually their inconspicuous nest entrances are hardly noticed in thick, vigorously growing turf. They are predacious on any insects they can catch. They will both bite and sting if contacted.

When and why should you manage ants?

In most cases, ants in lawns do not require control. When lawn turf gets the water and nutrients needed to stimulate maximum plant growth, the environmental conditions are unfavorable for ant colonies. I have had people tell me that "ants were killing their lawn" while standing at the border of a neighbor's lush, green yard, and the only real difference was the amount of water applied to each yard.

However, management may be necessary if:

- Ant mounds disrupt lawn care (e.g., mowing and landscaping).
- Ants are protecting aphids on ornamentals and garden crops.
- Ants are wounding (e.g., girdling) the stems of newly transplanted garden crops.
- Thatch or harvester ants become aggressive in defense of mounds located near human footpaths or near animal pens.

If ant populations are causing problems in your lawn or garden, consider these control methods.

Cultural control

- **Modify the habitat:** Watering the lawn or the ant mounds/hills themselves can help reduce populations. Ants adapted to the uplands in Wyoming's dry climate won't do well if you make the condition of their nest like a wet meadow. The goal is not to drown them (which probably isn't possible, even if you tried) or drown your lawn grass. You just want hot, dry, and sparse grass transformed into cool, lush green lawn. The cooler soil temperature under thick grass inhibits the development of ant larvae in the soil. If fewer worker ants survive to adulthood, less food is brought back to the colony for the queen and larvae, further reducing the population. Note: modifying habitat to deter pavement ants won't work unless you remove sidewalks, paver stones, and driveways.
- **Remove easy ant food sources:** Make sure your compost pile is actually working and rapidly "digesting" the kitchen scraps you are adding to it. If you want to see how many ants are foraging in

your “compost pile,” put a fresh watermelon rind on it and come back in an hour and count them.

Beware of home remedies

- **Pouring boiling water on a colony:** If the water is hot enough for long enough and goes deep enough into the soil to kill the ant queen, it can also kill plant roots. Carrying a large cauldron of boiling water around for the task is also hazardous.
- **Homemade boron treatments:** Boron, the toxic element in boron-containing cleaners and detergents (such as Borax), kills ants if they consume it. However, too much boron is also toxic to plants. If you apply too much to your lawn, you’ll end up with a bare spot in your yard until you can dig out the contaminated soil or leach the boron below the root zone with lots of water. On the bright side, cottontails and birds will enjoy dust bathing in the spots killed by boron treatments.

Insecticide control

Insecticides may be necessary for ant control and many products are available. However, liquid insecticides applied on top of colonies usually just kill worker ants and only provide short-term population reductions.

There are also granular insecticide products labeled to be applied over the entire lawn and then watered into the sod. This method is an indiscriminate approach to ant control, meaning it will also kill beneficial organisms in the soil. If you choose to use these products, read the label instructions carefully, especially the re-entry period before allowing humans or pets back on the treated lawn.

Insecticidal ant baits

Ant baits work by allowing worker ants to carry the toxin back to the colony, killing the queen and members of the colony that care for the queen and larvae.

Before purchasing ant bait, read the product label carefully. For ant baits to work well, they need to be suitable for the ants you’re targeting. Ants can be picky; if the size of the bait granules or the “flavor,” usually “sweet” or “oil-protein,” isn’t appealing to the target species, they will refuse the bait.

Fig. 3. Ant species from the Myrmicinae subfamily are predacious on any insects they can catch, including this grasshopper nymph. Photo by Scott Schell.

Some ant bait products are formulated to be versatile with both sweet (carbohydrate) and oil/protein attractants applied to a variety of grit sizes. These are an excellent choice when you do not know what bait your pest ant species prefers.

Baits have to be slow acting to be effective. Worker ants must pick up solid bait granules and take them to the colony, where they are fed to the larvae. Larvae will regurgitate some of the now-liquefied bait to other workers that will then feed other ants and, eventually, the queen. When she dies, that is the end of a “single queen” colony, the most common type in Wyoming. However, it may take several weeks before all the ants completely disappear.

Many different types of bait active ingredients are available besides the “old school” neurotoxins that attack the neurotransmitters that most animals, including humans, use. Insect growth regulator chemicals (which keep insects in the juvenile stage of development or interfere with exoskeleton development), boron-containing compounds, and bacterial-derived toxins, such as abamectin, are available in ant baits.

There are also ant baits formulated as gels or liquids. These products can be very effective, but in Wyoming’s typically arid climate, they can rapidly dry out and become unattractive to ants.

Ants are a natural part of Wyoming’s ecosystems and can be beneficial there. However, when they become a nuisance in landscapes and gardens, management options are available.

For questions about ant management in Wyoming, contact UW Extension entomologist **Scott Schell** at sschell@uwyo.edu or (307) 766-2508.