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BLACKBIRDS AND THE PROTECTION OF FIELD CROPS

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Blackbirds generally do more good than harm, but they can be a serious nuisance to some farmers. When cereal crops, sunflowers, or vegetables are grown close to marshes, or in other locations that attract blackbirds, large numbers of these birds may feed in the fields. They can do considerable damage to barley, oats, sunflowers, and corn in the milk and dough stages.

The Red-winged Blackbird (*Agelaius phoeniceus*) is the most numerous kind of blackbird. Other associated species are the Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), the Brewer's Blackbird (*Euphagus cyanocephalus*) in the west, the Common Grackle (*Quiscalus quiscula versicolor*), and the Starling (*Sturnus vulgaris*). All these birds except the Starling are members of the Blackbird family. The bodies of the adult males are black, whereas those of the females are duller or brownish in color. Adults of each species can be identified by distinctive characteristics:

<i>Species</i>	<i>Sex</i>	<i>Characteristics</i>
Red-winged Blackbird	male	red and yellow patch on each wing
	female	pale streaks on the breast
Yellow-headed Blackbird	male	bright yellow head and small white patch on each wing
	female	dull yellow throat and upper breast
Brewer's Blackbird	male	yellowish eyes
	female	dark eyes
Common Grackle	male and female	yellow eyes, iridescent head and body, and U-shaped tail in flight
Starling	male and female	shorter tail, iridescent body (with whitish spots in autumn), and a long yellowish beak

BEHAVIOR

Certain conditions must exist before blackbirds become plentiful.

Blackbirds usually nest among cattails, rushes, and other vegetation near water. They prefer roadside ditches, farm dugouts, sloughs, and marshes. If the natural cover is removed from these locations, the nests are built in fields of grain or alfalfa, or in weedy fence rows. The birds do not congregate in large flocks during the nesting period.

After the nesting period, family groups band together in large flocks, which are increased in August and September by migrants that arrive from farther north. These flocks prefer locations where water and food are close together.

The flocks must have a roost at night, preferably beside a body of water several hectares in size or a large marsh with plenty of vegetation, such as cattails, rushes, sedges, tall grass, or willows growing in the water. Occasionally, the birds establish a roost in an area covered with tall weeds and young trees near a creek. All the blackbirds in the area gather at the roost before dark. Some flocks may rest in trees or fields in late afternoon before moving to the main roost.

At sunrise the birds leave the roost in flocks to feed within a radius of about 15 km. They select a field close to trees and a water hole, and spend the day feeding, drinking, and resting in the trees.

FOOD

To discover the kinds of food that blackbirds eat, the late Dr. R. D. Bird of the Winnipeg Research Station examined the gizzards of hundreds of blackbirds. This is what he found:

Waste grain. On their return in the spring and after harvest, blackbirds consume large quantities of the gleanings of oats, wheat, and sunflowers. They feed on freshly swathed grain until the seed becomes hard; then they prefer to pick up moist shattered grain on the ground. They do not eat seeds of flax, sweetclover, or forage crops.

Weed seeds. They eat plenty of weed seeds, particularly green foxtail, wild oats, and wild buckwheat, whenever they are available.

Insects. Insects are the main diet in the summer; the young are fed entirely on them. Blackbirds eat insects that are abundant and destroy many harmful kinds in the fields, including grasshoppers, the beet webworm, the sweetclover weevil, and grain aphids.

Crops. When a crop is grown close to a roost, blackbirds may damage the seed from the milk stage until it is ripe. They attack oats, barley, wheat, sunflowers, and corn. Garden peas are injured but not soup peas, which the birds visit only to feed on insects. The birds continue to settle in fields of sunflowers that have ripened, but then they feed mainly on weed seeds and insects. They cause damage to oats, and to a lesser extent to barley and to wheat, by settling on the standing crop, breaking over the heads, and removing the kernels.

Their feeding habits, therefore, are generally beneficial but blackbirds can be a serious problem to individual farmers. Some ripening crops, particularly oats, sunflowers, and sweet corn, may be severely damaged unless protected.

PROTECTION

Because blackbirds feed on weed seeds and harmful insects, a reduction of the number of blackbirds would be of doubtful benefit. A program for destroying the birds is difficult and costly to carry out. The program has to be repeated every year because the birds that are destroyed will be replaced the next season. There are, however, inexpensive and practical ways to protect crops. Usually a combination of the following methods works better than any single method.

Crop management

Because damage occurs mainly near roosts, most of which are used year after year, avoid growing susceptible crops in these areas. If crops cannot be rearranged profitably, take the following steps:

- Leave feeding areas for the blackbirds. For example, do not cultivate the harvested land until all the susceptible crops have been harvested.
- Lure the birds away from the main crop until it is harvested. It is helpful to seed oats early in a narrow strip between the roost and the main crop. The first flocks that form after the nesting season will begin feeding in this strip.
- In areas beside trees in which blackbirds rest during the day, grow crops that are not harmed by blackbirds, such as flax, forage, pasture, sugar beets, and potatoes. If cereal crops must be grown there, seed them early so that most of the harvest is complete before large flocks gather.

Frightening devices

If damage cannot be prevented by crop management, try using methods of frightening the blackbirds from the crops. The methods outlined below are effective if you begin using them before the birds form the habit of feeding in a particular field. They must be carried out persistently so that the blackbirds are not able to feed unmolested. Used haphazardly, these methods waste time and money.

Exploders that operate by the ignition of a small amount of acetylene or propane gas at automatically controlled time intervals are the most effective. One of these devices can protect up to 4 ha at a cost of about \$2.50/ha per season. As soon as the birds start feeding in fields, place the exploders on a platform higher than the crop and close to the trees and water holes where the birds perch and drink. Set the exploders to fire about every 2 minutes.

Several exploders may be needed in each field. Move them frequently so that the birds will not associate them with a particular part of the field.

The noise is much louder if the exploder fires through a hole in the end of a small steel drum laid on its side. Remove the other end to make the drum serve as an amplifier.

If blackbirds are feeding in the field when the exploders are set, frighten them first by shooting. It is much more difficult to frighten the birds from their night roosts.

Firecrackers are fairly effective if the expense of buying or renting an exploder is too high or if you need to protect only a garden or small plot. However, they require more attention, and precautions must be taken to avoid fire.

Buy the largest firecrackers possible, preferably the "bulldog" type. Stick the fuses through a length of cotton rope, which burns slowly. Place the crackers along the rope so that they will explode at intervals of about 5 minutes. Tie the string of crackers to a leaning pole above the crop, and protect it from wind and rain with a stovepipe. Place a bucket below the pipe to catch the burning crackers and to reduce the risk of fire.

Shooting frightens the birds from the fields, but it is a time-consuming practice because the birds must not be allowed to return to feed. Shotgun ammunition is more expensive and less effective than that for a 0.22 caliber rifle. The sound of a 0.22 caliber bullet passing through the air and the crop frightens the birds. If the shooting is done from a platform or the top of a truck, a large area can be protected. But always remember that the 0.22 caliber rifle is dangerous within 1.5 km and that the bullets may ricochet from solid objects.

Scarecrows are the least effective protection device and if not moved frequently, the birds quickly become accustomed to them. However, scarecrows in combination with exploders help to protect the crop.

INQUIRIES

For more information on blackbirds, contact the following provincial offices.

British Columbia: Field Crops Branch, British Columbia Ministry of Agriculture, Parliament Buildings, Victoria, B.C.

Alberta: Crop Protection and Pest Control Branch, Alberta Department of Agriculture, Agricultural Building, Edmonton, Alta.

Saskatchewan: Pest Control Officer, Plant Industry Branch, Saskatchewan Department of Agriculture, Administration Building, Regina, Sask.

Manitoba: Entomology Section, Soils and Crops Branch, Manitoba Department of Agriculture, Norquay Building, Winnipeg, Man.

Ontario: Department of Environmental Biology, Ontario Agricultural College, University of Guelph, Guelph, Ont.

Québec: Division de la Défense des Cultures, Ministère de l'Agriculture, Complexe Scientifique, Parc Colbert, Qué.

New Brunswick: Plant Protection Specialist, Department of Agriculture and Rural Development, Fredericton, N.B.

Nova Scotia: Soils and Crops Branch, Department of Agriculture and Marketing, Hollis Building, Halifax, N.S.

Prince Edward Island: Weed and Pest Control, Department of Agricultural Research and Extension Building, Charlottetown, P.E.I.

Newfoundland: Soils and Crops, Department of Forestry and Agriculture, Confederation Building, St. John's, Nfld.

