

# Feather Pecking and Cannibalism in Small and Backyard Poultry Flocks

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Within flocks, chickens and other types of poultry have a social hierarchy referred to as a **pecking order**. Mild pecking is normal in the establishment of this order. **Feather pecking** occurs when one bird pecks or pulls at the feathers of another. Feather pecking can damage plumage and injure a bird's skin, and sometimes this behavior leads to cannibalism. The physical texture and appearance of feathers have been shown to play a role in feather pecking and eating. Laying hens tend to peck short feathers more frequently than long ones, and there is some evidence to suggest that hens laying brown-shelled eggs are more likely to engage in feather pecking than hens laying white-shelled eggs.

Feather pecking can occur in any production system, including free-range systems. Feather pecking is more common among floor-raised chickens in commercial barns and among chickens in large free-range systems. When birds are caged, the group size is smaller, so the pecking order is more stable and fewer pecking problems arise.

**Cannibalism** is defined as the pecking, tearing, and consuming of skin, tissue, or organs of flock mates. It is a problem that can occur among birds of any age and of any breed. Cannibalism can affect many different types of poultry, including chickens, ducks, turkeys, quail, and pheasants. Cannibalism can occur in all types of housing systems, including cages, floor pens, aviaries, and free-range systems.

Cannibalism is a learned behavior that can spread quickly through a flock. Poultry have a tendency to imitate each other, so when one member of the flock begins aggressive pecking, others will follow suit. If cannibalism is not closely monitored, the resulting losses to the flock due to flesh injuries and death can be quite high.

Cannibalism is easier to prevent than to treat. The cause has a genetic component, but management conditions play a major role as well. Outbreaks can occur in even the most well-managed flock, but problems are less likely to occur if preventive measures are in place.

## Causes of Feather Pecking and Cannibalism

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### Overcrowding

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Overcrowding can precipitate feather pecking and cannibalism. It is important to provide adequate space for each member of the flock to eat and drink. Failure to do so can encourage competition that may lead to cannibalism and cause more-dominant birds to keep others away from feed and water. Having enough feeder space to allow all birds to eat simultaneously also helps prevent birds from becoming underweight—such birds are frequently the victims of cannibalism.

Your housing system should also provide adequate floor space. This is especially important with pheasants, which are particularly prone to cannibalism. If you have perches for the flock, make sure to provide enough space for multiple birds to perch at one time. Birds can escape vent pecking by perching off the ground where hens on the floor cannot reach them. Pullets are more likely to use perches for refuge if the birds are reared with them from an early age. For more information refer to the page on perches in small and backyard poultry flocks.

## Overheating

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High temperatures cause birds to become uncomfortable and prone to pecking. Provide adequate fresh, cool water and proper ventilation for the type and age of the birds in your flock.

Brood young fowl at 95°F for the first week after hatching, and then decrease the temperature by 5°F per week until the temperature reaches 70°F or matches the outside temperature. The temperature should be measured at the height of the birds' backs, directly under the heat source. Do not heat the entire brooding facility to the recommended temperature. Chicks should be able to adjust their body temperature by moving closer to or farther from the heat source as needed.

## Excessive Light

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The number of hours of light you provide a flock and the intensity of the light can influence cannibalistic behavior. Extremely bright lights or excessively long periods of light will cause birds to become hostile toward each other. Never use a white bulb more powerful than 40 W to brood fowl. If more powerful bulbs are required for heat, use red or infrared bulbs.

Do not provide more than 16 hours of light per day. Constant light can be stressful to the birds. With broiler birds, the common practice is to provide 16 hours of light per day at an intensity of 0.5 to 2 foot-candles, followed by eight hours of darkness. From 0 to 18 weeks of age, rear laying birds under 10 to 12 hours of light per day at an intensity of 0.5 foot-candles. When you move the birds into the laying house, increase the duration of light to 13 hours per day and increase the intensity to 1 to 2 foot-candles. The duration of light can be increased in 15 minute increments until the birds receive 16 hours of light per day. This lighting program will allow the birds to adjust slowly to the change in lighting and will help delay sexual maturity, which will lead to larger early eggs.

## Inadequate Nutrition

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It is important to provide your birds with a well-balanced diet and an ample supply of water. Cannibalism has been linked to deficiencies in protein, sodium, and phosphorus. Extremely high-energy and low-fiber diets cause the birds to be active and aggressive. Feed lacking protein and other nutrients, particularly the amino acid methionine, will also cause birds to pick feathers. Provide a diet that is balanced appropriately for the age and types of fowl you are raising. Protein requirements change as chicks grow and should be adjusted on the basis of a recommended feeding schedule.

Birds reared on a litter type that is attractive for scratching and pecking are less likely to develop cannibalistic behavior. A chicken's natural behavior includes spending a considerable portion of the day searching for food. When the environment is not suitable for the expression of normal foraging behavior, pecking can sometimes be redirected toward flock mates, which can lead to cannibalism. It is important to provide materials in which birds can practice foraging behavior, such as straw, green leafy vegetables, or grass clippings. Alternatively, feed birds small grains in deep litter. A mash diet, rather than pelleted feed, may also help prevent outbreaks of cannibalism because the birds sift through the variety of ground particles and take longer to consume their feeds.

Use care, however, when feeding supplemental materials. If feeding supplemental grains, provide them only in the afternoon, after the birds have eaten the complete diet, and provide only as much as can be consumed in 15 minutes. If you give birds fresh greens, be sure to remove any that the birds do not consume so that the greens do not spoil, potentially causing botulism.

Birds routinely preen themselves, using the oil from the **preen gland** near the tail. The oil from the preen gland has a salty taste. If you feed birds a diet without salt, the birds will overuse the preen gland, resulting in cut feathers. They will then begin to pick at the preen glands of other birds.

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## Injured or Dead Birds Left in the Flock

Because chickens are attracted to blood, cannibalism outbreaks can be initiated by the injury of one bird and subsequent pecking of the injury by a flock or cage mate. It is important, therefore, to prevent injury. Loose wires on cages and pens can puncture the skin and cause bleeding. A bird that gets snagged or caught can tear its skin. Cannibalistic chickens, injured birds, victims of cannibalism, and dead birds should be quickly removed from the flock.

Fowl will peck at injured, impaired, or dead birds in their pens as a result of the social order and their natural curiosity. When pecking starts, it can quickly develop into a vicious habit.

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## Intermediate Flock Size

The hierarchical social order of poultry in small flocks depends on individual recognition. Within large flocks, birds cannot recognize all the other members of the flock, and as a result, the order breaks down and birds become less aggressive and more tolerant of others. Research has shown that this transition occurs at a flock size of about 30 birds. A group of intermediate size appears to present social problems for birds—the group is too large for a stable hierarchy to develop but too small for a tolerant system to occur. Implications of this research indicate that flocks should include either fewer than or more than 30 birds.

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## Flocks of Different Ages and Colors

Combining birds of different ages, breeds, colors, or sizes that have not been reared together often upsets the social order of a flock and increases the chances of cannibalism. Avoid intermingling such birds. In addition, mixing fowl with different traits promotes pecking. For example, if feather-legged, crested, or bearded fowl are raised with birds without these traits, curiosity can lead the less-feathered birds to peck the feathers of their flock mates.

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## Abrupt Changes

Abrupt changes in management practices or the environment can stress birds and lead to aggression. If you plan to move young birds to a new location, it is best to move some of their feeders and waterers with them in order to help them adapt. When you introduce larger feeders and waterers, it is helpful to leave the smaller equipment in the pen for a few days to help during the transition.

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## Inadequate Nest Boxes

Providing appropriate nest boxes and laying conditions for laying hens will help prevent cannibalism. Do not place bright lights near the nesting areas. A dark nest box gives a hen a safe place to lay eggs and prevents exposure of the everted cloaca, which occurs when an egg is laid. Because the cloaca is highly attractive for pecking, some outbreaks of cannibalism begin during egg laying.

# Monitoring and Assessment

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It is relatively easy to monitor feather pecking, and you do not need to handle the hens to determine whether feather pecking is taking place.

1. Observe a large random sample of hens, looking for damage to the feathers or skin and the severity of any damage.
2. Give each hen a feather score as outlined below, and calculate the flock's mean score.
3. Compare this score with previous scores to determine whether feather pecking is getting better or worse within the the flock. You can also compare the score with other flocks evaluated in the same way.

Assign each hen one of the following feather scores as appropriate:

- **0: (Best)** Well-feathered body with no or very little damage
- **1:** Slight damage with feathers ruffled, but body is completely or almost completely covered
- **2:** Severe damage to feathers with a localized naked area smaller than 2 sq. in.
- **3:** Severe damage to feathers with large naked areas greater than 2 sq. in.
- **4: (Worst)** Severe damage to feathers with several large naked areas and/or broken skin

## Prevention

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In addition to ensuring that birds have an appropriate diet and an environment free of the stressors discussed above, a key step in preventing cannibalism is to select genetic stock that is not prone to cannibalism. Some poultry producers claim that certain breeds are more prone to cannibalism. Feather pecking is a heritable trait, and breeders and producers can select for fewer feather-pecking traits in breeding chickens.

Most cannibalism occurs during feather growth in young fowl. Slow-feathering birds are most prone to cannibalism because they have immature, tender feathers exposed for long periods of time, leaving the birds open to damage from pecking. Do not raise slow-feathering birds with other types of fowl.

## Control

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Although it is better to prevent cannibalism, should an outbreak occur, it is essential to stop the behavior quickly before it spreads throughout the flock. A variety of methods are available to help accomplish this objective, although it is difficult to stop a substantial outbreak altogether.

Some corrective steps include the following:

- Separate birds doing the severe feather pecking, especially if the pecking is directed at the injuries or vents of other birds.
- Remove victims of cannibalism and care for them separately or, if necessary, euthanize them humanely.
- Dim lights to an intensity of 0.5 to 1.0 foot-candles.
- Add enrichments to the birds' environment, especially forage-related devices.
- Add additional feed and water space.
- Add perches to the housing environment.
- Add more nest boxes (for laying flocks).

- Attach goggles to the beaks of aggressive birds. (This is often done with pheasants because they are especially prone to feather pecking and cannibalism.)
- Consider therapeutic beak trimming. (Beak trimming has been banned in the U.K. since January 1, 2011.)

Enrichment devices made of string have also been shown to redirect pecking. Four to eight lengths of white polypropylene twine hung in the cage or pen should elicit pecking and may prevent aggressive pecking toward flock mates. Enrichment devices that are moved or changed periodically are effective in keeping the birds' attention. Ideally, poultry should be allowed protected outdoor access where they can display the full range of their natural foraging and exploratory behaviors.

### **For More Information**

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[Cannibalism: Prevention and Treatment](#), Phillip Clauer, Virginia Tech

[Cannibalism by Poultry](#), Sheila Purdum and Sara Shields, University of Nebraska