

53. Animal Damage

David B. South

Hosts

Most plant species grown in nurseries can be injured by vertebrates.

Distribution

Seed damage caused by animals occurs worldwide. Damage to plants from browsing animals varies depending on the population present on adjoining lands.

Damage

Seed consumption reduces seed efficiency and profits. Damage to roots is typically minor when compared with seed losses and losses from uprooting by browsers. After the first growing season, clipping by browsers in the winter is often minor and typically has no long-term effects on seedling survival or growth. Browsing late in the season, however, can result in complaints from some customers.

Diagnosis

Birds commonly remove the entire seed from the area. In the absence of tracks, direct observation is often the only evidence that birds are the problem. With large-seeded species, however, empty husks are often a sign of seed predation either by birds or rodents (fig. 53.1). Most managers can identify the animal type by their tracks (fig. 53.2) and fecal pellets (when present). Clipping injury caused by rabbits, hares, and small rodents can usually be identified by a smooth, oblique cut on the woody stem or on the cotyledons, needles, or leaves. Deer browsing injury is characterized by a splintered, ragged break on the stem. Meadow voles remove basal bark from young seedlings, giving



Figure 53.1—A reduction in seed efficiency caused by crows eating pecans during the germination phase. Photo by David B. South, Auburn University.

them a fuzzy, finely gnawed appearance. The presence of burrowing animals, such as gophers and moles, is detected by mounds that outline tunnels or burrow openings.

Control

Habitat Management

Eliminating protective cover (both within the nursery and in adjacent fields) will reduce favorable habitat for most rodents and other small mammals. Small



Figure 53.2—Turkey tracks. Photo by David B. South, Auburn University.

mammals are usually wary of crossing long, exposed distances from their burrows to newly established seedbeds. Remove brush, keep grass and weeds short, and eliminate brush piles and trash dumps to reduce protective cover.

Predators

Although rodents, rabbits, and birds are prey for some carnivores, predators cannot keep their populations low enough to prevent damage in nurseries. Predators should be encouraged where their presence does not pose a problem for workers because they influence the behavior of small animals and birds.

Mechanical

Screens or netting can be used to protect seeds in seedbeds and containers (fig. 53.3). A fairly rigid material with fine mesh will keep birds from becoming entangled.

If rodents or rabbits are a problem, the netting edge should be buried to prevent digging beneath the barrier. A wire mesh fence 76 to 90 cm (30 to 36 in) tall may help exclude meadow voles and rabbits. Holes should be no larger than 6 mm (0.25 in) for voles and 25 mm (1 in) for rabbits. The bottom 15 cm (6 in) should be turned outward and buried in the ground 15 cm (6 in) deep. The fence must include tight-fitting gates and sills to keep animals from digging below the bottom rails. Some managers use a tall woven wire fence to exclude deer and other large mammals (fig. 53.4). Tight attachment to the ground is important because deer frequently try to go under fences. Electric fences can also be used to deter large browsers.

Trapping is practical for controlling animal pests whose numbers are not too great. Select a trap designed for the animal. It is usually best to bait traps and leave them unset for several days.

When the animal is readily taking the bait, set the trap. Trap placement is often extremely important. Tunnels, burrow openings, or holes in a fence are excellent choices for trap placement. Often these trap sets do not require baiting.

Shooting

Shooting can be effective for certain animals whose populations are fairly low. Shooting has the additional advantage of producing frightening sounds. In the past, some nurseries employed bird patrols that warned off birds with shotguns and firecrackers. Bird patrols are a labor-intensive practice, however, which can become very expensive. Before a shooting or trapping program is undertaken, check local laws and regulations governing nuisance animals.



Figure 53.3—Shade cloth is sometimes used to protect seed from birds. Photo by David B. South, Auburn University.

Miscellaneous Pest Problems

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Figure 53.4—A high fence can reduce the amount of damage from deer. Photo by David B. South, Auburn University.

Scare Methods

Firecrackers, propane guns, whistles, horns, scarecrows, flashing lights, and various other devices have been used to frighten birds and deer. However, some animals quickly adapt and eventually ignore these methods. Relocating the devices periodically and combining them with human activity may help them remain effective longer.

Chemical

Repellents can be effective against some birds or animals, but no single chemical is a universal repellent. Area repellents are sprayed on vegetation or cloth strips and placed around a crop to keep animals away. Taste repellents are sprayed directly on a crop to deter feeding. Since new shoot growth is not treated and most chemicals wash off, a single treatment to foliage is usually ineffective. Repellents are often used on seed to deter predation by birds. Repellent use does not require a

permit but the product must be registered for such use in the State.

In the past, baits laced with lethal avicides were used to kill birds. Managers now prefer to use sublethal dosages to train crows and other birds to avoid nursery fields. Nursery managers should check with their local county extension agent, U.S. Department of Agriculture, Animal Plant Health Inspection Service (USDA-APHIS), or U.S. Department of the Interior, U.S. Fish and Wildlife Service to determine if a permit is needed before using any product or method to control protected bird species.

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