BVA British Veterinary Association | Policy statement

BVA and BVPA policy position on feather pecking in laying hens

Executive summary

BVA and BVPA believe that prevention and management of feather pecking, which is a complex and multifactorial problem, are essential goals, given the impact on animal health and welfare. Although feather pecking cannot be eliminated, optimising management practices can reduce the frequency and likelihood of this behaviour, thereby improving welfare.

In the interests of animal health and welfare, BVA and BVPA believe that:

Recommendation 1: All vets in practice should familiarise themselves with a basic understanding of how to reduce the likelihood of and manage an outbreak of feather pecking. Sector experts should seek to share their knowledge more widely, in general publications and events.

Recommendation 2: Poultry keepers should work to reduce feather pecking behaviours even if birds' beaks have been treated.

Recommendation 3: Retailers, governments, industry and key stakeholders must work together in moving towards a poultry industry that no longer finds a need to routinely treat beaks as a management solution.

Recommendation 4: Poultry keepers and veterinary surgeons should understand the risk factors associated with feather pecking, be able to identify an outbreak, and know what immediate steps to take in response to an outbreak.

Recommendation 5: Any management strategies put in place to reduce or eliminate feather pecking behaviour should be developed in liaison with a veterinary surgeon, recorded, and regularly reviewed.

Recommendation 6: When choosing which pullets to purchase, keepers should consider choosing strains with a reduced tendency to injurious pecking.

Recommendation 7: Poultry keepers should contribute data for research into desirable genotypes that may reduce feather pecking.

Recommendation 8: Flock health plans should be developed, implemented, and regularly reviewed in close liaison with a veterinary surgeon to reduce the likelihood of feather pecking behaviour.

Recommendation 9: The transition from rearing to laying facilities should be made as seamless as possible to reduce stress at this crucial time.

Recommendation 10: Housing should be designed to ensure that the layout, perching system, and litter conditions are maintained at an optimum level. Stocking density should also be maintained at the lowest levels possible.

Recommendation 11: Lighting must be designed and installed carefully to ensure an even distribution of light and provide a means of adjusting lighting intensity.

Recommendation 12: Feeding plans should be developed, implemented, and regularly reviewed in close liaison with a veterinary surgeon to reduce the likelihood of feather pecking behaviour.

Recommendation 13: Keepers should aim to maintain uniformity in bird weights.

Recommendation 14: Natural behaviours, including foraging and roaming, must be encouraged as much as possible through provision of various types of enrichment.

Recommendation 15: Poultry keepers should have sufficient training and knowledge to provide conscientious care for their flocks and pay careful attention to behaviours for signs of stress and feather pecking.

Recommendation 16: Poultry keepers should be prepared to share data for research into desirable management techniques that may reduce feather pecking.

Recommendation 17: Poultry keepers should monitor welfare of birds closely and implement management changes where necessary, in close liaison with a veterinary surgeon.

Introduction

The issue

Feather pecking is a significant welfare issue in poultry keeping, where birds peck at the feathers of other birds, sometimes pulling them out and eating them. The challenges of feather pecked birds can be immense; the health and welfare of the affected birds is greatly compromised, and the physical, and therefore financial, losses can be great. The UK veterinary profession, in collaboration with the poultry industry is leading the way on solutions to the issue, but challenges remain.

Feather pecking is not necessarily an aggressive behaviour. Although aggressive pecking often does cause damage, it is generally directed towards the head and neck of another bird. The motivations for birds showing aggression towards each other are not the same as those underlying injurious pecking. Aggressive pecks may be an element of dominant behaviours, including fighting and chasing of other birds, as part of the natural process of establishing hierarchies or "pecking orders" within the flock, or as a result of competition for resources.

Feather pecking is directed at the back, rump and belly of other birds and is regarded as redirected pecks, associated with a need to express natural behaviours where that need is not otherwise met in a domesticated environment. It has also been suggested that it is associated with stress[1,2] and boredom. It is a complex problem and very unpredictable.

Feather pecking can cause:

- Pain, stress and disease. The stress caused by injurious pecking can increase the susceptibility of the flock to disease and could directly lead to spread of a disease throughout the flock through pecks on damaged skin.
- Poor plumage and patches of feather loss. This may result in reduced productivity and increased food consumption in defeathered birds, contributing to financial losses[3,4]. If the protective function of the bird's plumage is lost this may also lead to discomfort, for example by leaving the skin open to exposure to environmental conditions, eg. cold temperatures.
- Skin damage, leaving the bird more susceptible to other infections and disease.
- Death; where feather pecking develops into injurious pecking that can trigger cannibalism.

The impacts of feather pecking are clear violation of one of the five welfare needs; to be protected from pain, injury, suffering and disease. The effects vary depending on the severity of pecking behaviour, which can range from gentle through to severe pecking, and may lead to cannibalistic pecking. The different type of pecking can be defined[5] as:

- **Gentle feather pecking:** Gentle feather pecking consists of gentle pecks to the tips of the feathers. This type of feather pecking usually does not result in much damage and is often ignored

[1] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83
[2] H. El-Lethey, V. Aerni, T.W. Jungi and B. Wechsler (2000) Stress and feather pecking in laying hens in relation to housing conditions,British Poultry Science, 41:1, 22-28, https://doi.org/10.1080/00071660086358
[3] Leeson, S. and Morrisson, W.D. (1978) Effect of feather cover on feed efficiency in laying birds. Poultry Science, 57: 1094–1096. https://doi.org/10.3382/ps.0571094
[4] Tullett, S.G., Macleod, M.G. and Jewitt, T.R. (1980) The effects of partial defeathering on energy metabolism in the laying fowl. British Poultry Science, 21: 241–245. https://doi.org/10.1080/00071668008416662
[5]Definitions sourced from FeatherWel http://www.featherwel.org/injuriouspecking

by the recipient. It can indicate a welfare problem in the bird performing the behaviour, and precede more serious pecking.

- **Severe feather pecking:** Severe feather pecking causes the most damage to the recipient. It consists of forceful pecks and pulling of feathers that are frequently eaten and results in feather loss especially on the back, vent and tail area. Victims of severe feather pecking often initially move away, squawk or confront the pecker in response to receiving severe feather pecks as these are painful. If severe feather pecking continues, however, victims have also been observed to surrender to being pecked and remain still.
- **Cannibalistic pecking:** Cannibalistic pecking occurs when severe feather pecking has led to feather loss and bald patches. Pecking can then continue on the skin, leading to wounds and may eventually lead to the victim's death due to excessive blood loss, tissue damage and infections.
- **Vent pecking:** A separate form of cannibalistic pecking is vent pecking, where the bird pecks at the vent of the victim and may pull out the inner organs. This type of cannibalistic pecking can also develop in well-feathered birds and is sometimes seen around the onset of egg laying.

BVA and BVPA believe that the management and prevention of feather pecking, which is a complex and multifactorial problem, are essential goals, given their impacts on animal health and welfare and the reputation of the poultry farming industry.

Impact

This issue affects many species of birds. This position paper is specifically applicable to layer chickens - birds which are bred and raised for egg production. Feather pecking is considered to be most prevalent in this sector due to a range of risk factors including genetics. Whilst the majority of animals affected will be in the commercial sector, this position may also be relevant to non-commercial ('backyard') poultry keepers.

Feather pecking can also occur in other poultry sectors, including turkeys and the game bird industry. These are not covered by this document since the species types and management needs are substantially different.

The extent of feather pecking in the UK is significant. It has been shown in surveys of non-caged birds as follows:

- 19% of birds have head/neck feather loss at any one time, with 5% severe[6]
- 25% of birds have back/vent feather loss, with 10% severe[5]
- Studies of free-range flocks have estimated prevalence as high as 57 to 86%[7,8,9]

Once feather pecking become prevalent in a flock it can be extremely difficult to stop and, if the behaviour becomes severe and leads to cannibalism, it may result in the need to cull large numbers of birds.

Veterinary Knowledge

Although a large proportion of poultry will be attended to by vets with specific knowledge of the sector, these issues may also be faced by small-holdings and non-commercial ('backyard') poultry keepers who will often seek advice from their local veterinary practice.

All vets in practice should therefore familiarise themselves with a basic understanding of how to reduce the likelihood of and manage an outbreak of feather pecking. Sector experts should seek to

[6] The AssureWel Manual http://assurewel.org/Portals/2/Documents/AssureWel%20Manual%202018_9kb.pdf
[7] Green, L.E., Lewis, K., Kimpton, A. and Nicol, C.J. (2000) Cross-sectional study of the prevalence of feather pecking in laying hens in alternative systems and its association with management and disease. Veterinary Record, 147: 233-238 https://doi.org/10.1136/vr.147.9.233
[8] Bestman, M.W.P. and Wagenaar, J.P. (2003) Farm level factors associated with feather pecking in organic laying hens. Livestock Production Science, 80: 133–140 https://doi.org/10.1016/S0301-6226(02)00314-7
[9] Lambton, S.L., Knowles, T.G., Yorke, C. and Nicol, C.J. (2010) The risk factors affecting the development of gentle and severe feather pecking in loose housed laying hens. Applied Animal Behaviour Science 123: 32–42 https://doi.org/10.1016/j.applanim.2009.12.010

share their knowledge with a wider audience, most feasibly through general veterinary publications and at mainstream events.

Recommendation 1: All vets in practice should familiarise themselves with a basic understanding of how to reduce the likelihood of and manage an outbreak of feather pecking before giving advice to any clients owning poultry. Sector experts should seek to share their knowledge more widely, in general publications and events.

What is beak treatment?

As a precautionary measure, it is standard practice to blunt beaks to prevent the development of the sharp hook on the beak of adult birds. This is referred to as 'beak trimming' in legislation, but is more widely referred to as 'beak treatment' in industry and practice.

The process involves focusing a high intensity infra-red beam at the tip of the beak, which penetrates the hard outer horn, altering a clearly marked zone of the underlying tissue. The chick's head is securely held in a rubber holder to prevent movement of its head throughout the process, enabling precise and reliable treatment of the beak. There is no open wound and one to three weeks later, the tissue behind the affected area heals and the beak tip is lost.

Beak trimming is only permitted on birds up to 10 days old using infra-red technology, and only for the purposes of reducing injurious pecking[10]. In practice, it is carried out at day-old in the hatchery, at a time when their beaks are still soft. The infra-red method removes operator error and inconsistency, and research has shown that it does not result in chronic pain or other adverse consequences for sensory function[11], so offers significant improvements with regard to animal welfare over previous methods.

Beak treatment reduces the injuries and mortality rate caused by feather pecking, but does not prevent the abnormal behaviour from occurring. On a traditional farmyard, poultry would be able to wear down their beaks through natural behaviours, so treatment replaces this outcome in a commercial environment.

An un-treated beak

A treated beak

Handling birds can cause the birds stress. To help minimise this, beak treatment must be carried out to the highest possible standards by trained operators, and equipment well maintained to ensure effectiveness. Birds are usually vaccinated at the same time, which reduces the need to handle them in the future.

If injurious feather pecking occurs in a flock which has not been beak treated, appropriate changes to the system of management must be made immediately. To control an outbreak of feather pecking or cannibalism, emergency beak trimming is legally permitted, for laying hens over 10 days old and using the hot blade method, provided it is carried out by trained and competent operators, using

[10] Paragraph 5 (1) to (5) of Schedule 4 to the Mutilations (Permitted Procedures) (England) Regulations 2007
[11] McKeegan, D. and Philbey, A. (2012) Chronic neurophysiological and anatomical changes associated with infra-red beak treatment and their implications for laying hen welfare. Animal Welfare, 21(2), pp. 207-217. (doi:10.7120/09627286.21.2.207)

appropriate equipment[12]. This may reduce the fatalities and welfare harms associated with the outbreak, but the beak is a sensory organ, so the act of beak trimming may cause pain, suffering and distress[13]. It should therefore only be considered as a last resort, once all other intervention strategies have been attempted and following veterinary advice. Note that emergency beak trimming is only allowed for laying hens and is not permitted for broiler breeds.

The UK poultry industry is aiming to reduce the need to treat beaks. Although this process does reduce the harms associated with feather pecking, it does not address the underlying causes. The beak is also a primary means by which a bird interacts with its environment, although research suggests that "IR beak treatment of day old chicks does not result in chronic adverse consequences for sensory function, nor does it demonstrate evidence of chronic pain associated with the procedure"[14].. Poultry keepers should therefore work to reduce feather pecking behaviours even if birds' beaks have been treated, but should not cease beak treatment until they can be confident that this will not result in significantly increased risk of injurious pecking.

As consumer expectation and demand changes, the pressure to avoid beak treatment is also likely to increase. Retailers can have a significant impact on industry practices, so have a responsibility to ensure they are aware of the complexities of the issue and possible wider implications before they ask the poultry industry to make any changes. The UK Government have previously proposed bans on beak trimming of laying hens in all production systems, under the Welfare of Farmed Animals Regulations. In 2010, BVA supported the postponement of these bans due to the welfare issues likely to result from increased injurious pecking, but they are expected to be raised again in the future. Further research, funding and commitment to find desirable genotypes and management techniques which reduce or prevent injurious pecking solutions are needed before such a ban can be considered.

Recommendation 2: Poultry keepers should work to reduce feather pecking behaviours even if birds' beaks have been treated.

Recommendation 3: Retailers, governments, industry and key stakeholders must work together in moving towards a poultry industry that no longer finds a need to routinely treat beaks as a management solution.

Management of risk factors

Feather pecking is a complex problem and very unpredictable. It has been suggested that feather pecking is associated with stress[15,16] and boredom, which can be affected by a wide range of factors. Any sudden change in environment, disease (for example, red mite) or management can act as a stressor, leading to an outbreak of injurious pecking.

The accumulation of a number of factors can lead to problems, including:

- Bird temperament
- Health
- The transition from rearing to laying accommodation
- Housing design and layout
- Lighting
- Diet and foraging
- Variation in bird weights

[12] http://www.legislation.gov.uk/uksi/2010/3034/made/data.pdf
[13] FAWC (2007) Opinion on Beak Trimming of Laying Hens https://www.gov.uk/government/publications/fawc-opinion-on-beak-trimming-of-laying-hens
[14] McKeegan, D. and Philbey, A. (2012) Chronic neurophysiological and anatomical changes associated with infra-red beak treatment and their implications for laying hen welfare. Animal Welfare, 21(2), pp. 207-217. (doi:10.7120/09627286.21.2.207)
[15] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83
[16] H. El-Lethey, V. Aerni, T.W. Jungi and B. Wechsler (2000) Stress and feather pecking in laying hens in relation to housing conditions, British Poultry Science, 41:1, 22-28, https://doi.org/10.1080/00071660086358

- Environmental enrichment
- Keeper knowledge and management

Although beak treatment does reduce the harms associated with feather pecking, it does not address the underlying causes. Management of the environment to reduce potential stressors can help to prevent injurious pecking. However, it is important to note that sudden changes to the environment can result in increased stress and thus a greater risk of feather pecking, so any changes should be made gradually, with prior advice from a veterinary surgeon or other suitably qualified person, and any resulting impact monitored.

Recommendation 4: Poultry keepers and veterinary surgeons should understand the risk factors associated with feather pecking, be able to identify an outbreak, and know what immediate steps to take in response to an outbreak.

Recommendation 5: Any management strategies put in place to reduce or eliminate feather pecking behaviour should be developed in liaison with a veterinary surgeon, recorded, and regularly reviewed.

Bird temperament

Birds can be bred to select for strains with a reduced tendency to feather peck.

The most active birds in the flock are generally those which perform the worst feather pecking behaviour[17]. Birds with calm yet 'robust' temperaments tend to be better able to cope with stress, for example that may be caused by changes to their environment, so are less likely to commence feather pecking[18].

It is important to note that the docile birds, which are less likely to peck, may have an increased tendency to exhibit other traits that are less desirable (e.g. laying floor eggs), thus the breeding must be managed carefully.

Significant genetic progress has been made in commercial egg laying poultry over the years to decrease injurious pecking and cannibalism[19]. Further research into desirable genotypes in all poultry sectors would be beneficial.

Recommendation 6: When choosing which pullets to purchase, keepers should consider choosing strains with a reduced tendency to injurious pecking.

Recommendation 7: Poultry keepers should contribute data for research into desirable genotypes that may reduce feather pecking.

Health and disease

Overall bird and flock health is an important factor in avoiding stress, and therefore reducing the likelihood of feather pecking behaviour and optimising welfare. A comprehensive flock health plan, developed, implemented and regularly reviewed in close liaison with a veterinary surgeon is the best way to achieve good overall health and welfare. This should include specific management procedures and interventions to reduce the risk of injurious pecking occurring and the steps to be taken in the event of an outbreak.

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[17] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83

[18] Defra (2005) A Guide to the Practical Management of Feather Pecking and Cannibalism in Free Range Laying Hens. Department for Environment Food and Rural Affairs, London, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69374/pb10596-feather-pecking-050309.pdf

[19] Beak Trimming Action Group Review (2015) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/480111/Beak-Trimming-Action-Group-Review.pdf

The health of birds during rearing is particularly important in ensuring they are able to cope with environmental changes, thus reducing the likelihood of feather pecking. Birds must be of an appropriate weight, vaccinated, wormed and free of disease. Farmers should only accept correctly reared and vaccinated, well-feathered, healthy pullets.

Health and hygiene must be managed, including effective disease control, such as monitoring and controlling levels of red mite and worm burdens, as well as other infectious diseases. A good human-animal relationship between flock and keeper, with regular inspections will also help to reduce stress. Care must also be taken to avoid large contrasts in light, noise and temperature, including when checking on the flock.

Recommendation 8: Flock health plans should be developed, implemented, and regularly reviewed in close liaison with a veterinary surgeon to reduce the likelihood of feather pecking behaviour.

Transition from rearing to laying accommodation

Moving the pullet from rearing accommodation to the laying quarters is a significant stressor, which may lead to feather pecking. Care should be taken before, during and after transfer to minimise stress.

Housing conditions in the rearing phase should be as closely matched as possible to those in the laying house. Field experience suggests that this is one of the most important factors in reducing the risk of feather pecking[20].

Birds would ideally be moved at night to reduce the interference on their feeding routines. The time spent on the vehicle should be minimised and the pullets unloaded as quickly and as carefully as possible.

On arrival, pullets should have immediate access to good quality, friable litter, and if applicable, given access to the range area as soon as possible.

Good communication between the farmer, the haulier and the pullet rearer during all stages of the process are essential to ensure the transition is as smooth as possible.

Recommendation 9: The transition from rearing to laying facilities should be made as seamless as possible to reduce stress at this crucial time.

Housing design and conditions

Poorly designed housing and equipment can cause frustration and stress, thereby leading to feather pecking.

Any difficulty in reaching nesting areas can cause stress, so feeders, drinkers, perches and any other equipment must not be positioned in a way which impedes access to the nesting area. The type of nest boxes can also have an impact, e.g. birds nesting in individual nests are less likely to peck each other than those in communal nests[21]. Keepers should seek expert advice when designing housing layout.

The choice of perching system offers significant potential benefits to the flock. Introducing additional perching opportunities in the vertical space, appropriate to the building, will provide additional resting/roosting options which can allow submissive birds the opportunity to avoid situations in which they might otherwise be pecked. Providing ‘verandahs’ or ‘winter gardens’ is also a practical method of reducing stocking densities, as they provide natural lighting and extra space, as well as

[20] Defra (2005) A Guide to the Practical Management of Feather Pecking and Cannibalism in Free Range Laying Hens. Department for Environment Food and Rural Affairs, London, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69374/pb10596-feather-pecking-050309.pdf

[21] Bestman, M. W. P. (2000). The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86) https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83

opportunities for further enrichment. New perching systems should be designed with advice from a veterinary surgeon or relevant industry expert.

There is a strong relationship between litter quality and feather pecking[22]. Litter should be dry and loose, as this provides birds with opportunities to scratch and dust bathe. If this innate behaviour is prohibited, birds can become stressed. Choice of material, design of the area, access arrangements and drainage are important factors in ensuring the litter stays dry and friable.

A correlation between stocking density and feather pecking has also been observed[23,24]. Reducing stocking density may thus reduce the risk of feather pecking.

Recommendation 10: Housing should be designed to ensure that the layout, perching system, and litter conditions are maintained at an optimum level. Stocking density should also be maintained at the lowest levels possible.

Lighting

Variations in light intensity are a significant risk factor for feather pecking. For example, beams of bright sunlight entering a dark shed, or a very high intensity of artificial light within a poultry house can lead to injurious pecking. As natural light is much more intense than artificial light, birds with access to outdoor areas must have enough space and opportunity to escape the attentions of aggressive birds. Hens perceive incandescent lighting at higher intensities than fluorescent lighting, so care must be taken when changing between lighting source types.

In all housing systems, light intensity should be at least 10 lux under normal conditions, measured at any feeder[25], and the nesting area should be darker (<1 lux).

Extremely bright lights or excessive periods of light leads to birds becoming more hostile, so reducing light intensity can reduce pecking and is often the first tool used to combat an outbreak. However, keeping birds at a low light intensity will also impact on other welfare needs, and if levels are too low at the start there is little opportunity to reduce light intensity should a problem occur.

Constant light can also be stressful for birds, so keepers must provide an adequate uninterrupted period of darkness, lasting about one third of the day. A period of twilight (between 1 and 5 lux) should be provided to give time for laying hens to adjust to changing light and dark patterns and give them time to roost.

The position of lights must also be carefully considered during planning and installation, as poorly positioned lighting can result in bright spots or areas of shadow. Other than in the darker nesting area, lighting should be evenly distributed across the house.

Recommendation 11: Lighting must be designed and installed carefully to ensure an even distribution of light and provide a means of adjusting lighting intensity.

Diet and foraging

A balanced and life-stage appropriate diet containing the right amount of protein, minerals and other nutrients is essential for the maintenance of good health and welfare at all stages of life. Increasing insoluble fibre within the main diet, or as added forage can be beneficial, although additional forage provision must be managed so as not to attract rodents. Any changes to the diet can cause stress, so

[22]Green, L.E., Lewis, K., Kimpton, A. and Nicol, C.J. (2000) Cross-sectional study of the prevalence of feather pecking in laying hens in alternative systems and its association with management and disease. Veterinary Record, 147: 233-238 https://doi.org/10.1136/vr.147.9.233

[23] Savory, C. J., Mann, J. S., and Macleod, M. G. (1999) Incidence of pecking damage in growing bantams in relation to food form, group size, stocking density, dietary tryptophan concentration and dietary protein source. British Poultry Science, 40(5), 579-584. https://doi.org/10.1080/00071669986936

[24] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83

[25] DEFRA (2018) Code of practice for the welfare of laying hens and pullets. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/732227/code-of-practice-welfare-of-laying-hens-pullets.pdf

should be minimised as much as possible and managed by mixing old and new diets through a transitionary phase. Changes from high to low protein diets should be avoided. Any feeding plan should be developed and regularly reviewed in close liaison with a veterinary surgeon, bearing in mind that changes in feed provided can cause stress for the birds.

Thought should be given to the form in which food is provided. Wild birds spend much of their time and energy foraging for food, which involves pecking and scratching at the ground. In a domesticated setting, their feed requirements are met without the need for ground pecking and scratching, so are redirected onto other objects and birds[26]. Pecking damage has been shown to be greater when food is provided as pellets[27], whereas mash increases eating time and keeps the birds occupied.

The type of feeding system can also have an impact. For example, feather pecking has been shown to be lower when reservoir feeders are used instead of chain systems[28].

Recommendation 12: Feeding plans should be developed, implemented, and regularly reviewed in close liaison with a veterinary surgeon to reduce the likelihood of feather pecking behaviour.

Variation in bird weights

Flocks with large variations in body weights tend to be more prone to feather pecking than those with more evenly sized birds.

Uniformity of the flock is an essential indicator of quality, and keepers should aim for 80% of birds to fall within 10% of the current flock average (mean).

Recommendation 13: Keepers should aim to maintain uniformity in bird weights.

Enrichment

Providing enrichment helps to reduce boredom, reducing the likelihood of injurious pecking occurring. Popular forms of enrichment include pecking blocks made of Lucerne bales, filled hay nets, alfalfa blocks, dust baths, hanging string, plastic, CDs and egg trays. Assurance schemes require some forms of enrichment to be in place. For example, the Lion egg scheme requires all farmers to use a minimum of six enrichment tools from a list of 45, and RSPCA Assured requires at least 2 items of environmental enrichment inside the house for every 1000 birds, which must be permanently available to the birds and include some destructible forms of enrichment. .

Promoting foraging and dustbathing activities is important, thus maintaining good quality, deep, friable litter is vital for enabling birds to carry out these natural behaviours.

Outdoor ranging areas can help to reduce injurious pecking. When birds are outside, carrying out their natural roaming behaviour, they are focusing on the environment rather than other birds and the perceived stocking density is lower[29]. Birds should be given access to the range area as early as possible and for as long as possible. The attractiveness of the outdoor area is important. Birds find open spaces threatening as naturally they would be more visible to predators. Therefore, provision of a variety of natural vegetation and/or artificial shelters for cover will encourage more birds to explore the range area. Providing access to foraging opportunities outside will also help to encourage birds to spend longer roaming. The range must be actively managed to keep the area around the popholes clean and well drained, control predators and rotate pasture.

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[26] DEFRA (2018) Code of practice for the welfare of laying hens and pullets. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/732227/code-of-practice-welfare-of-laying-hens-pullets.pdf

[27] Savory, C. J., Mann, J. S., and Macleod, M. G. (1999) Incidence of pecking damage in growing bantams in relation to food form, group size, stocking density, dietary tryptophan concentration and dietary protein source. British Poultry Science, 40(5), 579-584. https://doi.org/10.1080/00071669986936

[28] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83

[29] Green, L.E., Lewis, K., Kimpton, A. and Nicol, C.J. (2000) Cross-sectional study of the prevalence of feather pecking in laying hens in alternative systems and its association with management and disease. Veterinary Record, 147: 233-238 https://doi.org/10.1136/vr.147.9.233

Recommendation 14: Natural behaviours, including foraging and roaming, must be encouraged as much as possible through provision of various types of enrichment.

Keeper knowledge and management

Conscientious and knowledgeable flock management play a vital role in minimising stress levels[30].

Damage caused by feather pecking has been shown to reduce with increased experience of the farmer. Farmers who have a good understanding of the innate needs of the birds are more able to adapt their attitude and management to the needs of the animals, thus reducing feather pecking[31].

Changes to management can also lead to aggressive pecking. However, the motivators are different to injurious pecking and need to be tackled differently. It is important for the keeper to take time to observe the birds in order to understand the type of pecking occurring in the flock.

Poultry farmers should be adequately trained to care for their flocks, pay attention to detail, spend sufficient time with the birds to learn about their normal and abnormal behaviours, be conscientious and diligent and maintain good records. Examples of useful training schemes include Lion Training Passport, and AssureWel welfare training.

Keepers should read the FeatherWel guides, which provide clear, practical information on how to reduce feather pecking. Keepers should also check the requirements of farm assurance schemes, which require an animal health and welfare plan to ensure birds' welfare needs are met.

Recommendation 15: Poultry keepers should have sufficient training and knowledge to provide conscientious care for their flocks and pay careful attention to behaviours for signs of stress and feather pecking.

Recommendation 16: Poultry keepers should be prepared to share data for research into desirable management techniques that may reduce feather pecking.

Monitoring

Poultry keepers should monitor and keep records of mortality, feather cover and injuries attributable to injurious pecking to enable benchmarking with previous flocks and identification of targets for improvement. Assurance schemes such as Lion egg and RSPCA Assured now require feather scoring at 40 and 70 weeks of age.

Feather scores should be recorded throughout the life of the flock, using a clear scoring system such as AssureWel. Progress should be assessed on a flock-by-flock basis as part of the review of the farm's veterinary health and welfare plan. The aim should be for continuous improvement in mean feather loss scores and injuries attributable to injurious pecking.

Any outbreak of feather pecking should be recorded and possible causes investigated. Following any unusual or sudden change in management that may lead to increased stress levels, birds should be inspected more regularly than usual in order to detect any feather pecking at the earliest opportunity and appropriate steps to be taken to protect the birds' welfare.

Once all management strategies are in place and good feather cover is being regularly achieved throughout lay, keepers should consider stopping beak treatment in future flocks, in consultation with a veterinary surgeon and other appropriately qualified technical advisors. Beak treatment should not be ceased until the keeper is confident that this will not result in significantly increased risk of injurious pecking.

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[30] Defra (2005) A Guide to the Practical Management of Feather Pecking and Cannibalism in Free Range Laying Hens. Department for Environment Food and Rural Affairs, London, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69374/pb10596-feather-pecking-050309.pdf

[31] Bestman, M. W. P. (2000) The role of management and housing in the prevention of feather pecking in laying hens. In 3rd NAHWOA Workshop Proceedings (pp. 77-86). https://pure.au.dk/portal/files/1484065/NAHWOA-3rd-ProceedingsFINAL.pdf#page=83

Recommendation 17: Poultry keepers should monitor welfare of birds closely and implement management changes where necessary, in close liaison with a veterinary surgeon.

More information:

- Defra guide to the practical management of feather pecking & cannibalism in free range laying hens
- BVA policy on Abnormal behaviour
- FAWC opinion on beak trimming
- Defra Poultry on-farm welfare guides
- FeatherWel guidance