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Understanding Waterfowl Crop Damage

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U.S. Fish and Wildlife Service
South Dakota Cooperative Fish and Wildlife Research Unit
South Dakota Cooperative Extension Service
Why would anyone not like wild ducks and geese? Even the people who don’t hunt or birdwatch usually regard wild waterfowl as true symbols of all that is wild and free and worth preserving in nature.

Yet to some others, waterfowl are “pests” or even downright economic liabilities. They are the farmers who watch while flocks of ducks and geese settle into their grain fields. The birds will eat some of that grain, and they will trample and foul up to three times as much more.

Waterfowl and other birds, especially mallards, pintails, geese, and cranes, probably have been feeding on farmers’ crops ever since cultivation began. In recent history, the problem became worse after 1900, died down a little during the 30s (when waterfowl numbers were low due to drought), became serious during the mid 40s (when farmers were draining more wetlands and cultivating more new land to meet war-time production needs and when hunting pressure was down), and is still a problem in some areas today.

In reality, crop damage by waterfowl occurs only in small areas and only at certain times of the year. Typically, few farmers suffer damage. But when and where it occurs, it can range from an inconvenience to an economic catastrophe.

The problem in the northern Great Plains is unique—the direct consumption, trampling, and fouling of swathed, ripening grain.

It may not be only the farmer’s problem. Surveys have shown that most are willing to deal with it without help. But a broader segment of society has an interest in waterfowl. When a crop damage problem arises in a locality, sportsmen, conservationists, school groups, and other citizens can offer invaluable assistance.

This fact sheet gives you a perspective on waterfowl crop damage—its causes, some loss estimates, and some solutions that have worked for others. For more specific information on these solutions, refer to Fact Sheet 837, “Preventing Waterfowl Crop Damage.”

Causes

If you gave a duck its choice of either going out and gleaning its own food or a “platter” of succulent grain already gathered and waiting for it, which do you think it would choose? Somewhere, back in time, a few birds discovered the conveniences of field feeding among windrows of cut grain. It was a good time of year to find such easy food; the appearance of the windrows coincided with pre-migration flocking when the birds were preparing for the long journey south.

Waterfowl are adaptable; the other birds of the flock followed to the field and quickly picked up the habit. Older members of the flocks “taught” it to the youngsters. The habit passed from generation to generation.

So long as the grain fields were small and scattered among the wetlands, no particular farmer
suffered exceptional damage. But when mechanized agriculture spread across the countryside, wetland numbers dwindled. Waterfowl concentrated into smaller and smaller areas that contained wetlands. Some farmers living near these areas found their fields being visited more frequently by more birds.

Nationwide, about 54% (116 million acres) of our original wetlands have been eliminated. Over 99% of Iowa’s natural wetlands have been drained. Around 60% of North Dakota’s and 35% of South Dakota’s wetland acreage is gone forever. Most of the drainage in those three states has been to increase crop production and to eliminate the nuisance of having to farm around wet spots.

Some state and federal waterfowl refuge managers have attempted to help nearby farmers by planting crops on the refuges. But usually these plantings cannot provide enough food for all migratory birds coming through an area.

We need a perspective on this problem that includes both national and individual interests. To achieve that we need to look more closely at the situation and come up with sensible solutions that will satisfy both farmer and wildlife.

**Losses**

Not all species of waterfowl cause crop damage. Mallards and pintails are the principal grain feeders; next are geese (snow and blue, white-fronted, and Canada) and sandhill cranes. On an individual bird basis, cranes are more destructive than ducks or geese.

Nor are all crops involved. Wheat, barley, oats, and millet are usually the most seriously affected. Size, hardness, texture, shape, ease of shelling, length of awn, and palatability all influence duck preference for particular grains.

The nature and extent of waterfowl damage depends on the location and topography of the area, the weather and season of the year, the crop and its maturity, the method of crop harvest, and the timing of harvest and waterfowl migration.

Although crop damage can occur during all seasons of the year, the greatest damage occurs on swathed grain during the late summer and early autumn harvest period.

In the Northern Great Plains of the U.S. and Canada, grain is cut and concentrated into long rows (swaths) in the stubble to dry and ripen uniformly before it is combined. If the weather is warm, the crop can be combined in 4 to 14 days. Prolonged wet, stormy weather extends harvest time, exposing the grain to the birds for longer periods and increasing bird damage, especially if migration has started.

Although waterfowl also feed on waste grain in harvested stubble and in lightly cultivated fields, the more abundant and more easily accessible grain in swathed fields is more attractive to them.

Damage to standing grain can also occur. With the increasing trend toward larger fields, there may be some cultivated low spots. Waterfowl usually land in these areas when they are re-flooded, begin feeding there, and eventually work out into other parts of the field.

Dwarf varieties of grain make heads more accessible and will add to the problem.

Grain is lost through actual feeding, but also from contamination by fecal material, and by trampling and compacting the swaths. Trampled swaths are more susceptible to freezing to the ground, harder to pick up with the combine, and may require a longer drying time. Because of fecal contamination, grain quality and market price may be reduced.

Waterfowl usually feed in fields in the very early morning and in the evening. Ducks will sometimes stay in the field overnight. If ducks are “given” grain, such as at a feeding station, they will spend only about 35 minutes a day feeding. But if they must glean their feed from harvested fields twice a day, they normally spend 8 hours a day feeding.

Once a field is “discovered”, a feeding pattern is established within days. Flight paths are traditional; ducks may return to the same field year after year.

Obviously, loss estimates are difficult to make. They depend on crop variety, moisture content of the grain, weather, and flock and field size. The generally accepted damage figure is two to three times more
grain lost to trampling and contamination than eaten.

A North Dakota study found that 1500 ducks ate 13 bushels of durum wheat in 2 days and trampled and fouled an additional 39 bushels for a total loss to the grower of 52 bushels.

Bushels of wheat and barley lost to waterfowl were about equal (1.26 million) in Alberta in a 4-year study. Oats loss was only 10% of either wheat or barley. Swathed hard wheat is less attractive to waterfowl than swathed barley or durum. This may be due to the difficulty of loosening hard wheat kernels from the heads.

One researcher tried to put the estimated $35 million annual depredation loss in Saskatchewan into perspective by noting that one hail storm caused $17 million damage and one year’s insect damage was estimated at $60 million.

That may be small consolation to an individual farmer with a year of substantial losses. How can he avoid those losses?

Solutions

How a farmer views crop losses to waterfowl depends as much on his attitude toward wildlife as it does on his economic status.

One farmer may tolerate substantial losses because he can afford it and because he values wildlife or likes the area where he lives. His neighbor may erect scarecrows and fire off noisemakers. Another may call a protest meeting and demand compensation from the government. Another may resort to illegal shooting and poisoning.

Some overstate their losses—often the best way of attracting the attention of authorities. Few farmers in a Canadian survey thought that control and compensation should be entirely the government’s responsibility. They were willing to solve their problems themselves, with advice and help during periods of unusually severe losses.

Preventive measures are discussed more fully in Fact Sheet 837, “Preventing Waterfowl Crop Damage.” In brief, there are two directions to go: changing the birds’ habits or changing cropping habits.

Scare methods include scarecrows and other visual devices, acetylene exploders, gunfire, and nearly all possible combinations imaginable. The combinations are most effective. Cans on stakes, farm machinery parked about, and poor likenesses of scarecrows seem crude, but they all work.

Scare devices should be in place before the ducks arrive. Timing is critical. If the ducks beat the device to the field, its effectiveness diminishes. Obviously, for best results, a feeding pattern should never be allowed to start.

Diverstionary tactics usually require the cooperation of farmers in the neighborhood and the enlistment of hunters’ groups and/or the state wildlife conservation agency. There are two techniques which may be used.

One is the raising or purchase of “lure crops” where ducks can feed unmolested and away from other commercial crops. The other is to establish “bait stations” which serve the same purpose. Either method works best if located where a feeding pattern has been established.

Generally, a lure crop is a cereal grain crop that has either been swathed or flooded and left for the birds to use. Lure crops have been the primary method used by the Canadian Wildlife Service to alleviate crop losses. Bait stations can divert sizable numbers of birds from neighboring fields.

Again, timing is the key to success of either program. There may be only 2 or 3 days after the first birds appear in the area when the bait can be spread to divert them from grain fields. Lure crops, of course require even more advanced planning.

Straight combining of standing grain obviously eliminates the swaths that tempt ducks to the field. However, before that can be employed, the grain must ripen evenly, which it doesn’t do often in the northern U.S. and southern Canada.

Other farming methods include planting earlier, selecting earlier maturing varieties, or switching to less susceptible crops (away from wheat and barley), and more use of grain dryers.

One of the best things is to leave waste grain in the field after harvest.
by delaying post-harvest plowing for a few weeks. When birds can feed in available stubble, the pressure may be reduced on nearby swathed fields.

If conditions permit, winter wheat is an excellent alternative to the spring sown cereals. The earlier harvest of winter wheat occurs before waterfowl begin their late summer flocking. Some of the newer varieties have excellent winter hardiness and, when used with no-till methods, allow winter wheat to be planted farther north in South Dakota and North Dakota. The previous year's stubble will help in holding a protective snow cover. Check with your Extension agent for more information.

The trap we could all fall into is in assuming that crop damage by waterfowl is the farmer's problem alone.

If it is serious enough to be a problem to the farmer, then it involves others as well. All of us, whether we admit it or not, have a stake in the future of waterfowl in the United States. The public benefits, but it is the farmer that feeds this resource.

When that feeding reaches economic thresholds for some individuals, it may be the time for local sportsmen, conservationists, and caring individuals to lend assistance. Understanding the problem is the first step.