



Managing Common Bird Challenges

on Dairy and Livestock Operations

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Certain types of birds – house (English) sparrows, barn swallows, starlings and pigeons (rock doves) – cause the most conflict between birds and people in U.S. livestock facilities. All of these birds have well-established populations, but only the barn swallow is native to the U.S. In addition, the Migratory Bird Treaty Act protects the barn swallow.

Although many people appreciate these swallows, some consider them as pests. Sparrows, swallows, starlings and pigeons can come into conflict with dairies because of their roosting, feeding and nesting activities. They generally are unwelcome because of the potential for economic damage from the livestock they consume, and human and herd health concerns.

Producers must choose a control technique carefully, and they often will need to be persistent for the techniques to be effective.

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This publication is intended to summarize the most common methods that producers can use and is not intended to be your only source of reference.

We have mentioned several products for discussion and example, but we do not endorse any one product or method.

Bird Impacts

Birds in large numbers can have a negative impact on the profitability of a dairy farm. A single starling, for example, can consume about 1.8 pounds of feed per month. One pound of that comes directly out of the feed bunk.

Birds often consume the more expensive components in the ration, such as protein pellets or grain, and seldom consume the roughage.

Another concern is the potential for disease transmission. Because birds can travel easily from farm to farm, they pose a threat to animal health and can compromise farm biosecurity.

Birds pose a threat to the dairy producer by carrying disease-causing microorganisms, contaminating product areas with excreta, feathers or external parasites such as mites. The most common microorganism spread by birds is Salmonella, which is found in up to 50 percent of house sparrows.

However, Cryptococcosis may be a disease of greater concern. *Campylobacter jejuni* also has been found in wild birds found on premises.

Producers are encouraged to work with the U.S. Department of Agriculture-Animal and Plant Health Inspection Service's Wildlife Services to develop a control plan. Overall, bird populations cause an annual loss of an estimated \$100 million to U.S. agriculture.

Laws and Regulations

Federal and state regulations protect most native migratory birds. A federal permit may be required to take, possess or transport migratory birds for depredation control purposes. However, no permit is required to scare or deter the presence of these birds, except federally listed threatened or endangered species and bald or golden eagles (50 CFR 21.11).

A standing depredation order exists for 14 species, including most black-birds, cowbirds, grackles, crows and magpies (50 CFR 21.43). No federal permit is required, and producers can take control measures, including lethal methods, when these species are "found committing or about to commit depredation," or when they "constitute a health hazard or structural property damage."

State permits may be necessary for lethal control on unprotected species such as feral pigeons, English sparrows or starlings. Federal law does not protect these three species.

All uses of pesticides must be registered by appropriate state and federal agencies before they can be sold, distributed or applied.

Permits are not required to harass most species prior to nesting. You do not need a permit to scare or harass migratory birds except for eagles. You may scare migratory birds except eagles year-round as long as it does not injure the bird or result in abandonment of an active nest.

You also do **not** need a permit to remove empty migratory bird nests prior to egg-laying or after chicks leave. However, destroying young birds, eggs or the nest during the active breeding season is illegal.

Note: While you can destroy the nests of pigeons, starlings and sparrows that is not legal for barn swallows. If in doubt about the legal status of the birds, contact USDA APHIS Wildlife Services.

No one method is best for controlling problem birds around dairies, and methods will vary by each situation. The techniques suggested below have worked for many people, and controlling the birds generally requires a combination of control techniques.

In most cases, you achieve better success if you start the control process

early, before the problem becomes overwhelming. Successful control operations take time. Be familiar with the biology and behavior of the pest species so you know what techniques are most likely to succeed.

Description of Birds

House sparrow (*Passer domesticus*)

While not a true sparrow, the house or English sparrow (**Figure 1**) has similar plumage as native sparrows. They are brown, chunky birds about 5¾ inches long, with a wingspan of about 10 inches. The male has a black throat and upper breast, white cheeks and chestnut-colored feathers on the upper wings.

The female and young are difficult to distinguish from some native sparrows, which are less robust. They have a plain, dingy-gray breast, a distinct, buffy eye stripe and a streaked back. A noisy monotone chirp often can identify the female.

The black bib and chestnut-colored feathers on the wings are the first signs of male plumage and appear on the young birds within weeks of leaving the nest. Identifying house sparrows properly is important because all other sparrows are protected.

House sparrows were introduced to this continent in 1850 in New York and have spread throughout the continent. House sparrows consume many insects such as beetles, aphids and flies during the spring and summer. Being generalists, they also feed on grain, weed seeds around barns and in fields, and garbage.

Nesting and fecal droppings are the most common complaints from dairy producers. Nests are built in cavities and are large masses of grass, straw, leaves and trash. Favorite nest sites

include rafters, holes in walls, and areas behind shutters and under eaves. They nest primarily from March to September and will have two or three broods per year, with four to five young per brood.

Barn swallow (*Hirundo rustica*)

Barn swallows (**Figure 2**) eat massive quantities of insects but often become pests by building their mud nests on man-made structures. Swallow nests deface and damage properties, and the birds' droppings under the nests cause health concerns. Both require expensive and time-consuming cleanup and repair.

Barn swallows have a steely blue back, wings and tail. The blue crown and face contrast with the cinnamon-colored forehead and throat. Breeding habitat includes open areas for foraging, structures or cliffs on which to build nests, and a source of mud such as the feed yard to provide the material for building nests.

Swallows are protected under federal law and, therefore, nests may not be removed once eggs are laid inside until the chicks have hatched. Prevention is legal but can be challenging. Swallows can build a nest in as little as 24 hours; people often will knock down a freshly created nest only to find another one in its place the next day.

Barn swallow pairs explore a number of potential nesting spots, flying up and hovering to investigate a location. Preferred sites include eaves, rafters, and cross beams of barns, sheds and stables, as well as the underside of bridges, wharfs and culverts. They also may use nests from previous years, but they avoid those infested heavily with mites or other parasites. The nest clutch size is three to seven eggs, with one to two broods in a year.

Starling (*Sturnus vulgaris*)

Starlings (**Figure 3**) are robin-sized birds weighing about 3.2 ounces and having a wingspan of about 15 inches. Adults are dark with light speckles on the feathers.

Bird gender is difficult to distinguish because the males and females are similar in color. The speckles may not show at a distance. The bill of both sexes is yellow during the reproductive cycle (January to June) and dark at other times. Juveniles are pale brown to gray.

Starlings generally are chunky and hump-backed in appearance, with a torpedo like shape. The tail is short and wings having a triangular shape when outstretched in flight. Starling flight is direct and swift, not rising and falling like the flight of many blackbirds.

Starlings were introduced to North America from Europe in 1890 and are a permanent resident throughout the country.

They eat various foods, including fruits and seeds of wild and cultivated varieties. Insects, especially white grubs in lawns or pastures, and other invertebrates total about half the diet overall and are especially important during the spring breeding season. Starlings also are notorious for eating livestock rations, and they will eat food found in garbage during the winter.

During the winter, large flocks of starlings mixed with brown-headed cowbirds and blackbirds commonly concentrate on livestock feedlots. They have been found to consume nearly 2 pounds of food each month, but only about 1 pound of that comes directly from the feed bunk; the rest is from the feed storage area. Starlings and blackbirds also obtain a lot of food from fields during open winters.

Pigeon (rock dove, *Columbia livia*)

Pigeons or rock doves (**Figure 4**) are familiar to most people, typically having a gray body with a whitish rump, two black bars on the secondary wing feathers, a broad black band on the tail and red feet. Body color can vary from gray to white, tan and black.

Interbreeding with domestic birds is commonplace and responsible for the numerous colors and shapes seen in a flock. The average weight is 13 ounces and average length is 11 inches, with a 24-inch wingspan. When pigeons take flight, their wing tips make a characteristic clicking sound. When they glide, their wings are raised at an angle.

Pigeons were introduced to North America in the 1600s and are found throughout North America. Pigeons breed at any time of the year, but peak times are spring and summer. Nesting sites are along coastal cliff faces, as well as the artificial cliff faces created by apartment buildings with accessible ledges or roof spaces. They are a particular problem when they nest in barn lofts, beams, attics or abandoned buildings.

Pigeons primarily eat grain and seed but will consume insects and garbage. They are monogamous and raise one or two young several times throughout the year. Pigeons usually do not live more than three or four years in the wild. This is true for most small wild birds.

Figures 1-4 appear on Page 4.

Figure 1. House sparrow male



Figure 2. Barn swallow



Figure 3. Starling



Figure 4. Rock dove



Population Control

To control large-scale bird problems, you need to understand population control as a management technique.

In good habitat, abundant animal species recover quickly from the loss of individuals. Animal populations respond with increased birth and survival rates, and fewer adult birds leaving the area. These are known as compensatory responses. Increased immigration may follow

removals, and some animals learn to avoid control efforts.

The most effective way to control problem birds is to understand their daily requirements and remove or exclude these needs. This kind of manipulation for purposes of increasing or decreasing numbers is an important part of wildlife management. Some basic principles provide a background for understanding how to control problem birds effectively and appropriately.

To survive, all wild animals need habitat, which consists of four essential elements: space, food, shelter and water.

Wildlife managers manipulate these elements to attract and maintain wildlife species or control problem species. Food, water and shelter are the elements that can be manipulated to manage birds in the yard or dissuade them from an area.

Controlling Damage

The key to managing pest birds successfully is to stop the bird problem before it becomes a major issue. Methods that improve success include starting early before birds form a strong attraction to the site, being persistent until the problem is solved and using a variety of techniques. Control techniques include trapping, bird proofing, habitat modification, frightening, repellants, shooting and toxicants.

Summary of Bird-control Mechanisms

	House Sparrow	Barn Swallow	Starling	Pigeon
Live trapping	Funnel and tipping door types	Not allowed for protected species	Placed where birds congregate. Live birds as a decoy.	Effectively controlled with traps near roosting, loafing or feeding sites
Aversion/ repellents – not usually effective	Eaton's 4 The Birds Transparent Bird Repellent Liquid	Ultrasonic repellants seldom are successful in deterring from enclosed areas. Taste aversion liquids.	Close openings greater than 1 inch with bird-proof netting, wire or plastic strips. Modify perch sites by changing the angle to prevent roosting.	Tanglefoot Bird Repellent, 4 the Birds Bird Repellent and Transparent Bird Gel Repellent
Exclusion and bird proofing	Plastic strips over doorways. Close or repair openings greater than ½ inch.	Bird netting works most of the time. Use of flagging near the nest sometimes deters nest building.	Porcupine wire is best suited for preventing roosting, but one option few producers are willing to use.	Slanted metal or wooden perch sites at a 45-degree angle; porcupine wire repellents
Habitat modification	Limit access by covering. Keep area clean, weed and seed free.	Gels do not help. The sticky surface even can be used to create a nest.	Reduce open water or even cover waste lagoons. Open water is a main attractant.	Eliminating feeding, watering, roosting and nesting sites is imperative.
Shooting	Air guns or shotguns with small shot. Baiting may help.	Not allowed	Shooting reinforces bird-scaring efforts.	Where shooting is legal, it is very effective. Baiting may help.
Toxicants	Avitrol Mixed Grains	None registered	Avitrol, Starlicide Complete and DRC-1339 in some states. Pre-baiting key to good control.	Avitrol and DRC-1339

Bird-control Mechanisms

Live Trapping

Trapping and removing can be an effective method for most pests. This method includes funnel traps for sparrows, decoy traps for starlings and low-profile traps about 10 inches high, 24 inches wide and 24 inches long for pigeons.

However, as stated earlier, the barn swallow is protected in the U.S. under the Federal Migratory Bird Treaty Act of 1918 (MBTA), so be careful about your choices. Once eggs are laid, the nest may not be disturbed until the chicks have left.

In the case of sparrows, traps with large entrances allow birds to enter easily, but the birds also can escape if not monitored closely. Tipping-door style traps are effective for small populations. To be successful, the traps should be placed where birds like to congregate and should be maintained regularly.

Using a few live birds as a decoy in the trap will enable catching larger numbers in a day. Keep decoy birds as comfortable as possible with roosting perches, shade, fresh water and feed. Their feeding behavior and calls will attract others that are nearby.

Larger-size traps are usually better when large numbers of birds are present. Nontarget species of birds should be released unharmed. Large numbers of birds can be euthanized by herding them into a barrel and using CO² gas.

■ Traps designed for sparrows are listed in

http://icwdm.org/handbook/birds/bir_e101.pdf.

■ Decoy trap plans for starling and pigeons are available at

<http://icwdm.org/handbook/birds/EuropeanStarlings.asp>

<http://icwdm.org/handbook/birds/Pigeons/Pigeons.pdf>.

Aversion

Roosting situations almost always can be resolved with frightening techniques. Start when a problem begins to develop. Do not wait until bird numbers are excessive.

Dedicate enough staff time to conduct the frightening program properly. Vary the location and intensity of scare devices, and notify the local police and neighbors when necessary. Examples of scaring techniques include distress or alarm calls, noisemakers, exploders, propane cannons, bright objects, laser beams, eye spot balloons, hawk kites and Mylar tape.

Pyrotechnics deliver a loud noise and concussion, along with a visual cue, directly into the flock of birds. The pyrotechnics are relatively safe to use but can be a fire hazard if used inappropriately. Persistence and the use of multiple techniques for short periods just as the birds begin roosting in the building are keys.

No species of bird has shown sensitivity to ultrasonic frequencies (greater than 20 kilohertz). Note that sonic (recorded predator calls and distress cries) have little effect on barn swallows; they feel secure because they build their nests in man-made structures. Ultrasonic devices, unlike sonic devices, rely on irritating frequencies rather than frightening noises. Frightening devices seldom scare cattle.

Repellents

The use of sticky products (polybutenes) on ledges or beams to discourage roosting is effective for almost a year when applied inside buildings. If used outside, dust and other contaminants reduce the tackiness of the product. One such product is Eaton's 4 the Birds Bird Repellent Liquid. It is effective when applied full strength. Test on a small, inconspicuous area first to make certain it does not discolor paint.

Repellents also include the active ingredient methyl anthranilate (a nonlethal human food additive found in grape flavoring), which is used as coatings on roosting areas. It works by irritating the trigeminal nerves (the three main nerves in the bird's head), which are associated with taste, odor and sight. These nerves make the birds very sensitive to what they eat, smell and see.

Methyl anthranilate reportedly can be effective in enclosed buildings with high concentrations (8 percent by volume) used in aerosol form. But marginal results have been reported when used as a coating on buildings. If applied at high concentrations, these products might be effective for a short period time, but results published in peer-reviewed literature have shown these products to be problematic, with short term efficacy at best.

It can be applied as a spray or area fog. Product names include Bird Shield Repellent and Goose Chase Fruit Shield. Avitrol (4-aminopyridine) is classified as a chemical frightening agent, but it more commonly is used as a toxicant.

Exclusion and Bird-proofing Methods

Close all openings greater than ½ inch for sparrows or 1 inch for larger birds. Repair broken windows and screen roof vents, and exclude birds from roosting in the rafters with metal or plastic bird netting. This seems an impossible task, but it is a permanent solution.

Hang plastic strips over doorways. The strips allow people and large animals to pass through easily, but birds see them as a solid wall. If curtains are closed and plastic strips placed over the doors, extra ventilation fans may be required. Roof vents must be screened in such a manner that frost does not build up and block the vent. Some people are experimenting with using large fans set to push large volumes of air downward in place of a structural door.

For the swallow, bird netting may be the only effective solution. Install bird netting wherever you want to keep pest birds out of an area and away from products, crops and other valuable property. Many facilities have semi enclosed spaces and large open areas that invite pest bird roosting, perching and nesting. Bird netting is ideal for excluding them. If the area is dimly lit, or if the birds visit and build nests mostly at night, light deterrent mechanisms can make rafters and high spaces unpleasant for nesting.

For most other birds, modify potential perch sites by changing the angle of the surface they perch on from a flat surface to a 45-degree angle. Fitting roost sites with slanted metal or wooden boards can prevent roosting.

Porcupine wires (**Figure 5**) also are available for preventing roosting

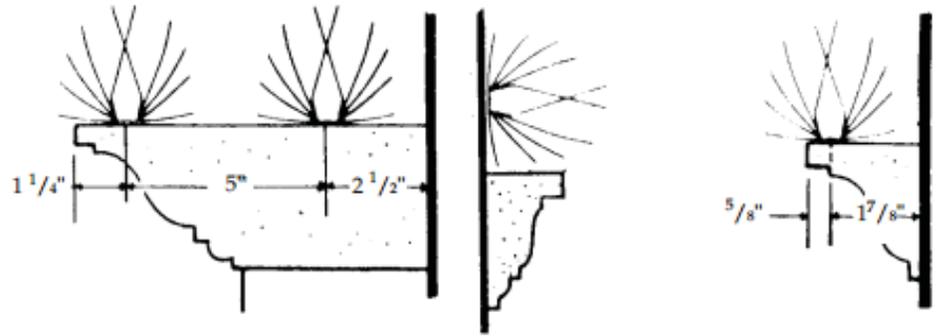


Figure 5. Porcupine wires are a relatively permanent method of preventing birds from roosting on structures.

(Prevention and Control of Wildlife Damage 1994)

on purlins or beams. These products are sharp wires or spikes that extend outward at all angles and have a solid base that can be fastened permanently to the perching surface. Birds cannot fit between the spaces to perch. This likely will be the best long-term solution, but few producers are willing to use it. The design of new buildings should include ways to reduce or eliminate bird access and roosting sites.

Habitat Modification

The elimination of feeding, watering, roosting and nesting sites is important in long-term control. Limit access to feed and water by covering and using exclusion methods where animals eat. Make sure water levels are low enough so birds cannot perch on the edge of the structure to drink. Keep the area outside the structures clean, and weed and seed free.

In the case of the swallow, fully remove old nests and clean all droppings and feathers only when nests are vacant. Use a cleaning solution and consider adding a coat of fresh paint over surfaces to be treated. Because these birds are habitual, removing old nests from unwanted areas is very important so they can't be reused.

Shooting

Shooting with air rifles or shotguns with small shot sizes can be used with some success where permitted. Shooting helps reinforce bird-scaring efforts and can be a very effective population control for smaller numbers of birds. To improve the mortality rate per shot, bait sparrows into a long, narrow row.

Birds quickly become wary of a human holding anything resembling a firearm, so we recommend shooting from a blind whenever possible. Safety and misuse can be a concern, however. Notify authorities and neighbors if necessary.

Toxicants

Avitrol Mixed Grains and Corn Chops are labeled for sparrow control. Avitrol, Starlicide Complete and DRC-1339 are products approved to control starlings, and Avitrol and DRC-1339 are approved for pigeons in many states. But beware that every state has different labels, and these products may not be labelled in your state. Only USDA Wildlife Services personnel are permitted to use DRC-1339.

A pre-bait process should be used for all toxicants. This process simply makes attractive bait available to birds for several days to establish a feeding pattern. Limit nontarget bird and mammal consumption of pre-bait by placing it on flat rooftops and use larger particle sizes of bait.

Toxicants work best when applied in cold weather with snow cover that limits access to other food sources. A suitable site may have to be prepared with a tractor and blade to remove snow. Select a site that is protected from the wind and has full sun to get the best results.

For at least three days or until good pre-bait acceptance occurs, the untreated pre-bait should be placed in a carefully selected location where animals can't consume it. After acceptance of the pre-bait is established and no nontarget birds are present, add the toxicant. Make sure your pre-bait is on a feed substance that is very similar in texture, size and makeup as the formulation of your toxicant.

Using a liquid fat on the pre-bait and toxicant can increase consumption of the bait and, thus, increase success. Depending on the toxicant used, treated birds usually will die within 24 to 36 hours.

Toxicants must **not** be applied in such a manner that livestock have access to the bait.

Dead birds can be disposed of in the trash or manure pit, buried or incinerated if burning complies with local regulations. Make sure the neighbors and appropriate local authorities are notified because many of the birds will die off-site. The State Department of Agriculture usually regulates the use of toxicants. Specific questions regarding labeling, registration status and pesticide applicator licensing should be directed to the department.

When using toxicants:

1. Survey the site to determine what species of birds are using that area. The toxicant may not be approved for use on all species.
2. Pre-bait the site at locations indicated by your survey with a food similar to the Avitrol bait that will be used. For instance, pre-bait with mixed small grains if you plan to bait with Avitrol Mixed Grains.
3. Pre-bait in wooden bait trays or rubber pans that are 2 feet square or larger.
4. Pre-bait until birds are eating regularly.
5. Make sure enough pre-bait is applied so all birds will have access to it.
6. Once the pre-bait is accepted well, use a proper ratio of treated grain to untreated grain. The higher the percentage of treated grain in the blend, the higher the mortality, and usually the quicker the results.
7. Use treated grain similar to the grain used for pre-baiting. Blend the treated bait following label instructions and precautions, and place it in the bait locations used for pre-baiting. Do not allow a time lapse between pre-baiting and baiting.
8. Pick up dead and dying birds promptly and dispose of them properly.
9. Pre-bait and bait first thing in the morning because that is when birds are coming from the roosts.

Birds that consume the treated bait will die, and secondary poisoning is not usually a problem.

Avitrol

Avitrol (4-aminopyridine) is a restricted-use pesticide used as a frightening agent for starlings, blackbirds/cowbirds and grackles. It is available as a prepared grain bait mixture or as a powder. It is formulated in such a way that ratios of treated bait to untreated bait are no greater than 1-to-9.

Because only a small portion of the bait is treated, only a few birds will die. The intent of this product is not to kill a large number of birds, but to act as a frightening agent. The affected birds act in an erratic manor and emit distress calls, which frighten other birds from the area. Birds that consume the treated bait will die.

Avitrol is broken down readily, or metabolized, into compounds that are excreted in urine of target species; therefore, little of the chemical remains in birds killed with Avitrol to present a hazard to humans, pets or scavengers.

DRC-1339

USDA Wildlife Services has a new program in some states to utilize bait treated with the active ingredient 3-chloro p-toluidine hydrochloride (0.1 percent), commonly known as Starlicide Technical. The product is lethal to many species of birds such as crows, pigeons, blackbirds and starlings; however, English sparrows and mammals generally are resistant to the toxic effects.

The product usually will kill birds within 12 to 36 hours; the birds often die on the roost. The mode of action is irreversible kidney and heart damage. The toxicant is metabolized and excreted from all animals quickly (90 percent is lost in two hours), thus eliminating the potential for secondary poisoning.

This toxicant is presented in a technical form, which means it can be mixed with different baits and at different strengths. The advantage is that the technical formula can be mixed with feed that the birds are accustomed to eating, thus bait acceptance is improved.

What is important to know is that this toxicant is registered for use only by USDA Wildlife Services personnel trained in the use of bird control or people under their direct on-site supervision. It also is available only in those situations where the problem cannot be solved with the use of the commercially available product Starlicide Complete.

USDA Wildlife Services is a federal agency that requires reimbursement for its bird-control program costs. Costs will vary according to mileage, time, materials and the number of birds present on the farm. Neighboring farmers may request this service at the same time, thus cutting down on mileage and time expenses.

This program may need to be repeated because it is not 100 percent effective with species that migrate. The product degrades rapidly when exposed to sunlight or heat, but generally if the bait is consumed, the birds will perish. Despite limited risk, to reduce any potential hazard associated with poisoned birds, we recommend you burn or bury dead birds whenever possible.

Starlicide

Starlicide Complete is a restricted-use pesticide. The toxicant is pre-packaged on bait. The product can be ordered only through a firm with a pesticide dealer's license. Call the toll-free number for dealers near you.

The active ingredient is the same as DRC 1339 (0.1 percent 3-chloro p-toluidine hydrochloride). This product is registered for the control of starlings, grackles, cowbirds and blackbirds around livestock and poultry operations.

Fresh product must be used for it to be effective. Poisoned birds usually will die within 24 to 36 hours, often at their roosting site, which may not be on the farm. Although the dead birds are not dangerous to predators, they should be burned or buried to prevent the spread of diseases. Follow the same pre-baiting techniques as mentioned above for Avitrol.

Use Toxicants With Caution

Be extremely careful when using toxicants because they may be poisonous to dogs and cats.

If you are using the products mentioned, this publication is not a substitute for reading and following the pesticide label directions found on the product container.

Pesticide laws and regulations at the federal and state level are revised frequently. Please note the pesticide labeling discussed in this publication was current at the time of printing, but because registrations and labeling are subject to change, the author is not responsible for label changes.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, using any pesticides in a manner inconsistent with the label is illegal.

Therefore, reading, understanding and following all label directions and precautions is of the utmost importance for users of these products.

Miscellaneous

Feed Particle Size Modification

Experiments at Kansas State University showed that reducing bird consumption in the feed bunks is possible by feeding an extruded pellet about 1½ inches in diameter and 3 inches in length (Depenbusch et al, 2011).

Feed Delivery Timing

Birds attracted to feed storage and preparation areas may appear to be more of a nuisance than a threat to financial losses or cattle (and human) health. However, a study conducted by Bessler et al. (1968) demonstrated that starlings alone can consume up to 1½ pounds of a diet or ingredient per bird during normal monthly occupancy of 80 percent of the days in a winter month.

With an estimated 250,000 starlings in a 40-square-mile area of 250 feedlots in Colorado, the economic losses represented an estimated 586 tons (as-is). At \$140/ton, that is a loss of \$82,072 in just December through February (West et al., 1968).

In dealing with feed predation by most birds such as starlings, scheduling feed deliveries at a time when birds return to their roosting area at dusk (Besser et al., 1968) is a strategy to reduce predation.

Greenquist et al. (2004) observed that feeding 30 minutes before dusk instead of in the morning to avoid bird feed predation had no impact on gain, but it led to a reduction of 3.36 pounds of dry-matter intake per head (DMI/hd) daily. Although in this study, DMI reduction also could have been attributed to greater feed efficiency resulting from less heat load in the summer and advantageous use

of heat load in the winter, evidence from another study supports the possibility that feeding right before dusk prevents feed predation by birds.

Delivering a finishing ration calculated to feed 612 cattle into a bunk in an empty pen during a 47-day period resulted in predation losses of 5,130 pounds of DM (Depenbusch et al., 2011). When expressing this loss as pounds of DM/hd daily, a total of 0.18 pound of DM/hd was lost to bird predation daily. At typical prices, this value represents a loss of 0.03/head/day, or \$1.41/head during the experimental feeding period.

Antifertility Agents

OvoControl P is specially formulated bait that interferes with the hatchability of eggs from pigeons. OvoControl contains nicarbazin as the active ingredient. Registered by the Environmental Protection Agency, OvoControl is approved for use in pigeons.

Bait is offered in the early morning on urban rooftops in the areas where pigeons are nesting or feeding. For more permanent feeding installations, automated feeders can be used instead of daily feeding.

All birds are considered sensitive to the product, so you need to have a plan in place that assures only pigeons have access to the product. It is nontoxic to mammals and other nontargeted species.

Summary

The purpose of bird damage control programs is to prevent and minimize economic loss and reduce the local bird population to tolerable levels. The control program must be made a farm priority, not an afterthought, to be successful.

Because starlings slowly migrate through an area, population-reduction efforts may not be successful in the long term. House sparrows and pigeons are more closely tied to a smaller home range and do not move far annually. Therefore, understanding bird biology and movement patterns, and implementing a multitude of control techniques will improve success.

Do not wait until bird population levels are high before beginning control. Try nonlethal techniques first, but do not be afraid to reduce populations when necessary.

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Sources of Supply

This is a limited list of vendors. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned. Most vendors offer supplies for multiple control techniques.

Frightening Devices

Margo Supplies Ltd.

P.O. Box 5400
High River, Alberta Canada T1V 1M5
(403) 652-1932

www.margosupplies.com

Reed-Joseph International

800 Main Street
P.O. Box 894
Greenville, MS 38702
(800) 647-5554

www.reedjoseph.com

Sutton Ag Enterprises

746 Vertin Ave.
Salinas, CA 93901
(831) 422-9693

www.suttonag.com

Bird Exclusion

Nixalite of America

1025 16th Ave.
P.O. Box 727
East Moline, IL 61244
(888) 624-1189

www.nixalite.com

Bird Barrier America Inc.

20925 Chico St.
Carson, CA 90746
(800) 503-5444

www.birdbarrier.com

Nasco - Modesto

P.O. Box 101
Salida, CA 95368
(800) 558-9595

<http://enasco.com>

Wildlife Control Technology

2501 N. Sunnyside
Fresno, CA 93727
(800) 235-0262

www.wildlife-control.com

Ecopic Corporation

725 South Adams, Suite 270
Birmingham, MI 48009
(248) 647-0505

www.ecopic.com

Cat Claw

Shaw Steeple Jacks Inc.
2710 Bedford St.
Johnstown, PA 15904
(800) 897-8008

www.churchbuilders.com

Repellents

Bird Shield Repellent Corporation

P.O. Box 141556
Spokane, WA 99214
(509) 924-9511 or (866) 272-2473

www.birdshield.com

J.T. Eaton & Co. Inc.

1393 E. Highland Road
Twinsburg, OH 44087
(800) 321-3421

www.jteaton.com

The Tanglefoot Co.

314 Straight Ave. S.W.
Grand Rapids, MI 49504
(616) 459-4139

www.tanglefoot.com

Avitrol Corporation

7644 E. 46th St.
Tulsa, OK 74103
(918) 582-3359

www.Avitrol.com

Toxicants

Starlicide Complete

Earth City Resources
P.O. Box 162059
Fort Worth, TX 76161
(800) 447-5463

www.ecrproducts.com

Ovocontrol

Innolytics LLC
P.O. Box 675935
14735 Las Quintas, Suite 121
Rancho Santa Fe, CA 92067
(858) 759-8012

<http://ovocontrol.com>



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