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Poultry Extension Collaborative Newsletter

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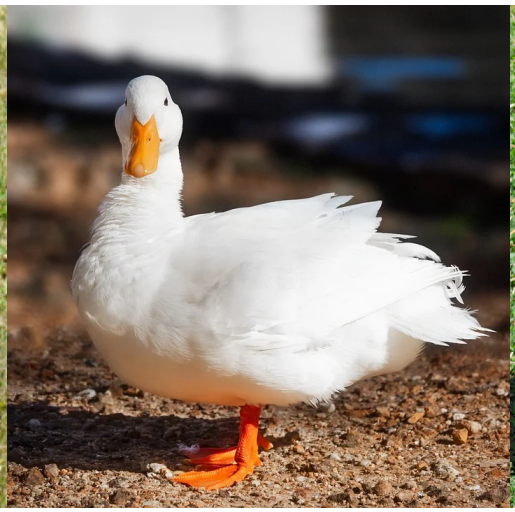


Injurious pecking behavior of poultry

Damaging pecking, or injurious pecking, is a major animal welfare concern. There are various forms of injurious pecking, including injurious feather pecking, feather picking, cannibalism, and aggressive pecking (see Table 1 on page 2).

Not all species or breeds of birds perform the same types of injurious pecking behavior, and these behaviors do not all share the same motivations or causes.

Injurious pecking behavior may cause the following consequences to the pecked bird:

- Pain
- Damage to the feathers and skin
- Death in extreme cases

Feather and skin damage can also reduce the bird's ability to maintain its body temperature, which may influence how much feed the bird needs and increase economic costs. Therefore, production efficiency can be reduced, and birds that are pecked may experience increased levels of chronic stress and fear.

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Types of injurious pecking

Table 1. Description of injurious pecking behavior and the species of poultry in which the behavior occurs

Type of pecking	Definition/Description	Species
Injurious feather pecking	A bird uses its beak to peck at the feathers of another bird. Feather pecking can be categorized into two major forms: gentle feather pecking and severe feather pecking. Only severe feather pecking is considered as injurious feather pecking. With severe feather pecking, pecks are usually hard, fast and singular. They are mainly directed at the tail, back, vent and neck area of a bird.	Chickens Turkeys Pheasants Quail Ducks
Feather picking	An auto-mutilation (self-harming) behavior where a bird is pecking at its own feathers. In ducks, feather picking can begin when feather cover transitions from down to adult plumage, which can then trigger feather picking between conspecifics (birds of the same species).	Ducks
Aggressive pecking	Pecks are usually forceful and mainly directed at the recipient's head or other part of the body if the head cannot be accessed.	Turkeys Chickens Quail Ducks
Cannibalism	Two types of cannibalism are recognized. Tissue pecking is directed at a bird's skin or tissue; vent pecking is directed at a bird's vent area.	Chickens Ducks Quail

Reducing and preventing injurious pecking

Injurious pecking is a complex problem that is difficult to control because there are many factors that influence the development and occurrence of this behavior. Two main strategies that can help prevent or control injurious pecking in some species of farmed or captive birds include 1) proper feeding management, 2) lighting management and 3) environmental enrichment.

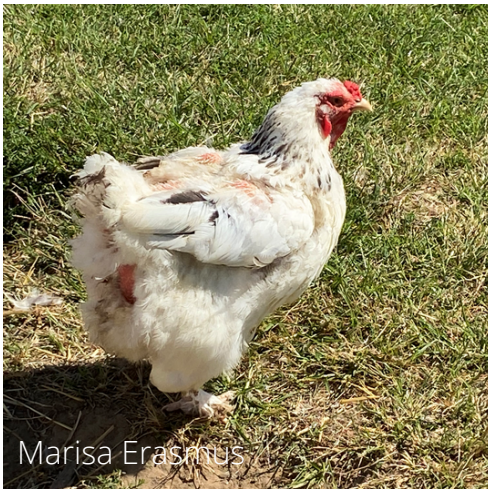
1) Feeding management

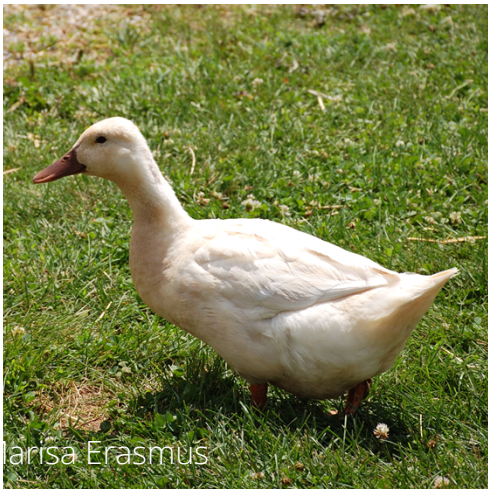
The amount, form and nutrient composition of the feed may influence the development of injurious feather pecking. Regardless of the breed, species, or type of bird, it is important to consult with a veterinarian or nutritionist and do some research to identify the proper nutrition for the type of bird.

- Diets that are deficient in some nutrients (protein, amino acids, or minerals) may increase injurious pecking. Severe feather pecking has been found to occur in birds that are fed a diet too low in minerals, protein, or amino acids (methionine, arginine).
- Injurious feather pecking may occur when birds are fed a diet with mainly vegetable protein sources
- Birds that are restrict-fed sometimes develop injurious feather pecking behavior
- Injurious feather pecking behavior of laying hens seems to occur less frequently if hens are able to spend more time foraging and eating feed
    - Feeding hens high-fiber diets, low energy diets, or roughage that take longer to consume can reduce feather pecking
    - Providing additional grain or straw in the litter during rearing may reduce feather pecking behavior when birds mature

2) Lighting management

Injurious pecking is also related to light intensity, photoperiod, and light source. Light source considerations include the type of light used (e.g. incandescent or fluorescent), the visible light spectrum, and whether or not the light source contains UV radiation. There has been some research examining the relationship between lighting and injurious pecking of turkeys as well as in laying hens, but little published information is available about lighting and injurious pecking in other poultry. Reduced light levels (<10 Lux) have been standard industry practice to manage and reduce injurious pecking in turkeys and in laying hens. Overall activity levels of the birds decrease under low light intensity. It is important to note that a drastic increase or decrease in photoperiod can increase the frequency of cannibalism in turkeys. Lighting management cannot control the motivation of injurious feather pecking, which derives from frustrated motivations to forage or dustbathe. Low light intensity itself can be a welfare concern because it can result in abnormal eye development.





3) Environmental enrichment

Environmental enrichment is when an animal's environment is changed, resulting in an improvement in the environment and increasing opportunities to perform behavior appropriate to the species.

The known benefits of environmental enrichments include

- Better ability to cope with challenging conditions
- Reduced occurrence of harmful behaviors such as severe feather pecking
- Reduced negative affective states such as fearfulness
- Improved productivity and health
- Greater variety of behaviors. Some environmental enrichment allows the birds to perform behaviors they are strongly motivated to perform.

Types of environmental enrichment to reduce injurious pecking behavior

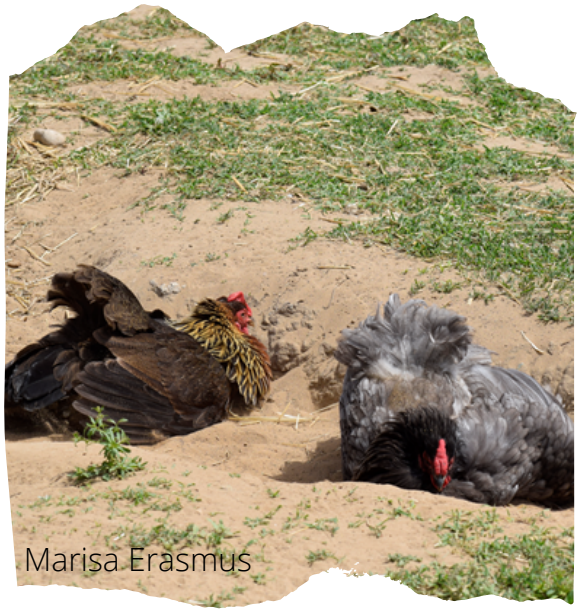
Environmental enrichment can take many forms, including the addition of objects such as hay bales or roosts to the environment or providing different types or sources of food. For an overview of environmental enrichment for broiler chickens, see PEC newsletter Vol. 5.

Pecking enrichment

One explanation for severe feather pecking is that birds are motivated to forage, but redirect their foraging behavior at other birds instead of at an appropriate substrate. For this reason, providing forages (e.g., cabbage leaves, seeds, hay) to birds can help reduce feather pecking behavior.

- Housing birds in environments with suitable foraging substrates is important. Birds not provided suitable substrate would perform sham forage.
- Pecking string (that cannot be swallowed) has been shown to be effective in reducing feather pecking in laying hens.


Marisa Erasmus


Marisa Erasmus

Dustbathing enrichment and novel objects

A possible explanation for why feather pecking occurs is that birds are misdirecting aspects of their dustbathing behavior and pecking at other birds instead of at dustbathing material.

- Providing material for dustbathing and novel (unfamiliar) objects, may be effective in reducing feather pecking
  - Care should be taken when introducing novel objects because some objects can cause fear and distress instead of having a positive effect on the birds.
- For ducks, providing swimming water or a source of water that is at least deep enough for them to immerse their heads and shake water over their body can help them to maintain good plumage, nostril, and eye condition. If these types of water sources are provided for wet preening, it is important that the water is clean and of good quality, because contaminated water can pose health risks to the birds, leading to illness.

Spatial Configuration

There is a wide range of housing types and options for poultry. Some housing types can be barren and lack complexity, and may lead to behavioral problems. The environmental complexity of the birds' housing environment can be improved by adding different resources and modifying the spatial configuration of features in the environment.

- Changing the space that the birds are kept in can impact the birds' perception, change how they use the space, and may influence their social behavior
- Chickens may use a larger area of their environment when provided with vertical barriers
  - Barriers can create more opportunities for birds to escape from other birds that are trying to perform injurious pecking behaviors, and they are more likely to use and perform comfort behaviors in areas with cover
- Increasing vertical space by providing a hay bale or perches, for example, could provide a comforting space for chickens because they are naturally motivated to perch

Let us know your thoughts, please leave any comments or questions here

Summary

- Injurious pecking can cause welfare issues to affected poultry
- Injurious pecking includes severe feather pecking, feather picking, aggressive pecking, and cannibalism
- Feeding management (appropriate amount, form and nutrient composition), lighting management (light intensity, photoperiod, and light source) and providing environmental enrichment (pecking enrichment, dustbathing enrichment, water enrichment for waterfowl, novel objects and special configuration) can help reduce or prevent injurious pecking in poultry, but the types and effectiveness of different strategies may vary among species

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