

# Animal Damage Management

Department of Entomology

## PIGEONS

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The common or city pigeon (*Columba livia*) is found throughout Indiana. It was developed from the European rock dove and introduced into this country as a domesticated bird, but many of these birds escaped and formed feral populations. Today the pigeon is probably the most serious bird pest associated with human habitations.

Pigeons are commonly found around farm yards, grain elevators, feed mills, parks, city buildings, bridges, and other areas that provide roosting, loafing, and nesting sites.

Typically the birds have gray bodies with a whitish rump, two black bars on the secondary wing feathers, a broad black band on the tail, and red feet. However, body color can vary from gray to white, tan and blackish. The average weight is 13 ounces, and the average length is 11 inches.

### PROBLEMS CAUSED BY PIGEONS

Pigeon manure deposited on park benches, statues, cars, buildings, etc. is not only objectionable to the eye and nose but also accelerates deterioration, particularly on buildings. Large amounts of droppings can kill vegetation. Around farms, elevators, and feed mills, pigeons consume and contaminate large quantities of grain otherwise destined for human or livestock consumption.

Pigeons have also been implicated in the transmission of several diseases such as pigeon ornithosis, encephalitis, salmonella food poisoning, and others. But the actual incidence of transmission of diseases from pigeons to people is difficult to assess. Reports of disease outbreaks that are directly attributed to urban or rural pigeon flocks are rare or nonexistent.

Pigeon manure, if allowed to accumulate for several years, can harbor the causal agent of histoplasmosis, a systemic fungus disease that affects the human respiratory tract. In severe cases it can be fatal. The external parasites of pigeons include various species of mites, fleas, ticks, and bugs, many of which will readily bite people. Pigeons can even be a threat to human safety around airports, where there is the possibility for pigeon flocks to collide with in-flight aircraft. In fact, there have been several instances of jet aircraft colliding with bird flocks, causing human fatalities.



Pigeons (Photo Credit: Dave Herr, USDA Forest Service)

### BIOLOGY AND BEHAVIOR

Pigeons inhabit lofts, steeples, attics, caves, and ornate architectural features of buildings where openings allow for roosting, loafing, and nest building. Nests consist of sticks, twigs, and grasses clumped together to form a crude platform.

The birds subsist on spilled or improperly stored grain, garbage, or other food materials provided for them intentionally or unintentionally by people. In fact, in some urban areas the feeding of pigeons is considered a form of recreation.

<b>ADULT WEIGHT:</b>	<b>13 OUNCES</b>
<b>TOTAL LENGTH:</b>	<b>11 INCHES</b>
<b>COLOR:</b>	<b>VARIATIONS ON GRAY-WHITE, TAN-BLACKISH</b>
<b>INCUBATION/ FLEDGING:</b>	<b>12-14 DAYS/14-16DAYS</b>
<b>BROODS/EGGS:</b>	<b>3-4 PER YEAR/1-2 EGGS</b>
<b>LIFE SPAN</b>	<b>15 YEARS OR LONGER, URBAN PIGEONS 3-4 YEARS</b>

Pigeons are monogamous; that is, they have one mate at a time. The male cares for and guards the female and the nest. Eight to 12 days after mating, the female lays one or two eggs. Approximately 18 days later the eggs hatch. The squabs are fed a secreted substance called "pigeon milk." The young leave the nest at four to six weeks of age. More eggs are usually laid before the first young are weaned. Breeding may occur during all seasons, but peak reproduction is in the spring and fall. A pigeon population usually consists equally of males and females. Pigeons can live for 15 years and sometimes longer. However, in urban pigeon populations, it is estimated that few live for more than 3 or 4 years.

## CONTROL METHODS

Although feral pigeons are not protected by either state or federal law in Indiana, local laws and ordinances should be checked before any control measures are taken.

### Clean up

Pigeons are opportunists and will take advantage of the easy availability of food, water, and shelter found in urban areas. Efforts should be made to remove food attractants, such as open garbage containers and food scattered around dumpsters or parking lots. It is a mistaken kindness to feed pigeons. They quickly become dependent on human handouts and also quickly become a nuisance and health hazard. Removing food attractions will also enhance the effectiveness of other control methods. Pigeon and other nuisance bird problems tend to be a community issue rather than single property owner problems. Best results are obtained when neighborhoods and communities work together to keep pigeon populations at a manageable number.

### Exclusion

Pigeon numbers can be reduced by blocking access to indoor roosts and nesting areas. Openings to lofts, steeples, vents, and eaves should be blocked with wood, metal, glass, masonry, or 3/4 inch rust-proofed wire mesh. Plastic or nylon netting can often be substituted for wire mesh, but may have to be replaced more frequently.

Roosting on ledges can be discouraged by changing the ledge angle to 45° or more. Sheet metal, wood, or stone can be formed and fastened to ledges to achieve the desired angle. Ornamental architecture can be screened with nylon netting to prevent roosting, loafing, and nesting. Although effective, netting may not be aesthetically acceptable.

In a tool or machinery shed, barn, or hangar, roosting can be permanently prevented by screening the underside of the rafters with netting or 1/4 inch wire mesh screening. In truss-rafter construction, purlins installed between the rafters are necessary in order to support wire-mesh screening. Substituting plastic netting will eliminate the need for supports.

## REPELLENTS

### Mechanical

Some of the commonly used mechanical methods for other birds are not very effective for pigeon control. Noisemaking devices (firecrackers, electronic alarms, etc.) are usually disturbing to humans but have little permanent effect on roosting pigeons. High frequency sound (ultrasonic),

inaudible to humans, is also inaudible to pigeons. Revolving lights, colored flags, balloons and rubber snakes are also not effective.

Streams of water may move pigeons from roosts, but this must be done persistently until the birds have established themselves elsewhere.

Porcupine wires (Figure 1) ("Nixalite" and "Cat Claw") are more permanent types of mechanical repellents. They are composed of a myriad of spring-tempered nickel stainless steel prongs with sharp points extending outward at all angles. The prongs are fastened to a solid base which can be installed on window sills, ledges, eaves, roof peaks, ornamental architectural features, or wherever pigeons are prone to roost. The sharp pointed wires inflict temporary discomfort, so pigeons avoid landing on these surfaces. Although porcupine wires and their installation can be expensive, the results may justify the cost.

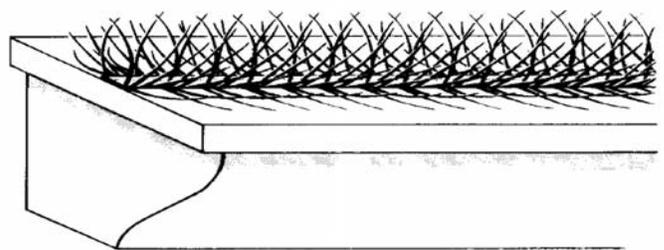


Figure 1. Porcupine wires can be used on various building surfaces to prevent pigeons from roosting.

Electric "hot wires" can also be an effective deterrent for preventing pigeons and other pest birds from perching on ledges and structures. A set of low-voltage wires is set in a track or on insulators that are installed on the ledge. These systems utilize batteries, solar power, or are tied into the building wiring. The mild shock generated by these systems has been very effective in preventing perching.

### Chemical

Non-toxic chemical repellents are available as pastes or liquid sprays. These materials make pigeons uncomfortable when they alight on them, forcing the birds to roost or loaf elsewhere. All potential roosting and/or loafing surfaces must be treated, however, or the pigeons will just move to an untreated surface.

Paste repellents should be applied in rows 1/2 inch thick, 1/2 inch from the outside ledge, and spaced no farther apart than 2-3 inches to ensure that the pigeons cannot land between the rows without becoming entangled. These repellents should not be applied over dirt or dust. On porous building surfaces, an undercoating of a waterproof silicone or paint base is preferred to protect from possible staining. Surfaces can also be protected by applying the repellents on top of masking tape or waterproof duct tape.

The effectiveness of repellents is lost over time, especially in dusty areas. In most cases, the substances will repel pigeons for about 1 year before reapplication is necessary.

## Toxic Baits

Toxicants should be only used by experienced, certified pesticide applicators because the toxicants can be hazardous to other birds, animals, and even people if used incorrectly. Label instructions must be rigidly followed.

*Avitrol.* Avitrol is available as a whole corn bait or as a mixed grains bait containing corn chops, milo and wheat. The mixed grains formulation is useful in baiting pigeon flocks which do not readily accept whole corn.

Avitrol is a lethal repellent which is registered for pigeon control year-round. It is a **restricted-use product**. The active ingredient in Avitrol is 4-aminopyridine. Avitrol is lethal to pigeons if they consume sufficient amounts of the bait. Research indicates however, that birds reacting to Avitrol suffer no pain, and thus, Avitrol programs present a good public relations image. Furthermore, secondary poisoning is unlikely to occur with Avitrol. Dying birds display distress symptoms and erratic behavior, which in turn frightens the other birds of the flock.

Treated bait is diluted (blended) with clean, untreated bait to achieve the desired flock-alarming reaction. The higher the dilution, the less mortality produced. In urban areas where high mortality may cause adverse public reactions, a blend ratio of 1:29, (1 part Avitrol bait to 29 parts untreated bait) produces low mortality, but control of the problem flock may take longer. Where high mortality is not a concern, then a blend ratio of 1:19 or even 1:9 may be used, and control will be achieved much quicker.

*Procedure For Using Toxic Baits.* Poisoning birds is a complex task requiring careful attention to details. The easiest way to ensure failure of the program is to take shortcuts, especially in pre-baiting.

Before any actual control work is attempted, the daily movement patterns of the pigeons between feeding, loafing, and roosting areas must be determined in order to select baiting sites. The number of sites needed depends on the size of the area being treated and the number of birds involved. In most situations, at least four sites should be used. They should be located in areas which are normally frequented by the birds, over which rigid control of human access can be maintained, and which are otherwise free from disturbance.

Generally, the closer the bait site is to the normal feeding site, the more successful the baiting will be. In urban areas, flat roof tops make excellent bait sites. Even though pigeons do not normally feed on roof tops, they do frequent them, and access can be rigidly controlled. With persistence, pigeons can be taught to feed almost anywhere.

Once the bait sites have been selected, the pigeons must be trained to feed there by using pre-baiting techniques. **Pre-baiting is the single most important aspect of a successful baiting program. If pre-baiting is not done correctly, the entire program may fail.**

Because birds are suspicious of any change in their daily routine, the pre-baiting and subsequent toxic baiting should be done at the same time every day and in the same manner. The pre-bait (untreated corn) should be applied on firm, relatively flat surfaces or set out in wide, shallow wooden or metal trays. Baits are most effective when placed in a number of small piles or heaps. In this way, many pigeons can feed at one time. The operator can also gather useful information about feeding patterns and bait acceptance.

Pigeons usually feed most vigorously right after leaving the roost early in the morning. Therefore, the pre-bait and the bait should be placed just before sunup. The quantity of pre-bait placed and consumed should be recorded each day, so that the amount of poisoned bait can be determined. Generally, 100 feeding pigeons will eat about 7-8 pounds of whole corn per day. For Avitrol, pre-baiting should be conducted for 14-21 days!

During the pre-baiting period, bait sites must be carefully observed to ensure that no nontarget birds, such as cardinals, blue jays, or doves are attracted to them. If protected birds do appear, pre-baiting should continue to be put out since this will tend to hold the protected birds at that site. If only one baiting site is being used, or if protected birds begin using all the locations, modification or abandonment of the site or sites is necessary.

Using good quality pre-bait is important. The best pre-bait is clean, untreated whole corn. It is recommended for two reasons: 1) smaller resident birds, such as song sparrows, are physically incapable of swallowing it and 2) corn is highly accepted by pigeons during the winter months when using toxic baits is normally attempted.

The amount of toxic bait put out generally does not have to be more than half of the pre-bait used each day. All pre-bait must be picked up before the toxic bait is put out. When the toxic bait is placed, someone should observe from a hidden location. Any birds that die at or near the bait site should be removed by the observer. Most of the birds, however, will leave before the poison takes effect. Proper disposal by deep burial or burning is recommended. A search crew should be organized before bait placement and sent out immediately afterwards to collect dead birds at likely locations, such as roosting areas and along the birds' flight lines.

A second application of poison bait may be necessary, but some of the birds left after the initial control period will be bait shy. Therefore, wait three weeks before beginning again with pre-baiting operations. The same bait sites may be used in all control efforts.

## Controlling Reproduction

OvoControl P is a specially formulated bait that interferes with the hatchability of eggs from pigeons. OvoControl contains nicarbazin, an active ingredient originally developed to prevent an enteric disease in chickens. Registered by EPA, OvoControl is approved for use in pigeons, geese and ducks. OvoControl is a long-term program, acting to slowly reduce the number of birds and augmenting other tools in the pest bird control arsenal.

- Begin any project by reading the label. OvoControl P is an EPA registered General Use pesticide and the label includes all directions and use-restrictions. **Make sure that you are familiar with label directions to ensure that you are in compliance with the law.**
- OvoControl P consists of a daily baiting program. The pigeons must be conditioned to arrive at the selected baiting site each morning for a dose of OvoControl P.
- Flat rooftops make ideal baiting sites. If a flat rooftop is not available, identify a suitable flat paved or concrete surface appropriate for the application of OvoControl P. Choose secured areas with limited public access.

- If appropriate for the site, install an automatic feeder(s) to deliver the appropriate quantity of bait each morning. Ensure the feeder is secured if the rooftop is prone to wind.
- Begin the process by pre-baiting with whole corn. Use approximately 1 pound/90 birds. Set the automatic feeder to trigger shortly after sunrise.
- Once the birds are feeding regularly, count the number of pigeons and ensure that no other birds are present. Use an automatic trail camera if necessary.
- Begin the transition from whole corn to OvoControl P by mixing bait into the corn. This process can take a few days to a few weeks depending on pigeon behavior.
- Continue to feed 1 pound of bait/80 birds. Gradually increase the portion of OvoControl P until completely converted from whole corn.
- Periodically monitor the baiting site to ensure pigeons are present and that non-target birds are not consuming the bait.
- Periodically adjust bait quantity and feeder consistent with pigeon numbers.

## Trapping

Pigeons can be effectively controlled by capturing them in traps placed near their roosting, loafing, or feeding sites. Pigeon traps can be purchased or constructed and can vary in size. Some are large enough to walk into, others (low-profile traps) measure only 9 inches high and 24 inches in width and length. Construction guidelines can be obtained from our office for a large “common trap” and a “low-profile trap.” Generally, the larger the population of birds to be trapped the larger the trap should be. However, even though the larger traps will hold many birds, they can be cumbersome in certain situations such as rooftop trapping programs. In these instances, it may be more convenient to use several of the smaller, more portable traps.

**Common Pigeon Trap.** Although the size can vary, a “common pigeon trap” is usually of a large size. A typical trap measures 8 feet in length and 4 feet in width and height. It is usually constructed in five sections 48 inches square, with 2 x 2 inch pine framing covered with 3/4 inch poultry netting.

**Low Profile Trap.** The “low-profile trap” has a very low profile and contains two compartments, feeding (36 x 24 x 8 inches) and holding (36 x 36 x 8 inches). Researchers have reported that its low profile is responsible for the trap’s success. Low profile traps can be made with wooden frames or from 1 inch x 2 inch welded wire. The one-way door bobs all move in unison and are made of either wood or light aluminum. The bobs measure 8-9 inches in height, and the bob door area measures 10 inches in width.

Disposal of trapped birds should be quick and humane. Large scale trapping programs may warrant the use of a carbon dioxide chamber, which may be as simple as a plastic bag filled with carbon dioxide. For additional guidance on the humane disposal of trapped birds, contact your local humane society or animal shelter. Releasing pigeons back to the “wild” is impractical. Even when released fifty or more miles from the problem site, pigeons are likely to return or become pests in other communities.

**Tips for Effective Trapping** The best locations to place traps are at the pigeons’ major loafing areas. During the hot summer, good trap success can be obtained by placing traps at pigeon watering sites such as near rooftop cooling condensers of downtown buildings. Success can also be enhanced by “pre-baiting” traps for several days before beginning the actual trapping. To pre-bait, place attractive baits such as corn or milo around the outside of the traps. After 3-4 days the baits can then be placed inside the trap (in both compartments of the low profile trap). Four or five decoy birds should be left in the trap to lure in more pigeons.

It is critical to a successful program that traps be well-monitored, with visits at least every other day. Fresh food **and** water must be provided at all times for decoy birds. If “trap-shyness” develops, traps can be left open for 2-3 days and then closed for 4-5 days. Should traps fail to catch any pigeons or if little activity is noticed, the traps should be relocated.

## Shooting

Where permissible, persistent shooting with a .22 caliber rifle (preferably using short-range pellets), a .410 gauge shotgun, or a precision air rifle can eliminate a small flock of persistent pigeons from an area.

Because many towns and cities have ordinances prohibiting the discharge of firearms within corporate limits, local laws must be checked before using this control method.

## NEST DESTRUCTION

Destroying nests and eggs at 2 week intervals is also helpful in reducing pigeon numbers. It is recommended that this technique be used in conjunction with other methods to ensure that control programs are as extensive and effective as possible.

**For complex pigeon problems, or in cases of severe infestations, pigeon control is best achieved by pest management professionals trained in this area. Consult your local yellow pages and inquire of the company's experience in bird control work.**

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDES.

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