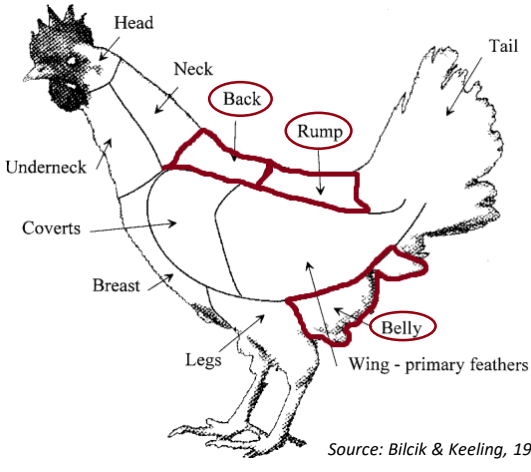
Severe Feather Pecking

Severe feather pecking and welfare impact

Severe feather pecking consists of forceful pecks and pulls of feathers that are frequently eaten and results in feather loss especially on the back, vent and tail area (Featherwel, 2013). Severe feather pecking and its damages are a general welfare problem in laying hen flocks because the removal of feathers is painful and stressful for the animals. It also increases the risk of poor thermoregulation, skin injuries and secondary infections, diseases, and eventually mortality. Even if the risk increases as hens reach sexual maturity, severe feather pecking can occur all throughout life. It is generally related to feeding and lack of opportunities for foraging behaviour (Rodenburg et al., 2013). It seems to increase when birds are in conditions where they have difficulty coping with environmental stressors.

Animals injured need to be isolated without delay to prevent suffering and the development of injurious pecking in the flock.

To identify feather pecking, specific body parts are observed. Damages to the feathers on the back and rump usually indicate feather pecking and even if feather loss to the belly can be seen in highly productive animals, it can also be caused by vent pecking (WelfareQuality®, 2019).

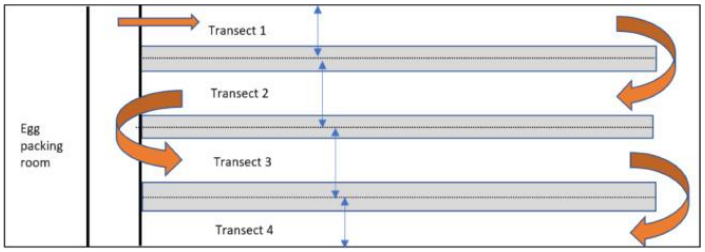


Source: Bilcik & Keeling, 1999

Several protocols exist to assess the pecking damages with various characteristics (e.g. sample size, level of scoring details, whether or not the birds are handled). Two of them are detailed in this factsheet.

Method 1

The **Aviary Transect method** (Vasdal et al., 2021) is used in aviary systems to assess several welfare indicators including feather loss. It consists of following standardized transect walks along the full length of the house to record the number of animals observed that are showing feather loss (without handling birds). Observers have to move slowly through the flock to avoid disrupting birds during scoring. All the birds observed with feather loss are noted including those on the littered floor, in the width of the space under the aviary structure, and on each tier of the structure, on both sides if the observer is in the central area. To assess birds in nest boxes, approximately half of the curtains of every nest boxes are opened.



Schematic overview of a 2-dimensional horizontal hen house with 3 aviary structures (grey), transect width (blue arrows) and an example of path taken by observers (orange arrows) Source: Vasdal et al. 2021

In this method, the back, head, breast and tail of the hens are observed. Every hen with feather loss is counted. The feather loss indicator is described as follow:

- **Head:** Missing feather on the head, including the neck, ≥ 5 cm in diameter
- **Back:** Missing feathers on ≥ 50% of the back, including wings
- **Breast:** Missing feathers on the breast, ≥ 5 cm in diameter
- **Tail:** Missing or clearly damaged feather on the tail, mainly shafts and rachises left.

Severe Feather Pecking

Method 2

Another method is the **Assurewel Protocol** for Laying Hens (Main et al. 2012). This protocol uses several indicators including feather loss It can be used in any husbandry system, 50 birds randomly chosen are assessed, 5 birds in 10 different representative areas of house and/or range. The animals are visually assessed, no birds are handled. The head/neck area and back/vent are separately scored:

0: No/minimal feather loss. No bare skin visible, no or slight wear, only single feathers missing

1: Slight feather loss. Moderate wear, damaged feathers or 2 or more adjacent feathers missing up to bare skin < 5 cm maximum dimension.

2: Moderate/severe feather loss. Bare skin visible ≥ 5 cm maximum dimension.

Both **Aviary Transect Method** and **Assurewel method** allow the detection of feather loss and take around 20 minutes to complete. The main differences between the two methods concern:

- The scoring system: the Transect method has a binary scale allowing the detection of high feather loss, and the Assurewell method is more detailed with 3 levels of scoring.
- The sampling: Transect method has no sampling, but all birds seen by the observer with plumage loss are scored. As it cannot be guaranteed that all birds are checked in the aviary, the result will not be the prevalence of feather loss, but the number of animals seen with feather loss on a given flock size. Assurewell method relies on a relatively small sample, this allows determination of a prevalence but with a sub-optimal precision. Increasing the sample size will increase the precision of the result and allows the detection of low prevalence of feather loss.

Centre's recommendations:

- *Method 2*: Make sure that you randomly select the birds in different areas in the barn (resting area, watering areas, in the middle, close to walls, range)
- *Both Methods*: Training of the operator is essential to guarantee the validity and repeatability of the results

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Severe feather loss to the head, neck, back, belly and rump

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