

Review Article

FEATHER PECKING IN BIRDS

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Introduction

Feather pecking is a major behavioral problem in laying hens especially in poultry such as pheasants, ducks, turkeys, broiler chickens and sometimes seen in farmed ostriches (“Feather pecking,” 2017). Feather pecking may occur around the vent, tail or head of the bird. A good indication of the feather pecking is not occurring the bald patches on the body but the sign of half eaten feathers around coop. Largest group of birds are found to suffer more than smaller one (*Feather pecking and feather pecking in a caged layer, Jean Allen and GC Perry*)

Chickens are attracted to the red color. The comb, wattle and vent which is often reddened after laying an egg draws the attention of other hens. Similarly they are attracted to the smell so, if wound are left untreated it will attract them more. Feather-plucking or feather-picking is another psychological behavior that is distinct from feather pecking. In feather-plucking, birds remove feathers from their own body; in feather pecking, however, birds peck at each other's feathers. It can be gentle or severe (Savory, 1995). Severe vent pecking can cause feather damage and that results in bald areas, if pecking of these areas continues, it will lead to serious wounding and results in the development of cannibalism (“Feather pecking - an overview | ScienceDirect Topics,” n.d.). Gentle feather pecking is considered to be a normal investigatory behavior where the feathers of the recipient are hardly disturbed and therefore does not represent a problem.

Development

Once the bird shows feather pecking behavior again it has higher chances of incidence in later stages. Commercial egg-laying hens have often already

begun feather pecking approximately 16-12 weeks when they are transferred to the egg laying farm from the rearing farm, and plumage quality can then rapidly deteriorate until peak lay at approximately 25 weeks of age but rarely seen beyond 40 weeks.

Some area of the body has higher affinity of feather pecking and that occur in a specific pattern. The rump area over the uropygial and the tail are often the first body regions to show uropygial gland is absent in ostrich but follows the same pattern of feather pecking.

Factors affecting feather pecking behavior

Factor causing feather pecking in birds may be internal and external. In general, feather pecking is initially performed by frustrated birds (Lindberg and Nicol, 1994).

Internal Factors

Feather pecking behavior exists in a large variation between strains of laying hens. Some studies indicate the possibility for breeding programmes and behavior-genetic experiments to reduce the feather pecking problem. Often the results of such programmes are inconsistent, with heritability estimates ranging from 0.04 – 0.05 depending on age and method of recording. More fearful and less social as young pullet showed higher levels of feather pecking as adult hens according to observations in an open-field test show. McAdie and Keeling (2002) found some evidence that gentle feather pecking was transmitted in laying hens housed in cages. However, they found no evidence for the spreading of severe feather pecking. The increase in feather pecking around onset-of-lay is hormonally mediated, and can either be stimulated by administering a combination of estrogen and progesterone or be blocked by giving

testosterone (Hughes, 1973) (Van Krimpen et al., 2005)

External Factors

Feather pecking is strongly stimulated in the absence of litter materials (Blokhus & Wiepkema, 1998), the average level of pecking at nonspecific's was much higher in the birds kept on slatted floors. Moreover, pecking among birds kept on slatted floors was potentially damaging, whereas most pecking among birds kept on litter floors was very gentle and not likely to be damaging. Experience during rearing related to such qualities of the ground may affect pecking behavior in later life. The external factors include:

1. Excessive Light

The number of hours of light in a flock and the intensity of the light can influence cannibalistic behavior. More than 16 hours of light at a constant level can be stressful to the birds. In broiler chicken 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. This lighting program will allow the birds to adjust slowly to the change in lighting and that will help the delay sexual maturity, which will lead to larger early eggs finally predisposes the feather pecking behavior.

2. Inadequate Nutrition

The specific deficiencies in layer diets are linked to feather pecking behavior in laying hens. Severe feather pecking has been reported in birds that fed with low mineral content in the diet, a too low protein level or a too low amino acid level (methionine and arginine) ("Dietary Changes Can Reduce Feather Pecking in Laying Hens," n.d.). Feeding high-fiber diets, low-energy diets, or roughages reduced feather pecking. It is revealed that providing additional grain or straw in the litter during rearing could result in lower levels of feather pecking behavior in adult stages of birds. The balanced diet, in particular a quality layers pellet as their staple feed, will help keep this to a minimum. Birds routinely preen themselves, using the oil from the preen gland near the tail. The oil from the preen gland has a salty

taste. The birds will overuse the preen gland and result in cut feathers, if they are fed with salt deficient diet.

3. Intermediate Flock Size

In small flock one can easily distinguish almost all birds but 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.

4. Flocks of Different Ages and Colors

It is found that combining birds of different ages, breeds and colors, or sizes that have not been reared together often upsets the social order of a flock and increases the chances of cannibalism. In addition, mixing fowl with different traits promotes pecking.

5. Inadequate Nest Boxes

The recommended run space is a minimum of 1 meter squared. The bird has ground or mud starching behavior so sufficient space should be provided. Provide a dust bath for them, give them a log/perch to sit on, hang up a small mirror or a CD – anything to amuse them. ("Feather Pecking - Cotswold Chickens," n.d.-b). The presence of bright lights enhance the chance of feather pecking as it assists for the exposure of everted cloacae after the egg is laid.

6. Stress

Stress is also one of the top reasons for feather pecking. A chicken coop that is too hot will stress the birds; try to increase the ventilation to cure this problem. If there are too many hens in one hen house or poultry run, the lack of space will stress them. When laying an egg especially, chickens like the area to be dim and quiet, excessive or glaring lights will not only stress them but also reduce the egg laying. It is said that chicken coop should have at least one nest space per 4 to 5 birds.

Prevention

Providing that birds have a appropriate diet and an environment free of the stressors , a key step in preventing cannibalism is to select genetic stock that is not prone to cannibalism. Feather pecking is a heritable trait in breeders so it is suggested to select for fewer feather-pecking traits in breeding chickens. The nest should be made at appropriate lightening area. Isolation and treating the injured birds and wounded areas with mild antiseptic solution which is

quicker and easier to apply and the violet residue hides the redness of the wound.

Control

Some corrective measures to control feather pecking are as follows:

- Separate the bird showing feather pecking from the rest. Remove victims of cannibalism and care for them separately or, if necessary, euthanize them humanely.
- Feather pecking damage is less when low light intensities are used, however, under low light intensities hens have a high preference for high intensity lighting, suggesting a specific need. Low light intensities may therefore reduce one problem and introduce another.
- Additional good quality feed and water.
- Add more spaces in nest boxes (for laying flocks) and add perches to the bird's environment.
- Attach the goggles to the beaks of aggressive birds. (This is often done with pheasants because they are especially prone to feather pecking and cannibalism.)

Conclusion

The conditions during the rearing period affect the development of feather pecking, so practical measures should be taken from the start of the rearing period onwards; however, at present no strategy guarantees that feather pecking will not develop in practical poultry husbandry. Feeding high-fiber diets, low-energy diets, or roughages reduced feather pecking. Providing additional grain or straw in the litter during rearing of bird could result in lower levels of feather pecking behavior in later stages. Good quality litter material should be provided and maintained in a dry friable state to provide opportunities for foraging. They should ideally be housed in small groups and partitions should be provided in larger houses to allow birds to form smaller sub-groups. As beak trimming definitely impairs the bird's welfare, it should not be used as a routine procedure. However, it may be required in specific cases to prevent the risk of greater welfare problems caused by cannibalism.

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