

Fruit-Eating Birds

Prepared by the **National Wildlife Control Training Program.**
WildlifeControlTraining.com



Figure 1. European starling (*Sturnus vulgaris*).
 Image by unknown.

Understanding Fruit-eating Birds

Conflicts

Several species of birds eat fruit and in doing so, can cause problems for fruit producers, vintners, gardeners, and backyard enthusiasts who raise apples, grapes, blueberries, cherries, strawberries, melons, and other fruits.

Legal Status

Most fruit-eating birds are protected by the Migratory Bird Treaty Act. Under the Act, birds cannot be killed without a federal permit. Exceptions include the European starling and house sparrow, which are invasive, exotic species, and are unprotected.

In some cases, American crows may be controlled without a federal permit when found “committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner to constitute a health hazard or other nuisance.”

States may require permits for the control of crows, and may regulate the method of take.

Regulations or interpretation of rules regarding depredation may vary among states, and state or local laws may prohibit certain activities for control, such as shooting or trapping. Check with local wildlife officials for specific rules and regulations before initiating lethal control.



Figure 2. American robin (*Turdus migratorius*).
 Image by unknown.

Identification

The European starling (Figure 1) is one of the most common species of fruit-eating birds in North America. Many other backyard birds, such as American robins (Figure 2) and house finches, take fruit and can cause significant damage. A bird field guide will help you identify the species taking fruit in your location.

Physical Description

Starlings are easy to identify with their black plumage flecked with specks, and pointed yellow bill. They are common in areas near people, and tales of their intelligence often are noted. Most other fruit-eating birds are abundant and common, and can be recognized easily with the aid of a field guide.

Species Range

Fruit-eating birds are widely distributed in North America. Again, consult a field guide for more information about a particular species.

Health and Safety Concerns

Starling roosts that have been in place for several years may harbor the fungus that causes histoplasmosis. This disease can infect people who inhale the airborne spores when soil at a roost site is disturbed.

The incidence of bird droppings on fruit in an orchard is often low and washing fruit may be an option. Droppings on stored fruit in buildings, however, may pose a problem.

To keep birds from roosting on rafters and contaminating fruit, apply bird netting to the overhead area. Black netting is inexpensive and not very visible to people. Sticky substances such as Tanglefoot Bird Repellent can be smeared on rafters, but these are messy and need periodic renewal. Metal or plastic bird spikes can be nailed to perches.

General Biology

Reproduction

Breeding behavior varies considerably by species. For example, starlings nest in cavities, both human-made and natural. Other songbirds usually nest in trees or shrubs to avoid ground predators. Check a field guide for more information about clutch size and nesting behavior for different bird species.

Nesting/Denning Cover

Depending on the species, nests usually consist of twigs, sticks, and coarse stems. They may be lined with shredded bark, feathers, grass, cloth, or string.

Behavior

Starlings are considered commensal because they thrive in human-impacted environments. Historically, populations of starlings have

benefited from food produced by agriculture. Large flocks often feed on spilled grain near barns and livestock facilities.

Flocking birds, such as starlings and wild turkeys, often have daily patterns of movement. Usually they forage most heavily early in the morning after leaving their night roost. Heavy feeding may occur again in late afternoon before the birds roost for the night. Resident birds, such as robins, that nest near fruit crops may forage sporadically all day long.

Habitat

Many songbirds prefer habitats that include shrub lands and woodlots with trees for nesting and roosting. They commonly use woodlots, wooded areas along streams and rivers, farmlands, orchards, parks, and suburban areas. Fruit crops near woodlands may suffer heavier bird damage than those in more open areas.

Food Habits

Fruit-eating birds usually take a variety of other food types. For example, insects often are important in the diet of young birds for feather development. Most fruit-eating birds also take seeds, nuts, grains, insects, and invertebrates, depending on the season and availability of other local foods.

Voice, Sounds, Tracks, and Signs

Birds vocalize with several calls, including distress calls. Some devices reproduce distress calls in an attempt to scare birds from crops. Fruit-eating birds usually are small, and often consume fruit while perched. Therefore, tracks are seldom seen.

How to Identify Damage

Damage to Landscapes

Fruit-eating birds typically do not cause landscape damage.

Damage to Crops and Livestock

Birds cause damage to fruit in orchards, vineyards, gardens, and backyards by pecking, slashing, and consuming fruit whole. Pecking and

slashing opens wounds that allow access to damaging bacteria, fungi, and insects and leaves blemishes that render fruit less marketable or unmarketable. Small fruits, such as grapes and blueberries, often are consumed whole. Large flocks of birds and repeated daily feeding can dramatically reduce yields of fruit. Robins eat cherries, grapes, blueberries, and other small fruits whole. Starlings eat small fruits whole and peck holes in apples. Grackles slash openings through the skin of apples. Crows peck deep triangular-shaped holes in apples. House finches and house sparrows peck holes in small fruits. Several other species, such as waxwings, catbirds, mockingbirds, and orioles regularly eat fruit.



Damage to cherry crop. Photo by Paul Curtis

The amount and degree of bird damage in fruit crops is highly variable among places and years. Several factors contribute to the complexity of problems created by birds, including season, local weather, type and variety of fruit produced, time of harvest, and availability and distribution of natural foods.

Generally, fruit-eating birds cause no direct impacts to livestock or pets.

Damage to Structures

Large starling roosts cause serious problems in some areas, particularly when located in urban sites. Roosts may be objectionable because of the odor of droppings, concerns for human health, noise, and damage to trees.

Damage Prevention and Control Methods

Control birds before they become habituated to a location. Flock sizes can grow quickly when food and cover are plentiful.

Habitat Modification

Vegetation management has effectively dispersed starling roosts. Roosts usually occur in dense stands of young trees. Thin up to $\frac{1}{3}$ of the branches of specific roost trees or thin trees from dense groves to reduce the availability of perches and open the trees to the weather.

Fruit-eating birds also like having perches nearby (trees, wires) when they are feeding. Fields more distant from perches suffer fewer attacks.

Starlings frequently are attracted to cornfields, especially in late summer, when ears are developing. Planting small fruits away from such spots may reduce the risk of problems.

Exclusion

Exclusion, generally, is the most effective method for protecting fruit crops from birds. Nylon or plastic nets often are useful for excluding birds from high-value fruits in small areas.

Often a support trellis or overhead wires are needed to support nets. In grapes, nets can be stretched over an entire row (Figure 3), or side panels of nets can be secured to the trellis wires.



Figure 3. Nets over a row of grapes protect fruit from birds. Photo by Paul D. Curtis.

Frightening Devices

Frightening devices can be effective for short-term dispersal of birds from fruit crops.



Figure 4. Scary-eye balloon for frightening birds. Photo by Paul D. Curtis.

A combination of several frightening techniques used together may work better than a single technique. Strips of Mylar® tape or scary-eye balloons (Figure 4) may be helpful in some cases. Supplement frightening techniques with lethal control of starlings by shooting, where permitted, to improve effectiveness.

Birds usually learn whether a device presents real danger or not, and they may quickly habituate to stationary effigies. Vary the location, intensity, and types of frightening devices to improve their effectiveness.



Figure 5. Hawk model and an acoustic device intended to frighten birds. Photo by Paul D. Curtis.

Hawk models (Figure 5) can frighten birds from gardens and small fields. Effigies usually are more effective if animated. Hawk models are

suspended on tall poles with fishing line to allow them to move freely in the wind.

Other frightening devices include gas-operated exploders, battery-operated alarms, and pyrotechnics (shell crackers and bird bombs). Various distress calls may provide short-term control for dispersing birds.

Several devices on the market use distress calls to deter birds from crops (Figure 6). Sometimes distress calls are combined with predator calls to add an element of fear. These devices may be effective for short-term control, depending on the type of crop, bird species, and location. Ultrasonic sounds (high frequency, above 20 kHz) are not effective for frightening birds.



Figure 6. Device using both bird distress calls and raptor calls to deter birds from fruit crops. Image by Paul D. Curtis.

Repellents

Taste repellents may be appropriate for some fruit crops but not for others. For example, grape growers may not want to apply taste repellents on their fruit as it might affect the taste of table grapes or wine.

At least two products on the market for use on fruit contain the taste repellent methyl anthranilate. Methyl anthranilate is a grape-flavored food additive that, at high concentrations, is a repellent for birds. Several formulations are available for protecting fruit crops. This material is quite volatile, so the effectiveness diminishes 2 or 3 days after spraying. Rejex-it® and Fruit Shield® are the trade names. Rejex-it® is federally registered for

cherries, blueberries, and grapes. The label lists particular target species, including robins, starlings, and waxwings. The spray can be applied up to the day of harvest. Check your pesticide labels to determine which formulations are available for specific bird species and crops in your state.

Efficacy of this repellent has been mixed, depending on the fruit crop, species of bird, and location. More research is needed to evaluate the effectiveness of methyl anthranilate for specific fruit crops.

Toxicants

No toxicants are registered for controlling birds in fruit crops.

Shooting

Most fruit-eating birds are protected by the Migratory Bird Treaty Act. The US Fish and Wildlife Service (USFWS) and state wildlife agencies rarely issue permits to shoot protected birds unless there is a risk to human health or safety. Shooting unprotected birds such as starlings may be practical for commercial growers, but only in a limited number of situations. Starlings can be shot in rural areas where discharging firearms is permitted (check state and local laws). Twelve-gauge shotguns set at full choke with No. 7½ shot works well within 40 yards. Permits may require the use of non-toxic steel shot so that lead pellets don't become lodged in fruit. Air rifles (.22-caliber or high-velocity .177-caliber) are effective on perching starlings within 30 yards.

The shooting of starlings is more effective as a dispersal technique than as a way to reduce numbers, as starlings often congregate in large flocks. In general, the number of starlings killed by shooting is small in relation to the numbers involved in damaging fruit crops. Shooting can help supplement and reinforce other techniques, however, when the goal is to frighten and disperse birds rather than reduce numbers.

Disposition

Relocation

Release of starlings is not recommended. Other bird species should be released where captured.

Translocation

Translocation of starlings is not recommended.

Euthanasia

Euthanize starlings with carbon dioxide or cervical dislocation.

Disposal

Check your local and state regulations regarding disposal of carcasses.