

BIRDS ON TREE FRUITS AND VINES

Integrated Pest Management for Home Gardeners and Landscape Professionals

Several bird species can cause substantial damage by feeding on ripening fruit and nuts. Often, early ripening fruit species, such as cherries, are the most extensively damaged; almonds also can receive significant damage. Bird damage usually is most severe at sites that are adjacent to wild or brushy areas where birds find refuge, breeding sites, and other sources of food. Orchards surrounded by other orchards often have fewer problems with birds.

The amount of damage, type of damage, and effective control methods vary among species of birds, so it is important that you identify which species is causing the damage. Generally, the following bird species are the most common depredators of fruiting trees and vines: crowned sparrow (*Zonotrichia* species), house finch (*Carpodacus mexicanus*), robin (*Turdus migratorius*), scrub jay (*Aphelocoma coerulescens*), crows (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), and yellow-billed magpie (*Pica nuttalli*).

IDENTIFICATION

Crowned Sparrows

There are two species of crowned sparrows that occur in California. Both species exhibit the typical sparrow coloring of brown shades on the back and a grayish breast and are around 7 inches long. However, adult white-crowned sparrows (Fig. 1) have three white and four black stripes on the head, while golden-crowned sparrows have a dull gold crown with a black border. Both species occur in small or large flocks and feed on dormant flower buds and ripening fruit (Fig. 2). Crowned sparrows are classified as migratory, nongame birds and can be removed only with a depredation permit from the U.S. Fish and Wildlife Service or while under the supervision of the local county Agricultural Commissioner.



Figure 1. Adult white-crowned sparrow, *Zonotrichia leucophrys*.



Figure 2. Crowned sparrow damage to ripe fruit.

House Finch

The house finch is typically 5 to 6 inches long. Males have a rosy-red or orange head, rump, and breast with a brownish back and wings and a brown streak on their sides (Fig. 3). Females lack the red or orange coloration. Finches occur in small to large flocks and feed on dormant flower buds and ripening fruit (Fig. 4). House finches are classified as migratory, nongame birds and can be removed only with a depredation permit from the U. S. Fish and Wildlife Service or while under the supervision of the local county Agricultural Commissioner.

American Robin

The American robin has an orange-red breast, grey-brown upper parts, a white throat, a black to dark brown head and tail, and typically is 10 inches long. It is a very common and well-known



Figure 3. House finches.



Figure 4. House finch damage.



Figure 5. Adult scrub jay.

bird. Robins are classified as migratory, nongame birds and can be removed only with a depredation permit from the U. S. Fish and Wildlife Service or while under the supervision of the local county Agricultural Commissioner.

Scrub Jay

Scrub jays are aggressive birds, 10 to 12 inches long, and are distinguished by their crestless head, olive-gray back, and white throat that is outlined in blue; their head, tail, and wings are blue (Fig. 5).

PEST NOTES

Publication 74152

University of California
Statewide Integrated Pest Management Program
Agriculture and Natural Resources

September 2010

Scrub jays usually are solitary birds but occasionally are seen in groups. This species can feed on opening flowers of early blooming stone fruits such as cherries, especially in backyard settings. Scrub jays are classified as migratory, nongame birds and can be removed only with a depredation permit from the U. S. Fish and Wildlife Service or while under the supervision of the local county Agricultural Commissioner.

Crow

The crow is a large, chunky, black-colored bird, 17 to 21 inches long with a thick, black bill and feet. Crows are seen in groups of a few birds or in large flocks. They will feed on ripening fruit and nuts (Fig. 6). Crows are classified as migratory, nongame birds. However, given their abundance and damaging nature, they can be removed by landowners, tenants, or persons authorized by landowners or tenants when damaging crops.

European Starling

European starlings are 8 to 9 inches long with a short tail. Their bill is yellow in spring and summer but dark in winter, while their plumage is iridescent black or purplish and is heavily speckled with white (Fig. 7). Large flocks often are seen feeding on ripening fruit. Starlings are classified as nongame birds that can be removed at any time. There are no federal restrictions for taking starlings.

Yellow-billed Magpie

The yellow-billed magpie is a large, noisy bird, 16 to 20 inches long. It has distinct, black and white markings on its body and a very long tail (Fig. 8). It often is seen in small groups feeding on ripening fruit. The magpie is classified as a migratory, nongame bird; no permit is required to take magpies causing or about to cause damage to fruiting trees or vines. That being said, regulations often change, so it is a good idea to contact the local county Agricultural Commissioner's office before removing magpies to ensure no laws are violated.



Figure 6. Damage to almonds caused by crows.



Figure 7. Adult European starling.

MONITORING

Regular, weekly monitoring through bird counts will help you determine when populations increase, so you can take action early. Watch for movement of birds into or within an area. This is particularly important for reducing damage to fruit buds, as this damage is difficult to detect until trees are blooming. Keep track of species by count and location seasonally if you have had substantial damage in the past. These records will help you plan control strategies in advance and will provide information on the effectiveness of previous control actions. As fruits begin to ripen, look for fruit that is damaged or has been knocked from the tree; this is another good technique for monitoring bird damage.



Figure 8. Adult yellow-billed magpie.

MANAGEMENT

Protective Netting

The most effective way to reduce bird damage to small orchards and isolated trees is netting. You can prevent access of birds to ripening fruit by placing $\frac{1}{4}$ - to $\frac{1}{2}$ -inch mesh plastic netting over the plant. It is best to attach the netting to a frame that holds it away from the tree to avoid birds accessing the fruit at the outer edges of the canopy (Fig. 9). The use of netting does have its disadvantages. It has high initial costs, is time consuming to apply, and is inconvenient to work around. However, it still is a desirable method in many situations given its high efficacy and the fact that the netting can be reused many times.



Figure 9. Netting can be suspended from a tall frame, as over this cherry tree.

Frightening Devices

The most effective way to frighten birds from an area is to use a combination of noisemakers and visual repellents. For maximum effectiveness, rotate from one type of fright-

ening device to another, and do not use one combination of devices for more than a week; otherwise, birds will become used to it. Common noisemakers include bird bombs and shell crackers that are shot off by a person who is patrolling the orchards or fields. Stationary devices such as gas cannons and electronic distress calls also provide relief from some species of birds. These stationary devices are most effective when you have at least one device for every 5 acres, when they are elevated above the tree canopy, and when they are relocated frequently. Crows, scrub jays, and magpies are quick to learn to ignore noisemakers, in some cases overcoming the repellency effect in a matter of hours.

Sometimes the effectiveness of noisemakers increases when used in combination with visual repellents such as Mylar streamers or "scare-eye" balloons. For example, scare-eye balloons can be attached to trees that are next to electronic distress-call devices. This combination might increase effectiveness over using either approach by itself. Regardless of the approach used, much attention must be paid to the birds' responses when using frightening devices. When birds no longer respond negatively to a specific approach, you must switch to a different frightening tactic to continue to scare birds out of the desired trees. At best, an appropriate rotation of frightening devices will control bird pests for a few days to perhaps a few weeks. Therefore, use these scare tactics only when needed to prevent birds from habituating to these auditory and visual repellents. The

availability of alternative food sources likely influences the efficacy of frightening devices.

Because birds that damage tree fruit and vines are not active at night, it is important to be sure your auditory devices are operated only during the daylight hours. Because auditory devices are loud, they often are not appropriate in urban or residential areas. In such situations, netting or chemical repellents would be more appropriate.

Shooting

Birds that usually invade rural orchards in small numbers, such as scrub jays and magpies, often can be controlled by shooting. A depredation permit is required if you want to shoot scrub jays. Permits presently are not required for shooting crows, magpies, or starlings that are causing damage, but it is a good idea to check with authorities, because regulations can change. Where permissible, occasionally shooting at a few birds will increase effectiveness of your noisemaking techniques, because birds will begin associating loud noises with the real hazards of firearms. However, shooting is not permissible in most urban or residential areas.

Trapping

Birds are highly mobile, and new birds move into an area quickly when populations are reduced, making trapping an ineffective method for controlling most bird problems in small orchards and backyards. Also, in the time it takes to trap enough birds to reduce damage to acceptable levels, the production season often is over. One exception occurs

with resident sparrows, house finches, or starlings that live in the same area year-round. In such situations, a modified Australian crow trap can be used to effectively remove these resident birds, although trapping should be initiated well before the damage begins in order to reduce the local population. Because of their homing ability, releasing trapped birds elsewhere is not a viable solution. As such, birds must be humanely euthanized—a CO₂ chamber currently is the preferred method—after capture. Only starlings can be trapped and destroyed without a permit.

Repellents

Chemical repellents rely on objectionable tastes, odors, or learned aversions to deter birds from consuming or damaging fruit. Commercial repellents containing the active ingredient methyl anthranilate currently are registered for use on such edible fruits as cherries, apples, blueberries, and grapes. These repellents have been shown to effectively reduce fruit damage by birds in some studies, while showing little efficacy in others. As with other types of repellents, the efficacy of chemical repellents likely is influenced by the availability of alternative food sources and by the ability of the user to apply the repellent following the label recommendations. These repellents might provide some relief for small orchards and backyard trees and vines although their overall efficacy is uncertain.

REFERENCES

- Salmon, T. P., D. A. Whisson, and R. E. Marsh. 2006. *Wildlife Pest Control around Gardens and Homes*. 2nd ed. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 21385. ❖

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ILLUSTRATIONS: Figs. 1-5 and 7-8, J. K. Clark; Fig. 6, R. E. Marsh; and Fig. 9, J. P. Clark.

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University of California scientists and other qualified professionals have anonymously peer reviewed this publication for technical accuracy. The ANR Associate Editor for Urban Pest Management managed this review process.

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This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.

Produced by **UC Statewide Integrated Pest Management Program**
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**University of California
Agriculture and Natural Resources Program**

WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original, labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Pesticides applied in your home and landscape can move and contaminate creeks, rivers, and oceans. Confine chemicals to the property being treated. Avoid drift onto neighboring properties, especially gardens containing fruits or vegetables ready to be picked.

Do not place containers containing pesticide in the trash or pour pesticides down the sink or toilet. Either use the pesticide according to the label, or take unwanted pesticides to a Household Hazardous Waste Collection site. Contact your county agricultural commissioner for additional information on safe container disposal and for the location of the Household Hazardous Waste Collection site nearest you. Dispose of empty containers by following label directions. Never reuse or burn the containers or dispose of them in such a manner that they may contaminate water supplies or natural waterways.

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