

BACKYARD AND GARDEN PESTS

BLACKBIRDS

<http://www.ext.nodak.edu/extpubs/>

Red-winged blackbirds and grackles with starlings and brown-headed cowbirds mixed into foraging flocks cause much damage to crops. Male red-winged blackbirds are black with a scarlet shoulder patch; the females, which are brownish with streaked breasts, lack this distinctive marking. Grackles are robin-sized with long keel-shaped tails. Adult grackles are iridescent and glossy black; the young are brown. Starlings are long-billed, short-tailed, iridescent, and glossy black with light-colored speckles over the body. Cowbirds are relatively small. Males are glossy blacks with a rich brown head, and the females are grayish brown with a light throat patch.

HABITS

Each year, redwings raise two broods in nests, marshes, and hayfields. Grackles prefer to live in colonies, and rear their single brood in evergreens, dense thickets, and vines while starlings' nest in hollow trees, birdhouses, or other cavities. Cowbirds, on the other hand, are parasites; they lay their eggs in other birds' nests, and then depend on other species to hatch and rear their young.

Although 5 to 10 percent of the blackbird's diet consists of corn and other grain, blackbirds feed extensively on insects, especially during the nesting season. Grackles have completed their nesting and some redwings have finished nesting when small grain is harvested by early July. By early August, migrants from distant areas, and starlings and cowbirds mix into the large aggregate flocks of blackbirds join flocks of redwings and grackles. Blackbird flocks make daily flights from their roosts to crop fields, woods, and grassland. At dawn, the birds depart in different lines of flight. They may feed as far as 20 miles from their roost. Redwings usually break into smaller flocks, while grackles tend to stay in large bands throughout the day.

During August, blackbirds' damage standing corn from the time it enters the milk stage until harvest. Redwings and grackles tears open the husk and feed on the kernels. The shredded husk shrivels and exposes more kernels. Cowbirds then feed on the kernels exposed by the other blackbirds. The opened husk exposes the grain to the weather and causes more grain loss.

Cultural Control Methods -- Planting should be coordinated so that most of the susceptible crops in an area enter the vulnerable stage at the same time. Bird damage is greatest in fields near roosts, near nesting cover, or on flight lines. Consider removing roost cover and substituting less susceptible crops. Some corn varieties resist bird damage.

Frightening Devices -- Gas exploders, shellcrackers, firecrackers, shotguns, recorded blackbird alarm calls, and electronic sound devices may scare blackbirds from fields. This does not

necessarily chase the birds to a nearby crop since the birds may shift to natural food. Scare devices should be activated when the crop first becomes susceptible or when blackbirds first begin feeding on the crop. They should be used throughout the day, but especially during early-morning and late-afternoon feeding periods. Several types of scare devices are better than a single device; their location should be changed frequently.

Gas exploders are the most commonly used scare devices. Effective range varies with the locale, but usually one exploder is used for every 10 acres. For best results, exploders should be mounted above the height of crop. Shotguns using regular ammunition or shellcrackers also are effective. The shellcracker discharges a projectile that explodes in the air some distance from the gun. (Use caution with shellcrackers in dry vegetation because of the potential fire hazard.) Recorded alarm calls and other electronic sounds effectively repel birds, but are costly.

Excluding Blackbirds -- When fruits, vegetables, or birds attack other crops in limited areas, durable netting to cover the crop keeps birds away. This is economically feasible in small areas supporting high-value crops.

EASTERN CHIPMUNKS

<http://www.oit.itd.umich.edu/bio>

Identification and Distribution -- Chipmunks are small, ground-dwelling rodents with distinctive colorful strips on their general rusty-red to chestnut-brown fur. Five dark-brown stripes line the back one from the neck to the rump, two on each side from shoulder to rump. A creamy-buff stripe separates the dark side stripes. Mature chipmunks are 9 to 10 inches in length and weigh about 3 ounces. The flattened, well-haired tail is roughly one-third the animal's total length.

Chipmunks have forefeet adapted for holding and eating food while sitting upright. Their blunt and squirrel-like heads have unique furred cheek pouches in which they carry food and other material. The front teeth are chisel-shaped. Chipmunks may range over an acre, but their individual territories often are much smaller.

Chipmunks are omnivorous, feeding on both plants and animals. They prefer plant material such as acorns, hickory nuts, bechnuts, cherry seeds, Juneberries, raspberries, dogwood seeds, corn, and plant bulbs. They also eat animal foods such as birds' eggs, insects, snails, and, occasionally, mice and young birds.

Chipmunks spend much time in late summer and fall gathering and storing food. Hard foods are stuffed into their cheek pouches and stored in food caches. They climb shrubs and trees to look for food and escape enemies.

Economic Importance -- In their woodland habitat, chipmunks compete with and complement the natural community of plants and animals. Chipmunks may compete for food with gray, red, and flying squirrels and with grouse, turkey, deer, white-footed mice, and other mast-eating animals. When they store excessive amounts, they remove seeds that might be used by other wildlife or would germinate into new plants. Chipmunks compete in a predatory way when they eat birds' eggs or nestlings.

When chipmunks move into an urban setting, they may come into conflict with man due to their normal activities digging seeds from the garden, feeding on flower bulbs, and burrowing into dry rock walls. A homeowner who places a higher value on his garden or flowers than on seeing chipmunks, reductional measures are needed to offset the conflict. If chipmunks enter homes, their external parasites may be potential public health hazards.

Reductional Measures -- Chipmunks prefer homes with wooded lots, thickets of ornamental shrubbery, and dry rock walls for habitat. This habitat can be made less attractive to the animals by altering the pattern of natural and ornamental plantings. However, most people value their trees and shrubs too highly to drastically modify their landscape, and may opt to tolerate the chipmunks as a part of the natural community.

Use rat-sized snap traps for dead trapping. Baits attractive to chipmunks include peanut butter, nutmeats, sunflower seeds, and rolled oats. Place either type of trap in areas where chipmunks travel or feed. Chipmunks will occasionally enter homes where they are generally more bothersome than destructive. Closing holes in foundation walls and screening windows, vents, and other ground-level openings can prevent their entry. Although chipmunk populations can be reduced locally, new animals may move into vacated habitats. Unfortunately, chipmunks can seldom be eliminated from an area, unless their living conditions are radically changed.

MOLES

<http://ohioline.osu.edu/hyg-fact/2000/2005.html>

Identification and Habits -- Moles are small animals that spend most of their lives in underground burrows. They are somewhat similar in appearance and size to shrews and meadow mice, and may occupy the same habitat. Humans seldom see them; when seen, they frequently are mistaken for mice or shrews.

The mole's most conspicuous feature is its enlarged, paddle-like forefeet and prominent toenails, which enable the mole to move through the soil. They have strong legs, short necks, and elongated heads. Moles' ears and eyes are so small that, at first glance, they appear to be missing. A mole's fur is soft and velvety. It varies from black to brownish and grayish with silver highlights; when brushed, the fur offers no resistance in either direction, enabling the mole to travel either backward or forward within his burrows.

Moles may be found in woodlands, grasslands, wetlands, and lawns. They construct extensive underground passageways with shallow surface tunnels for spring, summer, and fall, and deep permanent tunnels for winter use. Nest cavities, about 6 inches in diameter and lined with vegetation, are located from 12 to 18 inches beneath the soil surface, connecting with the deep tunnels. Moles, which have high-energy requirements, are active and feed day and night at all times of the year. They feed on insects, snails, spiders, small vertebrates, earthworms, and small amounts of vegetation. Captive moles have been reported to eat more than their own weight in 24 hours.

Moles prefer loose, sandy loam soils in which they can dig easily. Generally, they avoid heavy, dry, clay soils. They may make extensive runway systems in a surprisingly short time; mole activity in lawns or fields usually shows up as ridges of upheaved soil created where the runways were constructed as the animals moved about foraging for food. Some of these tunnels are used as travel lanes; others may be abandoned immediately after being dug. Mounds of soil (molehills) may be brought to the surface as moles dig deep, permanent tunnels and nest cavities.

Moles breed in late winter (February to April) and have an approximate four-to-six week gestation period. In April or May, single annual litters of two to five young (usually four) are born. Young moles are born naked and helpless, but grow rapidly. About four weeks after birth, they leave the nest and fend for themselves. Hawks, owls, skunks, weasels, foxes, snakes, cats, and dogs are natural enemies of moles. For reasons that are clear (possibly odor), some predators will kill, but not eat moles. Predatory fish may eat the star-nosed mole, which often spends considerable time in water.

Economic Importance -- In their natural environment, moles cause little damage. They are seldom noticed until their tunneling activity becomes apparent on lawns, gardens, golf courses, pastures, or other grass and turf areas. Star-nosed moles, with their preference for wet, marshy sites, rarely become a nuisance.

The upheaved ridges of mole tunnels make mowing lawns difficult. Since the roots are disturbed, grass may turn brown and unsightly. Moles do not eat grass roots, flower bulbs, ornamental shrubs, or other vegetative material while tunneling, but plants may be physically disturbed as moles tunnel in search of animal organisms in the soil.

Although mole activity may indirectly damage vegetation, their feeding on insects and other soil organisms has beneficial effects. The moles' digging of surface and deep tunnels also loosens, mixes, and, in other ways, benefits soil development.

Shrews and meadow mice frequently use mole tunnels as runways and travel lanes. Like moles, shrews are insectivores, eating little vegetation. Meadow mice, on the other hand, eat a wide variety of vegetative matters and may damage plant life. In order to control these pests, it is essential to understand differences in their habits and how to identify each species, which resemble each other and associate in the same habitat.

Reductional Measures Changing Environment -- Reduce moles' insect food supply to prevent them from becoming established or to control them once they start digging tunnels. Although this method may take time to work, it will continue to prove beneficial as long as the animal organisms on which moles feed are kept at a low level.

Trapping -- Small mole populations may be controlled effectively with specially designed traps. One trap, the harpoon-or prong-type trap, is available through farm and garden supply or hardware stores. Directions for using these special traps are provided by the manufacturer.

The selection of active runways is important for successful trapping. To determine active runways, press down short sections of the raised ridges and mark these locations. Active runways will be repaired as moles continue to feed and travel, while abandoned tunnels will not be repaired. Set traps only at the active locations, and move traps within three days if you fail to catch moles. Time and patience and knowledge of mole activity are essential for successful trapping.

RABBITS

<http://www.ext.nodak.edu/extpubs/>

Cottontail rabbits are important game animals. However, in small localized areas, rabbits may damage farm and garden crops during the summer. In winter, they turn to tree nurseries, orchards, and ornamental shrubs. At these times, rabbit control may be necessary.

Habit Control -- Cottontail rabbits prefer to live in dense thickets or heavily vegetated areas. This type of cover provides food and protection from predators. Overgrown ditch banks, brushy fence rows, or brush piles adjacent to croplands, nurseries, or orchards may contribute to rabbit damage. Rabbits leave this cover at night or early morning, feed in crop areas, and returns to the thicket for protection during the day. Mowing, brush cutting and general cleanup of overgrown areas may be all that is needed for rabbit control. Without sufficient cover, rabbits do not stay.

Trapping -- Live trapping may be effective in moving individual animals damaging gardens or other crops. Although rabbits are active at any time of day or night, they are most active just before sunrise and just after sunset. Although rabbits usually do not have definite trails, there may be one or two places where rabbits regularly travel. Areas showing constant rabbit activity or damage are logical places to set live traps. Metal live traps may be purchased from some stores.

Hunting -- In areas with a high rabbit population and history of damage, heavy hunting should be encouraged as a control method.

Fencing -- Rabbit-proof fences will help protect small areas of valuable crops during the growing season. Generally, a 2- to 4-foot fence of 1- to 1 1/2-inch galvanized mesh wire is a sufficient barrier. Stake this fence to the ground or bury its bottom edge to a depth of 6 inches to prevent rabbits from crawling or digging under.

Tree Guards -- Tree trunk guards also are effective in preventing rabbit damage to trees or shrubs. These guards should be made of a material heavy enough to prevent rabbits from chewing through. In addition, tree guards are also available from several commercial sources.

Repellents -- Repellent application also may reduce rabbit damage. When properly applied, repellents make treated plants less desirable as food. Three factors determine the effectiveness of a repellent: thoroughness of application; weather conditions; and proximity of existing rabbit food and cover. The application must be heavy enough to withstand adverse weather conditions, because frequent rains and snows erode and dilute the material from treated plants, reducing the repellent's protection. Repellent applications are divided into two general classes: winter, or dormant season, applications, and summer, or growing season, applications.

All bark and twigs must be treated to a height that rabbits might reach during the heaviest snow accumulation. The trunk and all terminal growth in the area must be treated completely. Winter repellent formulations have a much greater repellent concentration than summer formulations. Repellent should be applied in fall, prior to snowfall. Summer treatments are similar to winter treatments. However, it is necessary to treat more frequently in order to cover new growth.

EUROPEAN STARLINGS

<http://museum.nhm.uga.edu/gawildlife/birds/passeriformes/svulgaris.html>

Habits and Description -- The European starling is a stocky, short-tailed, blackbird, slightly smaller than a robin. In summer, the adult starling has iridescent black plumage; a long, sharp, yellow bill; and dark eyes. As winter approaches, small, buff-colored spots appear in the feathers, and the bill darkens. This coloration is maintained through mid-winter; the spots fade away gradually. The young starlings are plain brownish-gray with a dark bill, but assume the typical adult winter plumage by fall. In flight, the greatly tapered, pointed wings give the bird a triangular appearance. The flight is swift and straight, not undulated like that of native blackbirds.

Mated adult starling pairs begin nesting in cavities such as tree hollows, woodpecker holes, birdhouses, or building crevices by mid-April. In cities, several pairs may nest as a small colony in eaves, roofs, and other structures. In general, starlings nest earlier than most native birds.

The nest is constructed of stiff, fibrous material lined with fine grass and soft material. The female lays three to eight pale, greenish-blue eggs. The eggs hatch in about 12 days, and the young remain in the nest for two to three weeks. Once the young can leave the nest, they join together in flocks of gradually increasing size. The adults, however, usually produce another brood in late July and August. A third brood may be produced in early November.

With the approach of winter, adults and young gather in large flocks that forage widely, and often associate with other blackbirds, especially in the large night roosts. The roosts are generally maintained throughout the winter, but begin to break up with the spring mating season. The late-hatched young remain in flocks longest.

Starlings eat almost anything, and are highly adaptive in their food selection. These birds devour large amounts of insects, especially grubs, caterpillars, and grasshoppers. (They are especially efficient in probing soil for grubs.) The nestlings are fed almost exclusively insects. Starlings also are fond of fruit, especially grapes and cherries, and will eat weed seeds and grain in season. In the winter, when the ground is frozen or covered with snow, starlings eat livestock feed.

During the nesting season, the starling is an aggressive bird. They often will take over a nesting cavity already occupied, evicting the occupants and building their own nest. After nesting, much of this individual aggressiveness abates with formulation of large flocks. Starling flocks are highly cohesive. Apparently, each bird yields part of his individual identity to the larger flock identity, thus allowing the flock to bank, turn, and twist without apparent leadership or signal. This same cohesiveness gives the flock the combined experience of its members. The arrangement also may be vital because, as biologists have noted, the individuals frequently cannot maintain themselves separately and die if the winter flocks are broken up, especially during cold weather.

The starling is a constant companion of man, because man inadvertently provides most of its requirements. In cities, man's fertilized lawns and parks provide excellent places for starlings to probe for grubs. His waste offers food, his buildings are excellent winter roosting places, and, in the country, man's mono-cropping provides abundant food in the crops themselves or in the insects they harbor. The starling has a variety of whistles and raspy, squeaking calls, some quite harsh. It is a clever mimic, however, and can imitate the robin, killdeer, bobwhite, cardinal, and other birds.

Social and Economic Importance -- The starling has a bad reputation. City dwellers generally dislike the bird because of its noisy, messy, winter roosts on city buildings. Not only is the roost obnoxious to ear, eyes, and nose, but also the birds are known to carry contagious diseases, such as encephalitis, ornithosis, and histoplasmosis. Rural residents dislike the birds, because they damage fruit and vegetable crops. (In vegetable crops, however, the starling is often only a secondary invader, continuing the damage started by grackles.) Feedlots attract starling flocks, too. Starlings not only consume large amounts of poultry, hog and cattle feed, but also carry diseases of livestock. Starlings are known to be involved in transmission of hog cholera and other swine diseases.

General Control Consideration -- It is important to remember at all times that starlings are highly mobile, cautious, and are capable of learned response. Thus, control procedures must be applied at a time when the birds are vulnerable at a place at which they frequently congregate and by a method they cannot easily recognize. However, before using any control measure, consult local laws on bird control and the use of noise devices. (Starlings are not protected by state or federal laws.)

Traps -- Starling traps sometimes produce good results in feedlots, crop fields, and fruit areas, but require time and effort for placement and maintenance.

Crop Fields -- Frightening devices, such as exploders, firecrackers, and commercial scare devices, offer a reasonable solution for moving starling flocks away from potential damage or nuisance situations in crop fields.

Buildings -- Making building modifications to prevent entrance and roosting is a long-term solution to the problem. This approach is usually the most satisfactory, even though initially expensive. In specialized roosting circumstances, the use of sticky repellents may be considered.

Roosts -- Starlings will use two types of roosts during the year. The most common type is the summer roost, which the birds use during July, August, and September. It usually contains less than 20,000 birds, is no more than 20 acres in size, and frequently is located in wooded areas adjacent to towns.

In selecting a summer roost site, starlings usually select a site with maple trees, their most favored species. These are usually young trees growing in dense stands, 35 to 45 feet tall, and from 4 to 6 inches in diameter. In addition, they prefer sites open and free of understory. They like a dense tree canopy with many small branches for perching.

Usually, scare devices are successful in moving birds from this type of roost. The key to success in moving summer starling roosts is to start early in the summer before the roost has become firmly established. Starlings usually have finished the first nesting and have begun to establish roosts by July.

The following equipments are necessary to move summer roosts: a portable record or tape player with loudspeaker and a record or tape of a starling distress call. Also three boxes of exploding shotgun shells (cracker shells) or two automatic exploders.

The operation requires the participation of three people for three consecutive nights, and should begin one-half hour before sunset. One man will play the starling-distress-call record for five minutes at one location, and then move approximately 100 to 150 yards to a new location in the roost. The remaining two men will handle the shotguns. Before entering the roost, starlings gather at a staging area usually not more than one-half mile from the roost. Shooters should fire exploding shotgun shells at the incoming flocks as they move from the staging area to the roost in an effort to turn the flocks back. As the birds begin roosting, the shooters should switch to 7 1/2 shot ammunition. Exploding shells frighten starlings.

In residential areas where the discharge of firearms is prohibited, automatic carbide exploders may replace shotguns. These should be continued until one hour after sunset. No significant reduction in the starling usually is seen at the end of the first night. However, fewer birds will return to the roost on the second evening. Regardless of the size of the original roosting flock, fewer than 50 birds should be left at the roost by the end of the third night. At this time, the operation should cease.

The winter roost, which is used by starlings from October through March, is the second type of roost. This roost commonly is located on buildings in cities, under bridges, and in dense stands of coniferous trees; it may contain a half million or more birds. Scare devices are not effective on large winter roosts.

REFERENCES:

Timm, R. M., Prevention and Control of Wildlife Damage. 1983. Great Plains Agricultural Council Wildlife Resources Committee and Nebraska Cooperative Extension Service, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln.