

## Litter provision and management for pullets and laying hens in cage-free systems

### Problem

The provision of litter in cage-free housing systems allows the hens to engage in natural behaviours and reduces the risk of feather pecking. However, often the litter is wet and of poor quality, which spoils its positive effects. In laying hen houses, too much litter can also lead to an increased number of floor-eggs.

### Solution

An adequate amount of high-quality litter with a high absorption capacity should be provided on solid floors in all cage-free housing systems. Throughout the rearing and laying phase, the litter quality needs to be monitored.

### Benefits

The provision of high-quality litter reduces the risk of feather pecking by enabling the birds to perform natural behaviours, such as foraging, scratching, and dustbathing. Litter also absorbs faeces on a solid floor, which is positive for the health of the birds.

### Practical recommendations

Upon the arrival of the flock, the solid floor should be covered with a thin layer of litter. Assess the quality of the litter during the daily inspection rounds: is it dry, friable, and flaky? (See Figure 1) Especially cold drafts may cause wet litter and also make the birds more vulnerable to disease. Leakages of waterlines and drinkers may also cause wet litter. Stimulating the scratching behaviour of the hens by scattering a little amount of feed or whole grain in the litter area helps keep it dry and friable. Another option is to use automatic litter scrapers (Figure 2), which ensure that the litter stays at an optimal depth and prevents faecal built-ups. In the layer phase, too much litter can lead to floor-eggs. In the first weeks after placing a new flock, the scrapers can be moved frequently to prevent hens from developing the habit of laying floor eggs.



Figure 1: Dry, friable wood shavings as litter substrate for laying hens (Source: Mona Giersberg, Utrecht University)

### APPLICABILITY BOX

#### Theme

Animal husbandry

#### Keywords

Pullet, laying hen, housing, substrate, bedding, feather pecking

#### Context

Transition to and operating cage-free housing systems for laying hens

#### Best in

All cage-free housing systems for pullets and hens: barn, free range, and organic production

#### Target audience

Farmers, farm advisors



Figure 2: Automatic litter scraper (Source: Mona Giersberg, Utrecht University)

## On-farm application

### System approach

- Provide a thin layer of litter on the solid floor of the cage-free housing system. A commonly used substrate are wood shavings. Consider rapeseed or barley straw (crushed, heat treated, pelleted, and then granulated) as litter, as these substrates have a high absorption capacity.
- Prevent cold drafts and leakages of waterlines and drinkers, which may cause wet litter.
- Stimulate scratching behaviour in the birds by providing small amounts of feed or whole grain in the litter.
- Use automatic litter scrapers to keep the litter at an optimal depth, which prevents faecal built-ups and floor-eggs.
- Run the scrapers frequently in the first weeks after the arrival of a new flock to prevent hens from developing a habit of laying floor-eggs.
- Remove wet litter and/or add fresh litter during the rearing and laying phase if necessary.

### Evaluation

- Assess the litter quality during daily inspection rounds: it should be dry, friable, and flaky.

## Further information

### Weblinks

Maintaining litter quality during lay:

<https://www.featherwel.org/featherwel/litter/maintaininglitterduringlay.html>

## About this practice abstract and Best Practice Hens

### Publishers:

Utrecht University (UU)  
Yalelaan 2, 3584 CM Utrecht  
<https://www.uu.nl>

**Authors:** Dr Mona F. Giersberg

**Editors:** Mariana Y.R. Couto, Ángela Morell Pérez, Mona F. Giersberg & Bas Rodenburg

**Project coordinator:** Prof. T. Bas Rodenburg, Utrecht University (UU), Yalelaan 2, 3584 CM Utrecht, t.b.rodenburg@uu.nl

**Best Practice Hens:** To support egg production in non-cage systems and improve animal welfare, a consortium consisting of 7 partners will develop Best Practices for Non-cage Egg Production Systems as a European Commission, DG SANTE pilot project. These Best Practices will provide practical support to egg producers to encourage them to convert from cage to non-cage systems, including organic production.

**Project website:** [www.bestpracticehens.eu/](http://www.bestpracticehens.eu/)

**Social media:** Facebook and LinkedIn(@bestpracticehens) & Twitter (@BestHens)

© 2022