

Controlling Birds on Fruit Crops

Birds may cause problems for fruit producers. On many farms or orchards bird damage is minimal, and growers can choose to ignore the problem or just take the loss into account as a cost of management. For other growers, problems from birds can be substantial, resulting in large portions of the fruit crop being consumed or damaged.

This fact sheet describes the primary species of birds that cause damage to fruit, patterns of damage, and control methods available to growers.

General Biology

The types of damage caused, amount of damage, effective control methods, and legal protection vary among species of birds. As a result, it is very important you be able to identify the birds causing damage. Listed below are the most common species causing damage to fruit, along with a brief description of the bird and the type of damage it causes. Further information can be found in field guides for identifying birds, available at bookstores or libraries.

American Crow

The American crow is a problem primarily on apples. It leaves deep triangular peck holes in the apples, often destroying the fruit or making it susceptible to insect damage.

American Robin

The American robin is a common and well-known bird. It is probably the species most frequently reported to consume small fruits and cherries. Robins eat cherries, grapes, blueberries, and other small fruit whole, often causing substantial damage.

European Starling

The European starling is an exotic (nonnative) species introduced into North America from Europe. It has a black, speckled appearance and a short tail, and in flight the wings have a triangular shape. These birds can cause extensive damage to fruit because they often descend on orchards in huge

flocks. Starlings eat small fruit, such as grapes, whole and slash larger fruit like cherries. They peck holes in apples, consume the insides, and leave the apples hollowed out.

Common Grackle

The common grackle has a black body, an iridescent head, and a keel-shaped tail. Grackles consume small fruit like blueberries whole. When eating larger fruit like cherries or apples, they often slash the fruit, leaving lots of damage.

House Finch

The house finch has brown streaks and looks similar to a sparrow. The male has patches of orange or red under its chin and on its sides. House finches can cause extensive damage to fruit. When consuming blueberries, the birds start at the top of the bush and peck berries in rapid succession. Many berries are left damaged.



American robin

House finches peck grapes open and feed on the juice and pulp within. On apples, they leave small irregular nicks that often leave the fruit susceptible to insect damage or disease.

House Sparrow

The house sparrow is an exotic (nonnative) species introduced from Europe. Males are recognized by their black bib and white cheeks. Females are more difficult to identify. House sparrows damage grapes, cherries, and other small fruits, generally by pecking holes in them.

Others

Other species may cause problems, depending on the time of season and the habitat surrounding the orchard or farm. Species in this group include the cedar wax-wing, gray catbird, northern mockingbird, and Baltimore oriole.

Damage Identification

Damage to fruit does not occur randomly. By being familiar with patterns of damage, you may be able to reduce damage or lower the cost of control by concentrating control methods in particular areas and at times of the season when damage is most severe.

Location and Size of Orchard or Vineyard

Although all farms and orchards are susceptible to damage, it is greatest on farms in close proximity to town environments where birds such as robins and starlings are abundant. Damage generally is higher in orchards isolated from other orchards than it is in orchards next to each other. In large orchard acreages, so much fruit is available that the amount of damage at any one site is fairly low. An orchard's size also influences the amount of damage. Small orchards usually experience more damage than large orchards.

Time of Fruit Maturation

The time when fruit matures appears to influence the amount of damage. For apples, bird damage is highest on early-maturing cultivars. Late cultivars experiencing damage are primarily those which turn red early in the season. These patterns suggest that birds are responding to the color change in apples. Similarly, bird damage to cherries and grapes is greatest on early-ripening cultivars. Fruit that ripens early may be damaged more often because it matures when other fruits are not available.

Legal Status and Permit Process

All birds are protected by state and/or federal law except pigeons, house sparrows, and European starlings. It is illegal to kill any other species of bird without a special permit. It also is illegal to indirectly cause the death of a protected species. For example, if you put out a toxic chemical to kill starlings and a protected

bird is killed in the process, you are legally responsible. Furthermore, it is illegal to disturb a bird that has young or eggs in the nest. There is one exception to the law. Blackbirds, cowbirds, crows, and grackles may be killed without a permit when they are observed committing or about to commit damage. Crows can be shot during the legal hunting season.

A permit is required if protected birds are to be harmed by damage control techniques. A Migratory Bird Depredation Permit can be obtained from the U.S. Fish and Wildlife Service (FWS). Pennsylvania is in Region 5 of the FWS, and the permit application must be sent to Region 5 headquarters in Hadley, Massachusetts. A copy of the permit application can be obtained from USDA-APHIS Wildlife Services (PO Box 459, Summerdale, PA 17093; 717-728-0400). Wildlife Services can help with the permit process as well as distribute information and loan damage-control materials.

After the permit is sent to FWS, a copy is forwarded to Wildlife Services. Wildlife Services then inspects the property that is requesting the permit and recommends action to the FWS. The local Pennsylvania Game Commission wildlife conservation officer is consulted by Wildlife Services. The recommendations are then sent back to FWS, which in turn sends the permit to the Bureau of Law Enforcement of the Pennsylvania Game Commission. The Game Commission must co-sign the permit before it becomes legal. If both the Game Commission and the FWS agree that the permit should be issued, the permit is sent to the grower.

Damage Control

Control methods are described below. The type of control method to choose will depend on a number of factors. Use your knowledge of damage patterns and species behavior to decide when and where to use control methods and which types to use. A list of suppliers is included at the end of this fact sheet.

Netting

For small fruits and isolated trees, netting is the most effective way to reduce bird damage. In most cases, netting is placed directly over the plants or bushes, but for some fruits, such as the highbush blueberry, a framework is built and the netting is suspended over the frame. Among netting's major disadvantages are that it has a high initial cost, is time-consuming to apply, and is inconvenient to work around. Although netting is expensive, it can be reused for a number of years if removed carefully and stored over winter. If you are deciding whether to use netting, you need to consider the costs of netting and installation relative to losses from bird damage.

Scare Tactics and Noise Devices

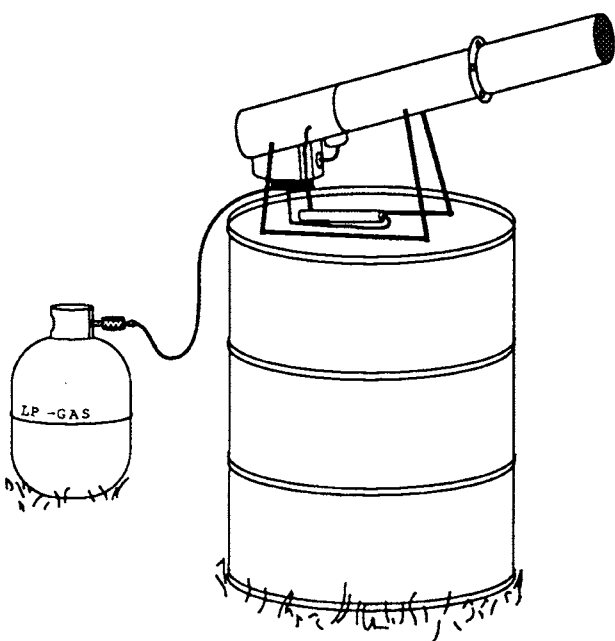
Many growers use visual scare devices and noisemakers to frighten birds away from fruit crops. Visual scare devices include streamers, spinners, aluminum pie tins, plastic owl and snake models, and scare-eyes (large balloons with eyes painted on them). Such devices are most effective when used in conjunction with sound. Visual scare devices should be changed regularly so birds do not learn they are harmless. Varying locations, colors, and types of scare devices used enhances their effectiveness.

Noise devices also are available. Cannons, exploders, sirens, and other noisemakers work best when the sound is presented at irregular intervals and the sound source is moved frequently. Taped distress calls are more effective, but the calls are usually species specific, making it necessary to obtain a tape of distress calls of the specific birds causing the damage. A problem with both visual and scare tactics is that birds become accustomed to them over time.

Chemical Repellents

One chemical repellent, methyl anthranilate (MA), currently is registered for use on small fruits in Pennsylvania. In the past, the repellent methiocarb (Mesurol) was registered for use on cherries and blueberries. However, this product is no longer registered in Pennsylvania.

Methyl anthranilate is a colorless to pale-yellow liquid with a grapelike odor. It has long been used as a food and drug flavoring for human consumption. In preliminary tests, fruit treated with MA was consumed significantly less than untreated fruit. In addition, human consumers could not detect a difference in taste between



Automatic exploder

fruit that had been treated earlier in the season and fruit that had not been treated. Applying MA to blueberry plants is not recommended, however, because field studies have shown the repellent to cause foliar burns and it has not been cost effective.

Lethal Methods

Review the section above on legal status to determine the permit requirements for using lethal methods. In orchards, lethal methods such as shooting, used sparingly in conjunction with scare tactics and noise devices, can increase the efficacy of these methods.

Summary

For best results in reducing bird damage, use a variety of techniques simultaneously and start the control program before birds become accustomed to feeding on the fruit. Control is much more difficult after feeding patterns have become established. It also is a good idea to keep records of control methods tried and whether they were successful. This information can then be used to modify your damage control program. In some situations, you may need to hire a professional to deal with the problem. Wildlife pest control operators are available throughout the state to control wildlife problems and are listed in the yellow pages of the phone book under the heading "pest control." These companies are permitted by the Pennsylvania Game Commission to deal with nuisance wildlife.

Materials and Suppliers

Many of the products listed below can be purchased in local garden supply stores, feed mills, and department stores. If products are unavailable locally, you can order them from the following companies. A more complete list of suppliers can be obtained from USDA-APHIS Wildlife Services (for address see "Legal Status and Permit Process"). Local laws may regulate the use of some tools and techniques and should be consulted before control activities are begun.

Frightening Devices

Reed-Joseph
PO Box 894
Greenville, MS 38702
662-335-5822 or 800-647-5554
Fax: 662-335-8850
www.reedjoseph.com
(distress calls, cannons, exploders)

Rid-A-Bird, Inc.
PO Box 436
Wilton, IA 52778
319-732-3970
(scare-eye, other scare devices)

Bird-X
300 N. Elizabeth 2N
Chicago, IL 60607
800-860-0473
Fax: 312-226-2480
www.bird-x.com
(plastic owls and hawks, other bird control products)

Netting

Wildlife Control Technology
2501 N. Sunnyside, #103
Fresno, CA 93727
559-490-2262
Fax: 559-490-2260
www.wildlife-control.com

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