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BIRD PROBLEMS ON THE BOWLING GREEN STATE UNIVERSITY CAMPUS

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We would like to share with you some of the bird problems that have been encountered here on the BGSU campus. Pigeons have been a chronic problem over the years. Early attempts were made to reduce numbers with toxic perches, by trapping, and with strychnine-treated whole corn. Periodically, other species, particularly starlings, blackbirds, and sparrows, also have been a nuisance. Control efforts have been sporadic and localized over the years, due in large part to lack of funding for pest-bird-control on campus.

However, a two-year field trial with the chemosterilant, Ornitrol, was undertaken in 1982-83 to determine if sterilization is a feasible method of reducing pigeon numbers on campus. Lethal control (e.g., strychnine) and repellents (e.g., Avitrol) were deemed undesirable because of possible adverse relations with students and the city of Bowling Green. The pigeon population in 1982-83 consisted of only about 50-110 birds, but numbers have been higher in earlier years. About 100 pigeons also roost and nest in a grain elevator next to campus; they are also numerous in the city itself.

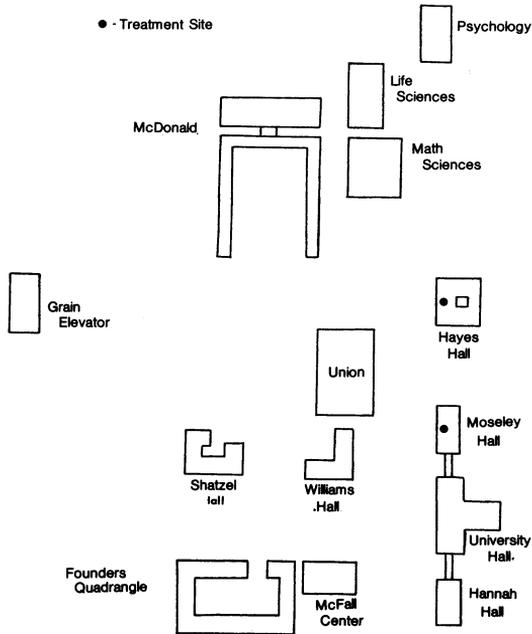
Ten years ago there was a major pigeon problem at the football stadium. About 70 pigeons were roosting and nesting on ledges and supports under the stadium. Refreshment stands were white-washed by pigeon droppings, creating a serious aesthetic and sanitation problem. The Health Department ordered the University to get rid of the pigeons, or else close the refreshment stands. The University hired a PCO to solve the problem. There was an intensive program, which included strychnine baiting, saturation installation of 140 Rid-A-Bird perches, and individual attention to some birds. These efforts solved the problem, and over the past 10 years no pigeons have been seen at the stadium.

There also have been, and still are, pigeons roosting, nesting, and loafing on several buildings in the central campus. Hayes Hall has been the focal point for one group of pigeons. The birds roost and nest throughout the year in an old bell tower on the roof, inside metal air vents on the rooftop, and on window ledges in the inner courtyard. Droppings have accumulated to a depth of over six inches inside the tower; and droppings, feathers, and dead birds foul the courtyard. The pigeon manure in the bell tower supports a population of house mice, and periodically they disperse down through the building and require control. In 1975, over 300 pigeons were trapped and removed from Hayes Hall, but only scattered attempts at trappings have been made since then. Pigeons, and also starlings, could be excluded from the tower by proper maintenance of a broken door and torn screening. However, the accessibility of nests in the tower has allowed us to monitor nesting productivity during the Ornitrol trials. (See Fig. 1.)

Recently, electromagnetic transducers have been tested to determine if they are effective in repelling pigeons, starlings, and house sparrows. Each transducer reportedly emits a randomly-sequenced magnetic pulse for about a 30-foot radius. The unit (Invisible Cat) is currently being marketed for control of rats and mice, but this was the first field test on pest birds. Twelve transducers were located along the periphery of the roof on Hayes Hall, and four were placed inside the bell tower. In the 3-4 weeks they have been in place, they have had no effect whatsoever in repelling pigeons or starlings

from the building. Eight transducers also were placed in ivy vines, where house sparrows were roosting, along the walkway between Moseley and University Halls. The magnetic field also has had no effect in repelling sparrows. According to the manufacturer, the units probably were defective.

Figure 1. Map of the Bowling Green Central Campus.



Moseley Hall, along with University Hall next door, has been a second focal point for pigeons on campus. Most of the pigeons congregate on these older buildings, where columns and wide ledges provide protected and secluded nesting and roosting sites. This type of architecture seems to be ideal for pigeons, and we rarely find them nesting on other, exposed ledges. Pigeons have been roosting and nesting on these ledges for many years; the ledges are layered with manure, and droppings foul the sidewalk and steps below the ledges. Sticky repellents have been tried on the ledges, but are effective only for 2-3 weeks. The birds roost at the top of the columns, above the ledges; and their droppings soon cover and mask the repellent. Some Rid-A-Bird perches were installed on the upper ledges of University Hall several years ago. The population of pigeons was reduced for some time, but the perches are now dry and are not being serviced.

The Mathematical Sciences building is a newer building but also had a pigeon problem in past years. It was built to be eye-pleasing, with wide upper ledges and decorative vertical concrete slabs. The pigeons discovered these ledges were ideal for nesting and roosting, and the ledges soon were fouled with manure. Use of sticky repellent and toxic perches helped this situation. The perches have not been serviced over the past two years, but pigeons still stay away from the ledges. Sparrows also roosted in protective spaces at the top of the decorative vertical slabs.

There also are a few pigeons scattered around on some of the other buildings on the central campus. Occasionally, pigeons nest on window sills, especially around air conditioners; and in these situations there may be some potential for transmission of disease, such as ornithosis. Pigeons and sparrows also enter behind torn window screens to build their nests. This situation could be prevented by proper maintenance.

In 1982 and 1983, we baited with Ornitrol in an attempt to reduce pigeon numbers through sterilization. Ornitrol is reported to inhibit egg production in pigeons for up to six months and is presently being marketed by Avitrol Corporation. It is a drug which interferes with synthesis of cholesterol needed for formation of the egg yolk. Spermatogenesis in males also is affected, but for shorter periods. The chemosterilant is coated on whole kernel corn; the recommended baiting period is 10 days, and it is generally recommended that the birds be treated twice a year for year-around control. The recommended rate of baiting is 7½ lbs. per day per 100 pigeons.

Treatments were made on building rooftops to minimize potential hazards to nontarget species. Untreated and treated corn baits were placed out in small poultry-feeding trays on each rooftop. The amount of bait eaten was recorded each day.

We initially pre-baited with untreated corn, until the birds began feeding regularly at the two treatment sites, and then proceeded with baiting. In 1982, we baited first in April, and again June, because the first treatment seemed to have no effect in inhibiting egg-laying. In 1983, we baited for 10 days in March. The 75 pounds of bait eaten during the 10-day treatment period should have been sufficient to treat 100 pigeons. A few nontarget species, including several mourning doves, house sparrows, starlings, and grackles also fed on the treatment bait. About 50-60 pigeons were residing on campus in 1982, although numbers were twice that in 1983. An additional population of approximately 100 pigeons roosted in a grain elevator adjacent to the campus. However, pigeons were excluded from the grain elevator early in 1983 to prevent their continued feeding on grain available there.

Nesting activities were monitored for 2-5½ months after each Ornitrol treatment. Ornitrol did not inhibit egg-laying but did result in infertility in 15-30% of all the eggs laid following treatment (See Table 1). However, the infertility induced by the chemical was short-lived, and most birds laid fertile eggs by the second clutch after treatment. The results strongly indicate the Ornitrol was not an effective tool for reducing pigeon numbers on the central campus. Based on the reproductive dynamics of pigeons, including breeding throughout the year, we estimate that reproductive activities would have to be reduced by at least 90% before we would see any major impact on the population size. Further work needs to be done on finding appropriate methods of applying the chemical to the bait (corn), since there seems to be a taste aversion when the chemical is coated on the outside of the bait. In addition, the chemical may separate from the bait.

Blackbirds, especially starlings, also have been a problem on the central campus. Winter roosts of 10,000-20,000 birds were located in evergreen trees in Founder's Quadrangle up until last year. The University administration was not happy with the birds because of the noise problem and potential for histoplasmosis. Their solution was to remove all the evergreen trees and replace them with more open locust trees. While it did remove the birds from that particular site, it has only had the effect of moving them from one location to another; and the birds continue to roost on campus.

TABLE 1. Egg production and fertility in post-treatment nests in 1982 and 1983.

Period	no. nests	no. clutches	no. eggs	
			fertile	infertile
1982 (April-June)	17	23	32	13
1983 (June-August)	11	18	27	5
1983 (March-August)	19	54	84	21

DISCUSSION

Comment: What would make you use Ornitrol?

Erickson: We wanted to test it under field conditions. Ornitrol is on the market, and we want to know if it is a potentially useful product. There has not been anything published on Ornitrol, that I know of, for about 15 years. If it works under field conditions, it would be an alternative to lethal control or to repelling the birds elsewhere.

Comment: You have been doing it for a long time, and the birds are still there.

Erickson: Right. In theory, if you reduce input of young into the population, the population should decrease in numbers as the older birds die of natural mortality. Pigeon mortality has been reported to be in the range of 30-35% annually. After a period of two or three years, you should start to see some decline in the numbers of birds in the population.

Comment: You indicated that it did not appear to inhibit egg development, but you did have the infertile eggs mixed with some fertile eggs. Does the female continue to try to hatch those eggs?

Erickson: She will stay on the eggs for up to three weeks, but then she will abandon them.

Comment: How do you tell a fertile from an infertile egg?

Erickson: Pigeons eggs normally hatch after 17-18 days of incubation. I checked the nests every week; but I left the eggs there, so I knew approximately when they were laid. When I knew they had been in the nest for three weeks I would take them out, crack open the eggs, and look for the presence of an embryo. Anything without an embryo after a three-week period I assumed to be an infertile egg.

Comment: Why haven't you used Avitrol to control pigeons here on the campus?

Erickson: We haven't used Avitrol, because we do not wish to repel the birds from the campus into the city. The city of Bowling Green has its own resident pigeon population, and the University doesn't want to repel birds from the campus into the city, which would be very detrimental to public relations.

Comment: Why not just trap the birds? All you would have to do is build a trap, put it up on the roof of one of the buildings, trap the birds, and remove them.

Erickson: Yes, but somebody would have to be hired, probably a student, to do this. The University does not have funds available for this at the moment. However, it has been discussed, and possibly something will be done in the future. Other things which have been discussed, aside from trapping and removal of birds, are exclusion of birds and possibly mechanical removal of nests.

Comment: What about using the Rid-A-Bird perches which are on campus now?

Erickson: The perches are dry at present. The University feels they do not want to use any type of lethal control if it can be avoided.

Comment: I still think you can trap the pigeons; it wouldn't cost more than \$75.00 to build the trap and put it up on the roof.

Erickson: There is already a trap up there. I did quite a bit of trapping to band birds during our Ornitrol study. One problem I found with trapping was that there is a tendency to trap the same birds over and over again, and many of the campus birds were never trapped. It seems there are trap-happy birds which come every day, because they know they will get a free meal in the trap.

Jackson: We tried trapping here on and off over the past decade. We get complaints on campus that there are pigeons all over the place. We report to the University that you can do this or this, and these are the alternatives which can be used; and it will cost this much to do it. We also can tell them what the consequence of doing it will be. In the end

somebody gives us money to do trapping for a year; that provides us with the supply of birds to do toxicity studies and other experimental work.

Comment: It appears that you have an excellently supplied laboratory here at the University. You do a lot of good work here, and we hope you keep up the good work. Every two or four years you can report to us on what works and what doesn't work.

Comment: I think if the University really wanted to get rid of the problem, you could just bait. You could do it at times when the University was inactive, such as in the summer or during break.

Erickson: That has been suggested, possibly doing strychnine baiting over Christmas vacation.

Comment: There are many universities in Ohio and Pennsylvania in which this has been done. If it is handled well, very few people will even know that any type of control work is going on. You don't come having your name blazing all over the newspaper. You park your truck where it might normally be parked if you are working on rodent control, but you shouldn't be wearing uniforms at that time.

Comment: The funny thing about pigeon control in the United States is that if you are going to do it legally you have to do it under the guidelines of EPA, the guidelines of the commercial operator, and you have to be somewhat cloak-and-dagger about it. Maybe it's just the way the industry is; more and more people call for an unmarked truck. People don't even want to admit when they have an ant problem, much less a rodent problem.

Erickson: It could very well be that the University might decide to do some type of strychnine baiting over break when students are not around. However, we have not really wanted to do lethal control the past two years, because we have been using the campus pigeon population for Ornitrol trials.

Comment: You guys are doing a great job here. The Ornitrol presentation yesterday told us what we long suspected, that you get some results but not very much. Cities or industries should be aware of the results you got here.

Erickson: At one of the buildings perches were placed on ledges where there was a pigeon problem, and it quickly got rid of the birds. These perches have been dry for at least two years now. We still do not find pigeons moving back into those ledges, and I was very curious as to why that might be.

Comment: The same thing seems to happen when you use Roost-No-More. The initial birds are repelled. Other birds hover over it later but will not land. The birds shy away from it. With the perches we are talking about a two-foot length, if even that; and they are very difficult to work with. If they are not perfectly level, they tend to drip and to leak. Endrin is a dangerous chemical to work with. You shouldn't put them in any areas where humans would come beneath them. They are so small that to cover buildings effectively is prohibitively expensive to the customer.

Shoaf: I would like to comment on the use of perches inside warehouses. I got myself in trouble years ago when we did an installation in Marion, Ohio. We overfilled one of the perches, and the chemical dripped down on cattle feed. One of the guys working there saw this stuff dripping down on the cattle feed bags. I got a letter from John Beck, who was working with the U.S. Fish and Wildlife Service. In those days they sent you a little card with a dot marked. I got one with the red dot, which means I was in big trouble. I suggest that on installation be very careful not to overfill the perches, and be sure to have them level so chemical doesn't all run down to one end. They should be refilled every six months or no longer than a year.

Erickson: Another thing which we have done has been a bit of exclusion in places where the pigeons have gotten behind window screens. We recommended that the University repair a number of torn window screens where pigeons were nesting behind them. But in most cases nothing was done.

