



ANIMAL WELFARE ON ORGANIC FARMS FACT SHEET SERIES

REDUCING THE RISK OF FEATHER PECKING FOR LAYING HENS IN ORGANIC EGG PRODUCTION

Produced in consultation with the ECOA Animal Welfare Task Force, February 2009

THE PROBLEM

Feather pecking is a welfare problem for hens because of the pain it causes and because it leads to the increased likelihood of cannibalism. In conventional poultry operations, beak trimming is commonly used to reduce the damage caused by feather pecking. In organic production, physical alterations are allowed when absolutely necessary to control behaviour that negatively impacts other animals (CAN/CGSB32.310- 2006, 6.7.2). Beak trimming is one such case but it does not address the cause of the behaviour. The standard also requires that organic farmers document their efforts to control or eliminate feather pecking by other methods.

In practice, the needs of animal welfare must be balanced with the practical aspects of production. Beak trimming causes pain and deprives the hen of sensory feedback from her beak.^(1, 2) It should be avoided but when the risk of feather pecking is high in large, floor-housed flocks, beak trimming may be in the best interests of flock welfare. The least painful method is by laser at an early age with no more than one third of the beak removed.⁽³⁾ The practice will likely be continued for large organic flocks even as the producers explore other methods of prevention in order to meet the requirements of the standard.

Much of the information on reducing the risk of feather pecking has come from research conducted in Europe where beak trimming will be prohibited in 2011. Maximum flock size on the organic farms in the studies was 3000, but farms may have several flocks. While some of the recommendations outlined in this fact sheet may prove difficult to implement on a larger scale, it is important for the organic poultry sector to be

aware of practices being used elsewhere and to begin to trial alternative solutions.

Feather pecking and cannibalism are complex abnormal behaviours which can be caused by many different factors. They can also be learned behaviours which spread throughout the flock. Unlike aggressive pecking directed at the head of subordinate birds, feather pecking is directed to all parts of the body.

PREVENTION

Effective prevention requires attention to the living conditions at all production stages from the chick to the adult bird. Research in Europe has shown that 79% of the variation in the extent of feather pecking behaviour in organic flocks was due to rearing conditions⁽⁴⁾.

Step 1: Choose a breed that adapts well to an organic production system. Lines can be selected for low or high propensity to feather peck and cannibalism⁽⁵⁾ but as far as we know there has been no research leading to breed recommendations for commercial organic production in Canada. Calm birds with a robust temperament are better able to cope with stressful changes in the environment.

Step 2: Ensure pullets are raised under conditions which will reduce the risk when they are in the laying barn. Feather pecking can occur from the second week in life, although it often goes unnoticed, and once started will never go away. If at 16 weeks underlying feathers are visible in 20% of the pullets, the majority will have bare patches at 30 weeks.⁽⁶⁾

- Research has shown that chicks from lit hatchery brooders are more fearful and showed more feather pecking than those hatched in a dark environment.
- For young chicks warmth is considered more important than stocking density but research has found correlations with feather pecking and high density (34 chicks/m²) in the first four weeks. With a lower density (21 chicks/m²), no feather pecking was observed during this period.
- If birds are kept on elevated platforms with no litter for the first weeks, the risk of feather pecking is higher.
- Provide dry loose litter from day one.
- Feed trays used for chicks must not allow for dust bathing; feed particles in plumage can evoke pecking.
- Offer perches with more than 5.6cm/bird before 4 weeks of age and preferably by day 10. Introduction at 8 weeks is too late; research shows it will result in more floor eggs laid and more birds lost to cannibalism.
- Ensure sufficient drinker space available; stress or competition results if the ratio of drinking place/pullet is less than 0.9.
- Stimulate birds to forage on the ground by scattering grain in the litter (3 gm/chick/day to 4 weeks and 9 gm/chick/day to 16 weeks).
- Introduce outdoor range during the rearing phase (e.g. at 7-8 weeks) and encourage use with lots of pop holes or a wide open door.
- Covered verandas are recommended from 4 weeks to encourage outdoor use.
- Stocking density is more important than group size; by 4 weeks density should be no more than 10 birds/sq metre.
- Farmers report cannibalism outbreaks are more likely immediately after pullets are moved into the layer barn. Rearing conditions should match those of the layer barn as much as possible (e.g. similar feeder and drinking systems, and layout).
- Minimize stress when transferring birds from rearing house to laying house – catch them early while it is still dark and move pullets into the layer barn in the morning when they will be looking for food and water.

Step 3: Modify layer housing and living conditions to eliminate predisposing factors.

- Provide an enriched environment with opportunity for foraging, this allows for natural pecking behaviour rather than it being redirected to flock mates. Chickens naturally spend a large proportion of the day scratching and pecking.
- Research shows that when more than 66% of birds are using outdoor runs no severe feather pecking is seen.⁽⁷⁾ Range use increases when there is shelter provided (e.g. shrubs and trees, bushes, corn stalks, camouflage netting) and when pop holes are larger than 45 x100cm. Cockerels in the flock also increase outdoor use. Let birds out early in the day once they have learnt to lay in the nest boxes.
- Decrease flock size and reduce densities; with larger flocks there is less use of the outdoor run.
- Given that in most parts of Canada outdoor access is not practical in winter, the indoor environment should provide the stimulation. Good house design prevents stress.
- Quality of litter is important (i.e. no caked or wet litter, or absence of litter).
- Provide enough dark nest boxes to provide a safe place to lay and prevent attracting potentially cannibalistic flock mates to the everted cloaca. (1 box/4-5 birds, 30cm x 30cm x 30cm in size).
- Raised perches provide a safe refuge from aggressive vent pecking by hens on the floor. Pullets are more likely to use perches if they are reared with them from an early age.
- Bright lighting may encourage cannibalistic behaviour and photo-stimulation designed to



Photo credit Anne Malleau

produce early onset of lay can increase risk. However lighting should not be reduced below 20 lux (2 ft candles) and should be evenly distributed. In an outbreak of pecking, bright natural light can be reduced by painting windows white.

- Chickens are attracted to blood – pecking at injuries can trigger outbreaks of cannibalism. Keep enclosures in good repair so there is nothing to puncture the skin. Remove injured birds from the flock.
- Outbreaks of feather pecking can be triggered by a combination of stress factors or by unplanned changes from normal practice and routine.
- Control pests – the presence of rodents or mites increases stress levels and predispose birds to pecking.



Photo credit BC SCPA

Step 4: Ensure access to resources for all birds.

- Aim for as much uniformity in size as possible – 80% of birds should fall within the target weight.
- Ensure birds find feed and water quickly when they arrive at the layer barn.
- Inadequate feeder space results in more aggressive behaviours and results in underweight birds which are more likely to be victims.

Step 5: Ensure that the feed ration meets the nutrient needs for the age and type of flock.

- Severe feather pecking has been demonstrated in birds fed rations too low in minerals, protein or amino acids. ⁽⁸⁾

- Cannibalism has been linked to deficiencies in protein, sodium and phosphorus.
- Increase the time the birds spend feeding by providing a mash rather than pellets.
- Feeding high fibre diets, low-energy diets or roughage reduces feather pecking.
- Avoid changing the diet to a less preferred food or a sudden change in composition. Provide a period of overlap between different feeds.

It is in the best interests of the farmer to ensure that conditions are optimal. Feather pecking is not just a welfare problem for the birds. Feather loss can result in higher costs for the egg producer as feed requirements and disease vulnerability increase. Eliminating as many of the risk factors as possible should be the goal. A pullet well prepared for conditions in the laying farm is a key factor. Raising birds in a way that allows for expression of natural behaviours and foraging activities will go a long way toward eliminating the problem.

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Camouflage nests increase use of outdoor range in the Netherlands. *Photo credit Louis Bolk Institute*

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