

## What to consider when feeding laying hens in cage-free systems

### Problem

Laying hens must be provided with sufficient amount of nutritious feed to produce properly. In cage-free housing systems, it may be difficult for some birds to access the feeder and feed without competition. Nutritional imbalances increase the risk of production diseases and feather pecking.

### Solution

In cage-free housing systems, the feed has to be provided in such a way that it is easily accessible for all hens of the flock. In addition to a sufficient amount of feed, it is important to pay attention to a balanced nutrient composition.

### Benefits

An adequate and well-balanced diet supports the egg-laying performance and health of the hens. Laying hens fed an adequate diet will also have a lower risk of developing feather pecking and cannibalism.

### Practical recommendations

Insufficient feeder space and feeding frequency may result in frustration, aggression, and uneven hen bodyweights across the flock. Supply at least 10 cm of feeding space per hen as required by EU legislation. This ensures that hens can eat with minimal competition. It is recommended to feed the hens 6-7 times per day. The last feeding should be run ½-2 h before the light is switched off in the barn to ensure that the hens have all the necessary nutrients for egg production. Feeding times should not be set during the time the hens lay their eggs, so they will not be attracted away from the nest boxes. In addition, block feeding is advised, where two feeding times follow shortly after each other. Birds that have not been able to eat the first time will get access the second time, as the birds that fed during the first time are less eager. If feed hoppers are used, they should be turned two times per day to destroy feed clusters. Feed hoppers should not be too close to each other so that the hens can access the whole feeding space. It is recommended that the decision to change to another feed phase should not be determined by bird age but by body weight, feed intake, egg yield and egg weight. Mashed feed instead of pellets should be fed to lower the risk of feather pecking. In addition, feeding sufficient protein of good quality is recommended to mitigate the risk of feather pecking. For specific advice on diet formulation, contact your feed supplier.

### APPLICABILITY BOX

**Theme**

Animal husbandry

**Keywords**

Laying hen, housing, feeding equipment and feeding

**Context**

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

**Best in**

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

**Target audience**

Farmers, farm advisors



Figure 1: Hens feeding (Source: WUR)

## On-farm application

### System approach

- Provide at least 10 cm of feeding space per hen.
- Apply 6-7 feeding times per day depending on hen behaviour (all birds should eat with minimum competition); apply block feeding.
- Provide mashed feed with sufficient protein of good quality to decrease the risk of feather pecking.
- For specific advice on diet formulation, contact your feed supplier.

### Evaluation

- Assess the behaviour of the hens at feeding: if the birds stand in line to reach the feeder after it has been filled, then it is filled too rarely.
- Monitor the body weight and production performance of the hens and compare the results with the breeding company's standards.

## Further information

### Weblinks

Council Directive 1999/74/EC; minimum feeding space: article 4.1 b) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A31999L0074>

## About this practice abstract and Best Practice Hens

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**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/)

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