

Vices in Poultry

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ARTICLE ID: 96

Introduction

Poultry refers to all domestic birds and waterfowl reared for meat production, egg production, and sometimes kept for leisure. Poultry production refers to the process of rearing economic birds in captivity, i.e., birds of economic value to human that include chicken, turkey, duck, pigeon, guinea fowl, goose, quail etc. All of these belong to the class Aves. Vice originates from the French word “*vitium*” which means a fault defect, an immoral, wicked, or evil habit/action/trait, a degrading practice, habitual abnormal behavior of a destructive kind. Most common in horses, pigs & chickens but may occur in any species of animals are kept in confined spaces.

Common vices

Common vices observed in poultry are-

Cannibalism

The pecking, tearing, and consumption of another animal's skin, tissue, or organs is known as cannibalism. [8]. It is a condition that can affect birds of any breed and age. Numerous varieties of poultry, such as chickens, ducks, turkeys, quail, and pheasants, are susceptible to cannibalism. All forms of living arrangements, including cages, floor pens, aviaries, and free-range arrangements, are susceptible to cannibalism. Cannibalism is an acquired behaviour that a flock can become accustomed to very fast. Because chickens like to imitate one another, if one starts aggressively pecking, the others will soon follow.[5] If cannibalism is not thoroughly managed, the flock could suffer significant losses from flesh wounds and deaths.[3] In laying birds, vent pecking is rather more common. Once the birds start engaging in this vice, it spreads quickly across the flock, making control impossible because there is no direct remedy. The birds which pick other birds are most probably in a state of methionine inadequacy. [8] The birds which get picked are those birds with cankerous or tumorous conditions of the cloaca, prolapse, exposed cloaca from feather pulling, or an

inflammation of the digestive tract so extensive that it includes the cloaca. It has been found that feather eating and plucking are influenced by the physical texture and look of the feathers. Short feathers are more commonly picked by laying hens than long ones, and there is some indication that hens that lay brown-shelled eggs are more likely to do so than hens who lay white-shelled eggs.[1]

Feather pecking in poultry consists of pecking at the feathers of other birds, sometimes pulling the feathers out and even eating them. It is done mainly, to establish & maintain dominance. [11] It may result in severe damage of the integument of the birds, damaging the plumage, including wounds of the skin.[16] Defeathering causes substantial heat loss, leading to increased energy requirements.[12]

A negative habit known as severe featherpecking occurs when birds aggressively peck, pull, and occasionally remove and ingest feathers from other birds. This leads to feather loss on the back, vent, and tail area caused by pecks and the pulled feathers are frequently consumed. Damage to the feathers and feather loss caused by SFP occur in bald patches and can be followed by tissue pecking, a type of cannibalistic pecking in which the skin is repeatedly pinched, creating sores. [13]. Redirected pecking is an activity in which birds turn their natural foraging and food-seeking behaviours away from their surroundings and towards conspecifics.[10] The propensity appears to be linked to physiological and behavioural characteristics associated with anxiety. [17]. The definitive signs of cannibalism include the presence of wounds, inflammation, or blood, especially around the cloacal orifice.

The most common causes responsible for cannibalism are-

- **Overcrowding-** Overcrowding can precipitate feather pecking and cannibalism. For every bird in the flock to eat and drink, there needs to be enough room. Failure to do so may promote rivalry that could result in cannibalism and drive more dominant birds to exclude less dominant ones from food and water sources. It also aids in preventing birds from becoming underweight, as such birds are typically the targets of cannibalism, by providing adequate feeder area for everyone to eat at once.
- **Excessive High Temperature-** Birds grow uncomfortable in hot weather and are more likely to peck. For the type and age of the birds in the flock, it is necessary to provide them enough fresh, cool water, as well as the right amount of ventilation. After hatching, raise young birds at 95 degrees Fahrenheit for the first week before lowering



the temperature by 5 degrees each week until it reaches 70 degrees or the same as the outdoor temperature. Directly beneath the heat source, at the height of the birds' backs, the temperature should be taken.

- **Excessive Light-** Extremely bright lights or excessively long periods of light will cause birds to become hostile toward each other. A white bulb of more than 40 W should not be used to brood fowl. If more powerful bulbs are required for heat, red or infrared bulbs should be used. More than 16 hours of light per day should not be provided. Constant light can be stressful to the birds. On both individual and flock level, dark brooding greatly reduces severe feather plucking and significantly improves feather condition. Using dark brooders on industrial farms consequently may be a good alternative and a promising strategy to decrease feather plucking issues and enhance the welfare of birds. [14]
- **Inadequate Nutrition-** An adequate supply of water and a diet that is well-balanced should be provided for your birds. Protein, salt, and phosphorus deficits have all been associated to cannibalism. The birds become lively and combative due to their extremely high energy and low-fiber diets. With more fibre content, the incidence severe feather plucking decreases. [6] Birds will also pluck at their feathers if their food is deficient in protein and other nutrients, especially the amino acid methionine. Balanced feed is necessary for proper growth. As chicks grow, their protein needs alter, and these adjustments should be made in accordance with the suggested feeding plan. Feed restrictions imposed during broiler breeder rearing cause chronic hunger and dissatisfaction as a result of unmet behavioural feeding needs.[19]. Cannibalistic behaviour is less likely to emerge in birds raised on a litter type that is appealing for scratching and pecking. Pecking can occasionally be misdirected towards flock members when the environment is unsuitable for the expression of typical foraging behaviour, which might result in cannibalism.[4] It is crucial to supply resources, such as straw, green leafy vegetables or grass clippings, where birds can practise their foraging behaviour. When layers are fed diets with primarily vegetable protein sources as opposed to diets containing protein from animal sources, greater feather picking is seen. Additionally, whether the diets are restricted, coarsely powdered, or provided as pellets, more feather plucking might take place. Feather picking is decreased by



feeding high-fibre diets, low-energy diets, or roughages. If more grain or straw is included in the litter during rearing, the level of feather-pecking behaviours in adult stages might be reduced.

- Birds regularly groom themselves by utilising oil from a preen gland located close to the tail. The preen gland's oil has a salty flavour. Without salt in their diet, birds will abuse their preen glands, cutting their feathers. They'll then start picking at other birds' preen glands.
- **Dead or injured birds still in the flock.** Because chickens are drawn to blood, cannibalism may be started by one bird getting hurt, which leads to the rest of the flock or cage-mates pecking at the wound. Therefore, it is crucial to avoid harm. The skin can be pierced by loose wires on pens and cages, which can result in bleeding. A bird's skin can be torn when it is trapped or entangled. Chickens that are cannibalistic, injured, deceased, or victims of cannibalism should be swiftly removed from the flock. In their confines, fowl will peck at sick, disabled, or dead birds due to social hierarchy and their inherent curiosity. Pecking can rapidly turn into a harmful habit once it begins.
- **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.
- **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.
- **Inadequate Nest Boxes-** Cannibalism can be avoided by providing suitable nest boxes and laying conditions for laying hens. Keep strong lights away from the nesting locations. A dark nest box provides a hen with a secure location to lay eggs and shields the everted cloaca from exposure, which happens when an egg is laid. During the laying phase, hens with access to nest boxes have lower feather pecking frequency,

fewer damaged feathers, lower plasma corticosterone release, and lower levels of fear.[18]

Prevention

- In addition to providing birds with a healthy diet and an environment free of the pressures mentioned above, choosing genetic stock that is not prone to cannibalism is an important step in preventing the practise. Cannibalism is more likely to occur in some breeds. Because feather picking is a heritable trait, breeders and producers can choose to breed chickens with fewer feather picking genes.
- The majority of cannibalism occurs as young birds' feathers are growing. Due to their immature, delicate feathers being exposed for extended periods of time and being vulnerable to harm from pecking, slow-feathered birds are most likely to engage in cannibalism. Slow-feathered poultry should not be raised alongside other poultry.
- In a low-complexity cage setting, enrichment of litter and litter substrate reduce the impact of SFP. [10]
- Feed must be available in sufficient quantity at all the times. •through a study it has been found that the feed of the flocks impacted by feather plucking contained more coarser (>2.00 mm) and fewer medium and finer feed particles (1.60 mm). Lower concentrations of nutrients, like Sodium and Methionine, which are necessary to stop feather plucking, were present in the coarser components. The study showed that an excessively coarse feed structure can be viewed as a risk factor for feather plucking.[10]
- Increase the fish meal content of diet or addition of fresh raw meat in limited amounts
- Mineral mixture, vitamin and salt must be increased marginally in poultry ration
- Increased amount of methionine in the diet is said to prevent this habit in layers.
- The best way of preventing or controlling feather pecking is to encourage feeding and foraging behaviour by providing high-fibre diets and suitable litter from an early age on, control fear and stress levels through genetic selection, lessen maternal stress, and by good managerial practices.[5]

Control

A variety of methods are available to help accomplish this objective, although it is difficult to stop a substantial outbreak altogether.

- Separate birds doing the severe feather pecking, especially if the pecking is directed at the injuries or vents of other birds.[2]
- 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.
- Trim the beaks of the birds. Beak trimming has been said to decrease the incidence of feather & vent pecking.[20] This is partial amputation of the beak: about one third of the upper and lower beaks are cut and cauterized with a heated blade.
- Ideally, poultry should be allowed protected outdoor access where they can display the full range of their natural foraging and exploratory behaviors.

Egg Eating

It is one of the most prevalent vices among poultry. Sometimes birds will start eating their own eggs, which may begin when there are cracked eggs or when eggs are accidentally broken and subsequently they develop a taste for it. Once the birds have a taste for it, they begin breaking their own eggs. [9]. Cracked eggs, accidental breaking of eggs may initiate the birds to eat their eggs. Presence of thin shelled eggs may predispose such eggs to crack and shatter readily, inviting the birds. Presence of insufficient bedding material in the laying area in longer-term and presence of eggs in the pens may also encourage the birds to begin eating and pecking at the eggs.[9]

Prevention

- Isolation of the birds which have developed this habit.
- Timely collection of the eggs. Egg collection interval should be reduced.
- Debeaking also reduces this tendency.
- Darkness in the laying area may prevent his habit.
- Quantity of lime stone and protein should be increased in the diet.

Egg Hiding



It is a habit of jungle fowl & not seen in domestic fowl but may develop in domestic birds that have access to plenty of space and mobility. The birds hide the eggs in shrubs, fields, etc. They usually do so to prevent it being eaten away from the predators. Due to the restricted movement and space, this is not present in an intensive system.

Prevention

- Restrict freedom of movement of the birds.
- Laying area should be built inside poultry house and made comfortable by providing sawdust, straw etc.

Pica

The word is derived from the Latin word "pica-pica," which is the name of the magpie bird which would indiscriminately gather and devour a variety of objects out of curiosity. Birds occasionally start eating things like feathers, garbage, threads, and other things that are unfit for consumption.

The birds may be predisposed to pica due to phosphorus deficit, parasite infestation, fresh litter material, etc. [7]

Prevention

- Good managerial care and balanced diet are recommended for the prevention of pica.

Conclusion

Birds that exhibit odd behaviour should be handled right away. Debeaking the birds on a regular basis is another crucial management technique. Adequately supplement the diet with nutrients is important. Injuries should be treated promptly & gently. The resulting economic loss at the poultry farm due to vices can be greatly reduced with these simple interventions, and the business can be made much more profitable and sustainable for the farmers.

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