

## Got Starlings? Bird Control Options for Dairies

Charles D. Lee  
Extension Specialist, Wildlife  
Department of Animal Sciences and Industry  
131 Call Hall, Kansas State University, Manhattan, KS 66506  
Tel 785-532-5734; fax 785-532-5681  
[clee@ksu.edu](mailto:clee@ksu.edu)

### Introduction

Wildlife can have either positive or negative values, depending on different human perspectives and circumstances. However, even most avid bird watchers have little appreciation of the exotic and invasive starling. Starlings and blackbirds can come into conflict with dairies as a consequence of their roosting, feeding, and nesting activities. They are generally unwelcome because of the potential for economic damage from direct feed consumption and human and/or herd health concerns. Control techniques require careful consideration and persistence in order to be effective.

Birds can have a negative impact on the profitability of a dairy farm. Starlings consume about 1.8 pounds of feed per month. One pound of that comes directly out of the feed bunk. They 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. Since birds can travel easily from farm to farm, they pose a threat to farm biosecurity. According to a recent study, birds can carry diseases such as Salmonella, but they are not considered important reservoirs of Salmonella organisms on the dairy farm. Perhaps a disease of more importance would be Cryptococcosis. This is a fungal disease spread by pigeons and starlings to livestock that may result in chronic, usually fatal, meningitis. Other avian zoonotic diseases are not well linked to reduction in animal performance or other economic loss. It is estimated that overall bird populations cause an annual loss of \$100 million to U.S. agriculture.

### Laws and Regulations

Federal and state regulations protect most blackbirds and other migratory birds. A federal permit is required to take, possess or transport migratory birds for depredation control purposes. But no permit is required to scare or herd these birds, except federally listed threatened or endangered species, such as bald or golden eagles (50 CFR 21.4). A standing depredation order exists for blackbirds, cowbirds, grackles, crows and magpies. No federal permit is required and control measures, including lethal methods, may be taken when these species are “found committing or about to commit depredation,” or when they “constitute a health hazard or other nuisance.” Contact your state wildlife agency to determine if state permits are necessary for lethal control on unprotected species such as feral pigeons, English sparrows or starlings. These three species are not protected by state or federal law. All uses of pesticides must be registered by appropriate state and/or federal agencies before they can be sold, distributed, or applied.

### Controlling Damage

The key to successfully managing pest bird problems 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.

**Live trapping:** Trapping and removing starlings can be successful at locations where small static populations are causing damage. Decoy traps plans are available at [http://wildlifedamage.unl.edu/handbook/handbook/allPDF/bir\\_e109.pdf](http://wildlifedamage.unl.edu/handbook/handbook/allPDF/bir_e109.pdf). To be successful, the trap should be placed where starlings like to congregate and should be maintained regularly. Use of a few live birds as a decoy in the trap will enable one to catch 100 or more starlings a day, which then can be euthanized. Keep decoy birds as comfortable as possible with roosting perches, shade, fresh water and feed. Their feeding behavior and calls will attract other starlings that are nearby. Larger size traps are usually better when large numbers of birds are present. Non-target species of birds should be released unharmed. Large numbers of birds can be euthanized by herding them into a barrel and using CO<sub>2</sub> gas.

**Exclusion and bird-proofing:** Where starlings are a problem inside of buildings, close all openings greater than 1" with bird-proof netting, welded wire or plastic strips. Roof vents can be screened in such a manner that frost does not build up and block the vent. If curtains are closed and plastic strips placed over the doors extra ventilation fans may be required. Potential perch sites should be modified or protected by changing the angle to prevent roosting. Porcupine wires are also available for preventing roosting on purlins or beams. This is the best long-term solution but one few producers are willing to undertake. Design of new buildings should include consideration of reducing or eliminating bird access and roosting sites.

**Habitat Modification:** Limit access to feed and water by covering and using exclusion methods where animals eat. Make sure water levels in waterers are low enough so birds cannot perch on the edge to drink. Clean up spilled grain. Reduce areas of open water or even cover waste lagoons with netting if birds are a persistent problem. Often, open water is the main attractant at dairies or feedlots.

**Frightening:** It is rare when a roosting situation cannot 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 properly conduct the frightening program. Frightening the birds must be the priority. Vary the location, intensity and types of scare devices, notifying the local police and neighbors if necessary. Examples include distress or alarm calls, noise makers, 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 applied for short periods of time just as the birds begin roosting in the building are keys. Cattle seldom are frightened by application of the frightening devices. Avitrol is also a frightening agent but will be covered in more detail later.

**Shooting:** Shotguns or air rifles can be selectively used for the target species. Shooting helps reinforce bird scaring and harassment efforts. Shooting can be a very effective population control for smaller numbers of birds. Safety and misuse can be a concern. Notify authorities and neighbors if necessary.

**Repellants:** Includes the use of sticky products on ledges or beams, to discourage roosting. Several products that include the active ingredient methyl anthranilate (a nonlethal human food additive found in grape flavoring) are now being used as coatings on roosting areas or as aerosol sprays in areas that are not too porous. Seldom do I see adequate control with only the use of repellents.

**Toxicants:** Avitrol, Starlicide Complete, and DRC-1339 are products currently approved for use in some states. Pre-baiting in the areas starlings like to congregate is the key to getting good control. A pre-bait process should be used for all toxicants. This process simply makes an attractive bait available to starlings for several days in order to establish a feeding pattern. Toxicants work best when applied in cold weather when snow cover 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 that is in full sun to get the best results. For at least 3 days or until good pre-bait acceptance occurs, the untreated pre-bait is placed in a carefully selected place, safe from consumption by other animals. After acceptance of the pre-bait is established, and no non-target birds are present, the toxicant is added. 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. Use of 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 will usually die within 24-36 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, manure pit, buried, or incinerated if it complies with local regulations. Make sure the neighbors and appropriate local authorities are notified because many of the birds will die off-site. The use of toxicants is usually regulated by the appropriate State Department of Agriculture. Specific questions regarding labeling, registration status, and pesticide applicator licensing should be directed to such Department.

**Avitrol:** Avitrol (4-aminopyridine) is a restricted use pesticide used as a frightening agent for starlings, blackbirds, grackles and cowbirds. It is available as a prepared grain bait mixture or as a powder. It is formulated in such a way that ratios of treated baits to untreated baits are no greater than 1:9. Since 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 readily broken down or metabolized into compounds that are excreted in urine in the 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 have a new program in some states to utilize bait treated with the active ingredient (0.1% 3-chloro p-toluidine hydrochloride) or commonly known as Starlicide Technical. The product is lethal to many species of birds such as crows, pigeons, blackbirds and starlings but English sparrows and mammals are generally resistant to the toxic effects. The product will usually kill birds within 12-36 hours and they 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% is lost in 2 hours), thus eliminating the potential for secondary poisoning. This toxicant is presented in a technical form, and can be mixed with different baits, at different strengths. The advantage is that the technical formula can be mixed on feed that the birds are accustomed to feeding on thus bait acceptance is improved. It is important to know that this toxicant is registered for use only by USDA-WS personnel trained in the use of bird control or persons under their direct on-site supervision. It is also 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 program costs. Cost will vary according to mileage, time, materials, and the number of birds present on the farm. It is possible for neighboring farmers to request service at the same time, thus cutting down on mileage and time expenses. This program may need to be repeated in future years

because is not 100% effective. The product degrades rapidly when exposed to sunlight or heat but generally if the bait is being consumed the birds are dying. To reduce any potential hazard, poisoned birds should be burned or buried whenever possible.

**Starlicide Complete:** Starlicide Complete is a restricted use pesticide. The toxicant is pre-packaged on bait. The product can only be ordered 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% 3-chloro p-toluidine hydrochloride). This product is registered for the control of starlings and blackbirds around livestock and poultry operations. Fresh product must be used for it to be effective. Poisoned birds will usually die within 24 to 36 hours, often at their roosting site which is potentially not on the farm. Although the dead birds are not dangerous to predators, they should be burned or buried to prevent spread of diseases they may carry, and for good sanitation.

### **Summary**

The purpose of a bird damage control program is to prevent and minimize economic loss and reduce bird population levels to tolerable levels. The control program must be made a farm priority, and not an afterthought, if it is to succeed. Since starlings slowly migrate through an area, population reduction efforts may not be successful in the long term. Understanding bird biology and movement patterns, and implementation of a multitude of control techniques will improve success.

If this information is not adequate to resolve bird control problems, contact your state extension wildlife specialist or the USDA-APHIS-WS state director near you for additional information.

**Some Sources of Supply:** This is not an exhaustive list but are vendors I have ordered product from in the past. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

### **Frightening devices**

Margo Supplies, Ltd.  
www.margosupplies  
P.O. Box 5400  
High River, Alberta Canada  
T1V 1M5  
403-652-1932 Fax: 403-652-3511

Reed-Joseph International  
www.reedjoseph  
800 Main Street P.O. Box 894  
Greenville, MS 38702  
800-647-5554

Sutton Ag Enterprises  
www.suttonag.com  
746 Vertin Avenue  
Salinas, CA 93901  
831-422-9693 Fax: 800-482-4240

**Bird exclusion**

Nixalite of America Inc.,  
www.nixalite.com  
1025 16th Avenue  
East Moline, IL 61244  
888-624-1189 or 309-755-8771 Fax: 888-624-1196 / 309-755-0077

Bird Barrier America, Inc.  
www.birdbarrier.com  
20925 Chico Street  
Carson, CA 90746  
800-503-5444  
310-527-8000 Fax: 310-527-8005

Professional Pest Control Products  
PestProducts.com  
6920 Pine Forest Road  
Pensacola, FL 32526  
800-434-4555

**Bird distress tapes and CDs**

Signal Education Aids  
Bill Pierson  
2314 Broadway  
Denver, CO 80205-2115  
303-751-4192 Fax: 303-751-4192

Extension Wildlife  
Kansas State University  
Department of Animal Science and Industries  
Room 131 Call Hall  
Manhattan, KS 66506  
785-532-5734

**Repellents**

Bird Shield Repellent Corporation  
www.birdshield.com  
P.O. Box 141556  
Spokane, WA 99214  
509-924-9511, 866-272-2473 (toll free) Fax: 509-926-2046

J. T. Eaton & Co., Inc.  
www.jteaton.com  
1393 E Highland Road  
Twinsburg, OH 44087  
800-321-3421 Fax: 330-425-8353

The Tanglefoot Company  
www.tanglefoot.com  
314 Straight Ave.  
SWGrand Rapids, MI 49504  
616-459-4139

Avitrol Corporation  
www.Avitrol.com  
7644 E. 46th St.  
Tulsa, OK 74103  
918-582-3359

### **Toxicants**

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