

## Light management for laying hens

### Problem

Even the best lighting system can give bad results if they are not managed well.

### Solution

Good light management comprises not only the setting of day and night length, but also the setting of dimming phases and proper additional management.

### Benefits

Good light management will result in proper use of the system, minimal floor eggs and calm birds.

### Practical recommendations

- Lights hanging above aisles should provide at least 20 lux of light on the litter area, should preferably lighten the entrance of the nest boxes (so birds are able to inspect the entrance) and the first part of the litter area underneath the elevated floors.
- Additional lights underneath the system will prevent floor eggs. They can be switched on in the morning and switched off at the end of the afternoon.
- Lights in the aviary system will encourage birds to use these areas and will attract them to the feeders. For stepwise dimming purpose it could be advantageous to have separate on-off switches for each level.
- Both at the start and end of the day there should be a dimming phase to enable the birds to adjust to the new situation. Dimming can be done by slowly reducing the light intensity of the lights, but it can also be done by stepwise switching off lights, starting with the lower positioned lights and ending with the highest positioned lights.
- Especially at the end of the day it is important to apply a good dimming schedule to allow the birds to find their roosting places. For that, dimming should start with the bottom lights, followed by higher placed lights and ending with the lights on the ceiling, all in a duration of about 30 minutes. It is recommended to have some small lights on the ceiling above the aviary systems, that turn on 15 minutes before dimming starts and turn off 15 minutes after the last lights have dimmed.
- For newly housed flocks it is good to apply the dimming by hand the first few days to help and train the birds to find their roosting places. This training can be done by increasing the lights a bit and restart the dimming for birds that have not yet managed to get off the litter floor. Repeating the dimming a few times will encourage the last birds to get into the system and find the top levels to roost.

### APPLICABILITY BOX

#### Theme

Lighting, laying hens

#### Keywords

Light, management, laying hens

#### Context

Management of light in laying hen houses

#### Application time

Complete production period

#### Required time

Daily check of a few minutes

#### Period of impact

Year round

#### Equipment

Lighting equipment, dimming equipment

#### Best in

Non cage systems, with special attention to aviary systems

- If young birds lay many eggs onto the wire floors in the morning, this problem can be solved by having an hour of very dim light per day before the actual light period starts. This will allow these birds to find the nest boxes without disturbing the still sleeping hens.



Figure 1 (left): Daylight entrances can also be managed to control the amount of light entering the henhouse (Source: WUR). Figure 2 (right): An example of a bad light distribution: no good lighting of the litter causing a too dark situation with risk for floor eggs, and sun beams causing very bright spots, attracting birds with high risk for smothering (Source: WUR).

## On-farm application

### Evaluation

- Light intensity can be checked with a lux meter at bird height, measuring between light sources directing the measuring cell towards the ceiling
- Light distribution can be checked by looking for very bright or dark spots.

## Further information

### Further readings

Practice Abstract on Pullet lighting options in non-cage housing systems: <https://bestpracticehens.eu/wp-content/uploads/2022/11/11-Light-Management-Pullet.pdf>

### Weblinks

<https://www.featherwel.org/featherwel/managementhealth/thehouseenvironment.html>

## About this practice abstract and Best Practice Hens

### Publishers:

Wageningen Livestock Research  
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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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