

## The choice of genetics for hens for cage-free systems

### Problem

Various brown and white commercial layer hybrids can show large differences in performance and behaviour in cage-free systems. The freedom of choice of the farmer is often limited by consumer demands regarding egg colour (brown or white eggs) or egg size.

### Solution

To promote high levels of welfare in pullets and laying hens, genetic hybrids adapted to cage-free housing systems should be reared. Contact your breeding company/chick provider for more detailed advice on genetics.

### Benefits

A genetic hybrid well-adapted to the cage-free system will show a good use of the three-dimensional housing environment, will respond calmly to humans walking through the flock and will not show feather pecking or cannibalistic pecking towards group mates. Furthermore, it will show an excellent technical performance, that corresponds with the management guide provided by the breeding company.

### Practical recommendations

Some general behavioural differences between brown and white hybrids are listed below. These may be considered when choosing the hybrid for your system. Please be advised that within brown and white hybrids, large differences may exist in performance and behaviour of the specific brands. It is advised to contact your local breeding company or rearing company for more specific advice.

#### APPLICABILITY BOX

##### Theme

Genetics

##### Keywords

Genetics, breeding, behaviour, performance

##### Context

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

##### Application time

All year round

##### Required time

Time needed to make an informed choice

##### Period of impact

Rearing period, laying period

##### Best in

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

##### Target audience

Farmers, farm advisors

	Brown hybrids	White hybrids
Egg colour (egg shell)	Brown	White
Ability to navigate in three-dimensional space	Moderate	Very good
Flightiness / docility	Docile birds, not flighty	Flighty birds
Response to humans	Approach / stay in place	Avoid / fly up
Distance between birds	Small, tendency to flock together	Large, tendency to disperse



Figure 1: Brown flock (Source: Best Practice Hens)



Figure 2: White flock (Source: Vera Bavinck)

## On-farm application

### Evaluation

- Keep records of daily flock inspections and flock performance.
- Evaluate the records together with your breeding company/chick supplier.
  - Decide whether you want to stay with the present genetic or whether you want to house a different hybrid strain for the next flock.

## Further information

### Further readings

Hy-Line Brown Alternative Systems Management Guide (2021) <https://www.hyline.com/filesimages/Hy-Line-Products/Hy-Line-Product-PDFs/Brown/Brown%20Alt/BRN%20ALT%20COM%20ENG.pdf>

ISA Management Guide – Alternative production environments (2020) <https://cpif.org/wp-content/uploads/2014/04/ISA-Alternative-Productions-Management-Guide-copy.pdf>

Lohmann Breeders - Management Guide Alternative Systems – Management Recommendations for Barn, Aviary & Free-Range Systems: [https://lohmman-breeders.com/media/2022/06/LB\\_eMG\\_Alternative-Haltung\\_Printversion\\_EN\\_06.21\\_V01-21\\_high.pdf](https://lohmman-breeders.com/media/2022/06/LB_eMG_Alternative-Haltung_Printversion_EN_06.21_V01-21_high.pdf)

## About this practice abstract and Best Practice Hens

### Publishers:

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

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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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