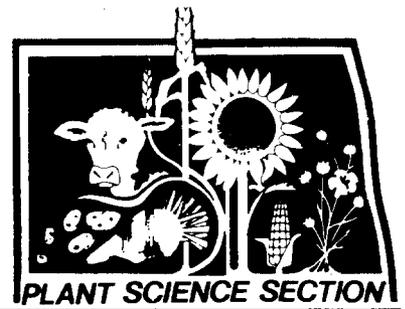




Cooperative Extension Service

NORTH DAKOTA STATE UNIVERSITY
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UNITED STATES DEPARTMENT OF AGRICULTURE
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Blackbird Damage Control

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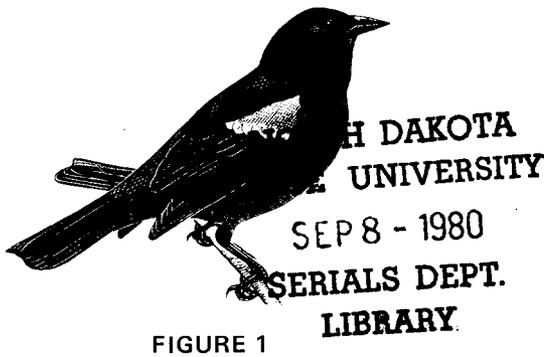


FIGURE 1

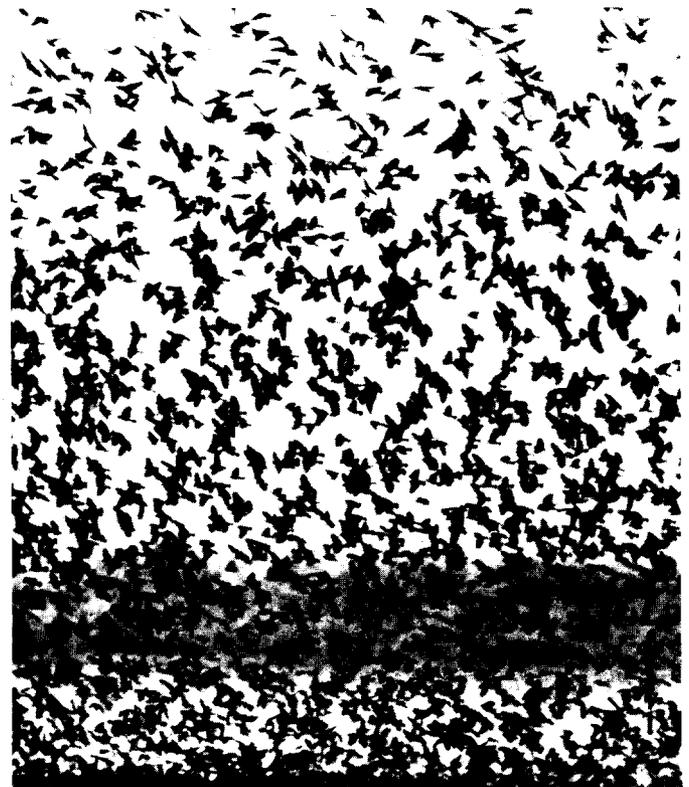


FIGURE 2

THE PROBLEM

Blackbird depredation has become a major problem in North Dakota as sunflower acreage has increased. Sunflower matures about the same time as blackbirds reach their greatest abundance. Northern migrants join local flocks early in September and begin to feed in sunflower, usually before the crop is ready to harvest. Many traditional North Dakota crops are either less susceptible to bird damage than sunflower or, when these crops are in a susceptible stage, large concentrations of birds are seldom present.

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Several species of blackbirds are found in the Great Plains; most are common and occur in large flocks in the fall (Fig. 2). With recent expansion of sunflower acreage, blackbirds become particularly noticeable as they invade fields to feed.

BLACKBIRDS

The term blackbird is applied to several different species of birds that join staging and migrating aggregations in late summer. The most numerous species is the red-winged blackbird (Figs. 1 and 3).

Also present in some aggregations are yellow-headed blackbirds, Brewer's blackbirds, common grackles (Fig. 4) and brown-headed cowbirds (Fig. 5). The bodies of all adult male blackbirds, as well as some females, are black. Redwing females are brownish streaked like oversized sparrows. Yellow-headed females are a dark, dull brownish color, but show a tendency toward yellow on the breast. Cowbird and Brewer's females are ashy colored. Female grackles cannot be distinguished from males. The young of most species resemble the females for the first year.

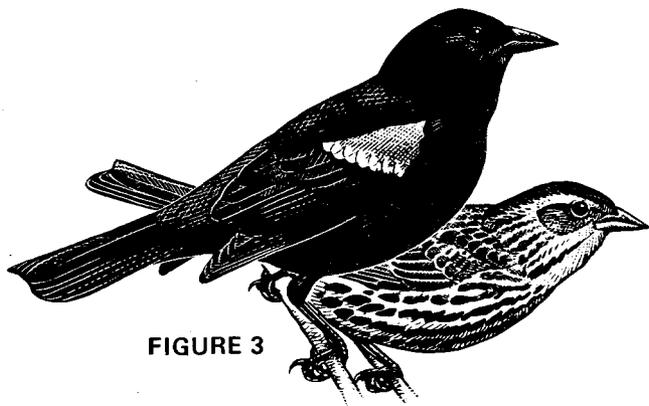


FIGURE 3

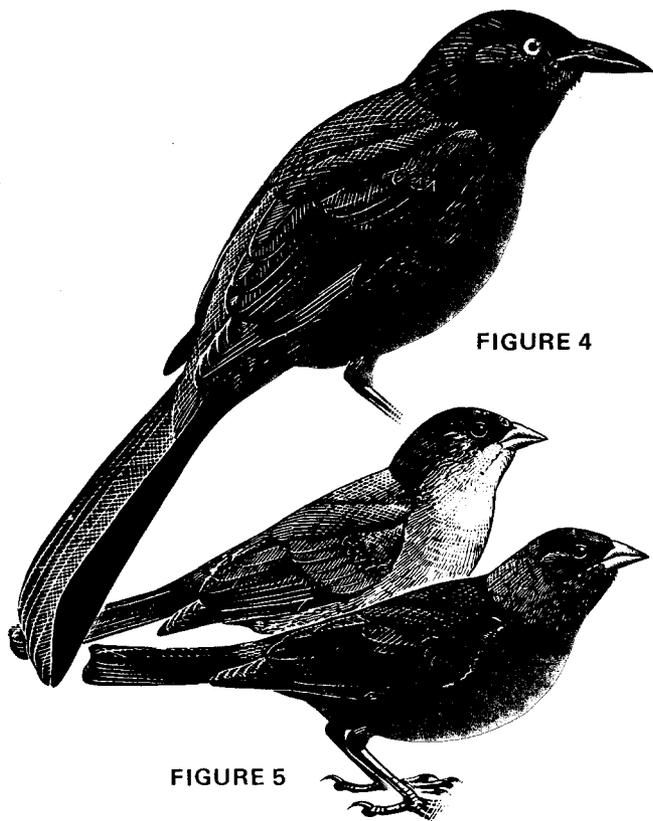


FIGURE 4

FIGURE 5

Red-winged blackbirds adults usually migrate northward before ice thaws on marshes and sloughs. Males arrive ahead of females and set up actively defended territories in wetlands. Females arrive later and select nest sites after a brief courtship. Studies in South Dakota indicate an average of three females mate with and nest within the territory of each male.

An average of one young per nest is likely to survive to migrate in the fall. Predators, nesting accidents and flooding are important natural mortality factors affecting the blackbird population. Some important predators of blackbird eggs and young are raccoon, mink, snakes, skunks, fox and birds of prey.

Red-winged blackbirds show a preference for nesting in cattails, but many nest in upland grassland or cropland, particularly alfalfa. Their most successful nesting sites are over water and in dead cattail stubble from the previous season's growth. This habitat makes nests inaccessible to many predators and offers protective concealment as the young birds mature. In marshes in which yellow-headed blackbirds nest, redwings nest on the edges while the yellowheads nest over water. Cattails provide nightly roosts for migrating blackbirds as they move southward in late summer. There is a general northwest to southeast movement pattern of blackbirds across North Dakota. As migrant birds from northern nesting areas move into North Dakota, they soon adopt the feeding patterns of flocks already present.

Digestive tract analyses of red-winged blackbirds indicate that they tend to feed on whatever foods are abundant throughout the season. In their northward spring migration, redwings consume large quantities of waste grain gleaned from oat, wheat and sunflower fields. As insects become more abundant, they form the main portion of blackbird diet. The young birds are fed entirely on insects during the nesting season. Crop damaging insects such as grasshoppers, cutworms, leaf-feeding caterpillars, weevils and aphids are consumed. As weed seeds develop, they are fed upon and become an increasingly important part of the diet. When crops mature, blackbirds begin feeding upon them.

North Dakota crops susceptible to blackbird damage are sunflower (Figs. 6 and 7), corn (field and sweet)(Fig. 8) and milo. Most other crops are not affected.

Considering the feeding habits of blackbirds through the season, they are not totally detrimental from an agricultural viewpoint. Feeding on dropped grain, insects and weed seeds has a positive agricultural benefit, but the susceptible crops are an im-

portant part of our economy and must be protected from damage if possible.

BLACKBIRD DAMAGE CONTROL

The purpose of blackbird damage control is the protection of susceptible crops until harvest, not a reduction in bird populations. Since much of the blackbird's diet is spilled grain, weed seeds and insects, the reduction in blackbird populations could be as harmful as helpful to agriculture. Blackbirds are protected from indiscriminate killing by the federal Migratory Bird Treaty Act, but they may be killed when damaging agricultural crops.

Damage control involves two approaches. These are cultural practices which reduce the attractiveness of the crop to blackbirds and bird harassment to move them out of susceptible crops. Research has shown that harassment, when combined with appropriate and practical cultural practices, can reduce bird damage considerably.



FIGURE 6



FIGURE 7



FIGURE 8

CULTURAL PRACTICES TO REDUCE BLACKBIRD DAMAGE

Cultural farming practices can either reduce the attractiveness of a crop to blackbirds or make it easier to harass the birds. Most of these practices must be implemented before or at planting time. Some are not practical for certain farming operations. Consideration should be given to cultural practices that could be worked into your management program if blackbirds have been troublesome in previous seasons.

Planting of Non-Susceptible Crops - Some areas adjacent to roosting areas, marshes and sloughs have traditionally been areas where blackbird damage occurs. These high risk areas probably should not be planted to sunflower, corn or millet. Some alternate crops that suffer minimal or no bird damage are soybeans, dry edible beans, sugarbeets, flax, potatoes and small grains.

Weed Control - Weed control in crops is essential in reducing bird damage. Weeds in the crop are often an attractive food source for blackbirds before the crop reaches a susceptible stage. Once blackbirds have developed feeding patterns in weedy fields, they will begin to include the maturing cultivated crops in their diet. Weeds also interfere with the use of Avitrol as an harassment tool.

Coordination of Planting Time With Neighbors - When practical, it is beneficial to coordinate your plantings of sunflower with neighbors so that the majority of the crops in an area are of uniform

maturity. Individual early or late fields suffer greater damage. Also, uniform maturity of crops in an area will allow cooperative harassment of the birds by neighbors.

Planting and Harvesting Practices -

Direction of Planting - Most sunflower heads nod to the east at maturity. In east-west fields, the heads tend to nod into adjacent plants and birds often use the leaves and heads of these plants as perches to feed into the head of the next plant. Hence, north-south planting is suggested when practical.

Lower Plant Populations - Low plant populations tend to increase head size. Larger head size tends to reduce bird damage.

Early Harvest - The sooner sunflower can be harvested, the less loss to birds. When the crop has reached physiological maturity, the use of a desiccant can often be effective in accelerating harvest. Observations indicate that birds seldom return to the field after a desiccant has been used.

Resistant Varieties - If corn is to be planted in high risk areas, use bird resistant varieties. The closed or tight husk varieties of corn appear to suffer less blackbird damage. Investigation of bird resistance in sunflower lines is being carried out but no "resistant" varieties are yet available.

Access Strips - Provide access strips into large fields by leaving open rows at 50-yard intervals. These access strips allow vehicles into fields to service stationary startling devices, allow easy access for direct harassment of the birds and provide Avitrol baiting lanes.

Alternate Feeding Areas - When possible, delay the plow-down of harvest stubble until after the harvest of susceptible crops. Crop stubble serves as alternate feeding areas for harassed birds. Some consideration may be given to lure crops planted on diverted acres in areas of high bird risk to keep birds out of susceptible crops. Undisturbed feeding areas could facilitate scaring of birds from the crop by providing an alternate food source.

HARASSMENT TO REDUCE BLACKBIRD DAMAGE

Both chemical and mechanical harassment techniques are available. These techniques are most successful if cultural control methods have been practiced. The following factors increase the effectiveness of a blackbird harassment program.

Timing - Harassment should begin at the first indication of blackbird damage. Do not allow blackbirds to stay in a field; once birds develop feeding patterns in a field, it is difficult to disturb them enough to break this pattern. Time of day is also important. Early morning harassment of flocks coming into feed is most effective. It is easier to keep birds out of the field than to drive them out later in the day. Disrupting daily feeding patterns is usually most effective in driving birds out of an area.

Persistence - Monitor susceptible fields and harass birds as long as they present a danger to the crop.

Diversification - Usually no single harassment technique is entirely satisfactory. Various techniques should be used in combination and applied in irregular manners to avoid having the birds becoming accustomed to their presence.

Coordination - If harassment activities are coordinated with those of neighbors', efficiency and effectiveness will be increased.

Mechanical Harassment

A multitude of products designed to harass birds are on the market. The more commonly available products in use in North Dakota are:

Automatic Exploders - Automatic exploders or bird scaring cannons automatically detonate a gas to produce an extremely loud explosion. These devices range from relatively simple mechanisms to deluxe models with photoelectric regulators and programmable firing sequences. Automatic exploders are most effective when supplemented with other frightening devices and should be relocated frequently during periods of intense bird activity. If exploders are operated in the same location day after day at the same firing interval, birds may become used to the noise. An automatic exploder placed in an empty metal grain wagon increases its mobility and resonated sound. One exploder can protect about 10-20 acres and should be placed on a stand above the crop.

Pyrotechnic Devices - These include crackershells, flares, whistlers (fired or pistol launched) and firecrackers. Most of these products are effective in startling birds and are commonly used by many North Dakota growers. Pyrotechnic devices, however, may threaten personal safety. They may also be a fire hazard during dry periods. The use of safety glasses and hearing protectors are strongly recommended since these devices sometime detonate prematurely.

Firearms - A .22 caliber rifle is the most effective and economical firearm to use to scare blackbirds. The .22 long rifle hollow point bullet produces a distant whistle as it passes through the air. Shoot-

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