

## Least-toxic Control of Squirrels

Squirrels belong to the order *Rodentia*, the largest living group of mammals. There are seven native species of squirrels in North America, but the eastern and western gray squirrels are the species most commonly known and the worst pests.

Squirrels' most distinguishing feature is their long, bushy tail, which is used for balance when leaping and climbing, and are wrapped around their bodies as they sleep for warmth in the winter. Tree squirrels have extremely powerful legs that enable them to jump up six feet and leap between trees that are eight feet apart. They can run up to 19 miles per hour and can swim up to a mile at a time. Their powerful upper and lower incisor teeth grow throughout their lifetime to compensate for the intense wear that they endure. They have large eyes, good eyesight, acute hearing and a keen sense of smell, which enables them to find buried nuts that they or other squirrels have cached.

Eastern gray squirrels are 16 to 20 inches (41 to 51 cm) in length and weigh approximately 1- to 1- pounds (567-794 g). Their color may vary, being gray, reddish-gray, black and white (albino). The western gray squirrel is gray above with distinct white underparts. There is no discernable difference between males and females.

Tree squirrel diet consists mainly of cones, fruit, seeds, fungi, buds, shoots, flowers, bark and lichens. They occasionally also enjoy animal food, such as insects, birds' eggs and young, and even dead squirrels. The western gray squirrel primarily eats acorns, and most of its range includes oak trees of various species. It spends considerable time in autumn gathering and burying each acorn in a hole three to four inches deep, retrieving them later by smell.

Though they usually sit on their haunches to eat, squirrels can eat from any position, including upside-down. They are either right- or left-handed when handling food, and cache food, especially nuts, cones and fungi, when it is abundant.

Tree squirrels do not hibernate. They are dependent on the warmth of their nests to protect them from cold winter nights and very cold winter days. Their peak activity times during the day in spring, summer and fall are the first two hours after sunrise and mid-afternoon.

Tree squirrels have four types of nests: winter dreys, summer dreys, dens and holes in the ground (pine squirrels only).

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701 E Street SE, Suite 200 Washington, DC 20005  
202-543-5450 202-543-4791 (fax) info@beyondpesticides.org www.beyondpesticides.org

Dreys are twig and leaf nests built in trees, often by enlarging birds' nests, and lined with some type of soft material. Winter dreys take from one to several days to construct, are usually fairly elaborate, and are most often situated in the fork of a large branch. Summer dreys are much more simple and may be on exposed branches. Tree dens are cavities in the main trunks of trees and may be either nest dens or escape dens.

Their home range can be from 1 to 100 acres, depending on the season and availability of food. Some species are territorial, using scent marks, such as urine markings, to mark territory. They also mark travel lines on the ground and in the trees, which they use as paths. The marking points of gray squirrels are often found on the underside of large branches and may become darkly stained. Anal dragging and cheek or face wiping are other observed marking behaviors.

Food and weather permitting, female squirrels may have two litters per year, with two to six infants. Peak birth times are between the end of July and early August, and in the winter between late December and early January. They young are born hairless, blind and with their ears closed. After 7 to 12 weeks they are weaned and leave the nest, dissolving family ties. Squirrels in the wild often survive only ten to twelve months, but can live between 7 and 14 years.

### **Prevention**

- Seal all holes in eaves and roofs that would allow squirrel entry, especially around attic fans, roof vents and in fascia boards behind gutters.
- Trim tree branches back at least 10 feet from the building.
- Encircle isolated trees and power poles with a two-foot wide collar of metal six feet off the ground to prevent squirrels from climbing them. On trees, attach metal using encircling wire held together with springs to allow for tree growth.
- To prevent squirrels from traveling on wires, attach two-foot sections of lightweight 2 to 3 inch diameter plastic pipe. Slit the pipe lengthwise and put it over the wire. It will rotate on the wire, causing the traveling squirrel to fall.
- Place bird feeders well away from trees, fences or wires.
- Do not leave pet food outside unattended.
- Put garbage in sealed containers.

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## Control

**Live traps.** To remove a squirrel from a roof or attic, you must determine where they enter. Baited cage traps may be used to capture the animals coming and going from their access holes. Peanut butter, shelled pecans or walnuts are good baits. Live trapping should be aimed at minimizing stress, as squirrels can die of shock when trapped. They should be incorporated into a wooden nest box or be completely covered so that the inside is dark and protected from weather. Traps should be checked two or three times a day, especially at dusk, so that animals aren't left overnight.

## Bird feeders

- Place bird feeders atop of metal poles and a **squirrel guard baffle** underneath.
- If you must hang the feeder on a tree, place the feeder as far out on the branch as possible and **use a wire instead of a chain to hang it**, as the wire is more slick, and baffle the feeder, or use a narrow tube feeder that squirrels won't be able to reach from the tree trunk.
- Spray **Teflon®** on poles as a good temporary measure.
- **Install porcupine wire** around the pole of a feeder, taking care not to place it where squirrels will fall. They are unable to find firm footing in the spines and can't climb the pole.
- **Construct a closed cage** with chicken wire (or any similar mesh wire with two-inch holes) around the feeder.
- **Mix cayenne pepper with Vaseline** and apply to the feeder pole as a repellent.

## Gardens

- **Cage entire plants** that squirrels are finding tasty.
- To prevent squirrels from digging in flower pots or small gardens, use **hardware cloth**, cut to fit around the stem of the plant and extended to the edges of the pot or garden just below the soil. Place small rocks near the edge of the pot or garden to hold it in place.
- **Mix seeds with black pepper** before planting, at a ratio of one teaspoon per pound of seed, as a squirrel deterrent.

## References

Beyond Pesticides/NCAMP. "Least Toxic Control of Pests In the Home & Garden: A series of pest control & chemical factsheets." Washington, DC.

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