

# CONTROLLING VERTEBRATE DAMAGE

Extension Bulletin E-877

April 1977

## *birds in field and fruit crops*

*(European starlings, redwing blackbirds, purple grackles, crows, robins, orioles, thrashers, cedar wax-wings, bluejays, pheasants, water-fowl and other species)*

See also the first in this series: Extension Bulletin E-860 on "General Considerations."

BY GLENN DUDDERAR, Extension Wildlife Specialist

### EXCLUSION

Exclusion techniques are rarely practical in commercial operations, but are very effective and very practical for backyard gardens, orchards or fruit trees. Many net and twine companies make a netting which prevents bird damage to backyard gardens and fruit trees.

Netting can be used to enclose the entire garden, vine or tree to exclude birds from crops. Installation is sometimes difficult because the netting must be supported by a frame to prevent the netting from damaging the plant involved. In addition, some nets may prevent adequate sunlight from reaching the foliage or restrict pollination. However, the netting will provide a 100% protection and may be used year after year if it is durable net.

A commercially available, inexpensive acrylic webbing prevents bird damage to gardens, vines and fruit trees. It is light-weight, spiderweb-like material that is draped directly over the plants. It does not require support in most cases and does not interfere with water, sunlight, pollination or plant growth. When correctly applied, it is 100% effective. However, some people may object to its appearance or its spiderweb-like feel. Post-harvest removal is usually desirable, although the material may retain its effectiveness for more than one year. See "Sources of Supply."

### REPULSION

Visual repellents, such as whirlers, streamers, spinners, reflectors, plastic hawks and owls, etc. are rarely practical in commercial application. These methods may be satisfactory for backyard crops. Regardless of the situation, it is important to vary the techniques at least every other day. Otherwise, the birds soon learn that such devices are harmless and ignore them. If locations are altered, colors varied, and positions changed, the effectiveness of these repellents is enhanced. Furthermore, it is ex-

tremely important to apply these techniques before damage begins or as soon as possible after it is noticed.

Auditory repellents are among the most effective frightening devices but certain principles must be adhered to or they become ineffective.

1. Apply these techniques before damage begins or as soon as possible after damage is detected.
2. Alter the application every two or three days to prevent the birds from becoming used to one technique.
3. Apply these techniques persistently, especially during peak damage periods of early morning and late afternoon.
4. A combination of two or more techniques is the most effective.
5. Frightening devices are most effective against starlings, blackbirds and waterfowl, and are least effective against robins, waxwings, thrashers and orioles. **A permit from the U.S. Fish and Wildlife Service is required to frighten waterfowl and other migratory birds such as sandhill cranes, robins, waxwing, etc. A permit is not required for blackbirds when doing damage.**

### .22 Caliber Rifle Fire

The whizzing sound made by a .22 cal. hollow point rifle bullet is extremely effective in frightening birds from field and orchard crops, with the added advantage that birds can be frightened from a long distance. Caution must be used to ensure that the rifle fire is not hazardous to human beings and livestock. Rifle fire applied judiciously for a few minutes during the peak morning and afternoon feeding times can reduce damage significantly in conjunction with other frightening techniques.

### Double-Shot Shotgun Shells and Pistol Bombs

Several companies manufacture special shotgun shells or pistol bombs

that fire charges into the air that explode above the damaging birds. These aerial bombs are extremely effective in crops and orchards. If applied in combination with other frightening techniques, such techniques can reduce damage significantly. (See "Sources of Supply.")

### Automatic Exploders

Automatic exploders or bird-scaring cannons automatically detonate a gas to produce an extremely loud explosion. These devices range from simple mechanisms which generate and detonate acetylene gas to devices which have photoelectric regulators and electronic detonation of bottled gas. These automatic exploders are very effective when supplemented with other frightening devices, providing their application is altered at least every other day. Most farmers who have used these guns are fully aware that if the exploder is permitted to operate in the same place day after day at the same interval, it soon becomes ineffective. Change location and firing interval every other day. One exploder effectively protects about 10 acres. (See "Sources of Supply.")

### Recorded Alarm and Distress Cries and Electronic Frightening Devices

These bird-scaring mechanisms are very effective, but their application is somewhat limited because of high cost and limited range. Furthermore, because they make extensive use of batteries and loudspeakers, they are subject to vandalism. However, these devices are worthwhile in high-value crops where damage is severe. Again, they are far more effective if used in conjunction with other frightening techniques. (See "Sources of Supply.")

### Psychochemical

Amino-4-pyridine (Avitrol) is available to pest control operators and government agencies for use on field and sweet corn. The chemical is applied to a grain bait which is then diluted 100 to 1

so that only one kernel out of one hundred is treated. This material is then broadcast in fields receiving bird damage. When a few of the birds ingest treated kernels, they exhibit extremely wild and erratic behavior. This reaction then frightens the rest of the birds from the field. This method is very effective, but is usually not economical unless damage exceeds 5% of the total production of the field. (See "Sources of Supply.") **A permit is required from the Law Enforcement Division, Michigan DNR.**

### Seed Coatings

You can apply several commercial chemicals to seed coatings to prevent sprout pulling by many kinds of birds. Consult your county extension agent for the most recent information. Mix thor-

oughly 1 pt. of 94-98% coal tar with 2-3 bushels of seed corn, and plant immediately to repel crows.

### POPULATION REDUCTION

#### Trapping of starlings and blackbirds

When used before the fruit crop ripens, decoy traps in fruit orchards can substantially reduce damaging populations and thus reduce damage. Some traps are portable, others are large and permanent. Bait traps with bread, corn and water. Also keep a few live birds in the trap at all times as decoys and thus increase the trap's effectiveness. The trap is designed so that trapped birds can easily be herded to a small corner where they are forced into a holding cage. The holding cage can then be cov-

ered with plastic and fumigated with automobile exhaust.

Such traps also permit the release of desirable protected birds. Initial construction cost can be high, and the daily maintenance required may make them impractical under certain conditions. Blueprints for traps are available from your county extension agent or from the U.S. Fish and Wildlife Service. **A permit is required from the U.S. Fish and Wildlife Service.**

### Poisons

Certain poisons may be useful in special situations, but must be applied under strict professional supervision. Information about the use may be obtained through your local county extension director.

# CONTROLLING VERTEBRATE DAMAGE

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## *starlings in feedlots*

(*Sturnis vulgaris*)

See also the first in this series: Extension Bulletin E-860 on "General Considerations."

BY GLENN DUDDERAR, Extension Wildlife Specialist

THE EUROPEAN STARLING, introduced to the United States from Europe at the turn of the century, now occurs in every state. In many Michigan areas, they stay through the winter, but when the ground is frozen or snow-covered, they are denied their natural food sources. Then they turn to livestock feeds. A hundred starlings may consume as much as 6 to 7 lb. of food a day, and starlings are known to transmit certain livestock diseases. Since thousands of starlings a day may visit a feedlot, control is often desired.

### POPULATION REDUCTION

Exclusion is impossible in most feedlots and repulsion fails in winter because the starlings depend upon the livestock feed to survive. Thus the only effective control is lethal control.

To eliminate starlings from feedlots, use Starlicide, a commercial bait which contains chloro-p-toluidine. It is more toxic to birds than to mammals and, as

commercially formulated, poses little hazard to mammals. Chloro-p-toluidine only kills once and thus creates no secondary hazard to wildlife, pets or livestock. However, as a matter of good practice, it is important to expose the bait in areas where starlings can get it, but livestock cannot. Furthermore, because the material is comparatively expensive, it is uneconomical to let livestock eat it.

You must select a location where the starlings will readily feed, such as the spillage outside the feed trough if the livestock cannot consume the bait, tops of fence posts or above the feed bunker in special troughs directly over the feed itself or similar locations.

Normally starlings will refuse to feed far from the locations where they normally feed or frequent. For example, bait troughs placed high up under the roof of a feed bunker normally will not be used by starlings. Troughs should be wide and shallow.

It is almost always necessary to pre-bait with a material similar to the commercial poison bait to accustom the starlings to eating at the desired location. In most instances, starlings will not accept a poison material on an area that has not been pre-baited.

Pre-baiting should continue until the birds regularly consume large amounts of the pre-bait. If the pre-bait is not consumed at all, place it in a new location. Continue until you find a site where the starlings readily accept it.

All too often, livestock feedlot operators attempt to switch to the poison material too soon. Although feeding starlings a pre-bait for a week or more seems like a waste of time and money, it will insure that once the poison bait is exposed, the kill will be thorough. For commercial sources, see "Sources of Supply." **A permit is required to poison starlings from the Law Enforcement Division, Michigan DNR.**