

End of rearing/start of lay – a key period for successful production

by Paul Grignon Dumoulin,
Institut Sélection Animale BV.

The end of rearing and start of lay is a critical period for layers. Birds have to face a double challenge: finish their growth and start their production. They also have to adapt to a new environment, the laying house, after the stress of transfer. Management must be adapted in order to overcome these two events. Future performances of the layers will be influenced by management during this period.

Growth performance

The importance of bodyweight at five weeks of age is well known. At end of rearing, bodyweight has little influence on the future performance of the layers, except for sexual maturity. The main factor influencing performance is in fact uniformity at 16 weeks of age. A good bodyweight at end of rearing will mainly influence sexual maturity and egg size. Many farmers stop weighing the birds when egg production starts, while bodyweight control and growth at end of rearing/start of lay are the best indicators to define the quality of start of lay.

Between 5 and 90% lay, growth should be 300g minimum to get

good production and persistency. Farmers must maintain weekly bodyweight control during this period and maintain it during the whole laying period.

Age at transfer

Birds should be transferred in the production house before start of production. Up to 80% of the mortality of the first 6-8 weeks of production can be caused by a late transfer. This additional mortality is due to internal yolk breakage/intra-abdominal lay with, as a consequence, peritonitis and mortality. Birds may have difficulties adapting to their new environment (find feed and water). As a consequence, layers may die from dehydration or at least flock uniformity will decrease. Birds should ideally get the same type of housing in rearing and production in order to optimise feed consumption (see Table 1).

Lighting program

Light duration directly influences feed intake. We recommend 16 hours of light target for the production period. Light stimulation must be adapted to bodyweight evolution and the objectives in term of egg size:

Type of housing		Increase of feed consumption at peak of production (%)
Rearing	Production	
Floor	Cage	33
Cage	Cage	41
Floor	Floor	50

Table 1. Increase of feed consumption with type of housing.

- Bodyweight evolution: birds must have enough bodyweight and uniformity. Do not hesitate to stimulate depending on bodyweight and not age. Light stimulation should be delayed if the flock has a poor uniformity. The lighter the flock at light stimulation, the smaller the egg size.
- The earlier the light stimulation, the sooner production will start, but egg size will also be smaller and persistency may be damaged.

Use of night light (1.5-2.0 hours of light three hours after lights off) will also help feed consumption and bring additional calcium during shell formation.

Feeding management

The two weeks before start of lay are the opportunity to build calcium reserves: the use of a prelay feed with 2-2.5% calcium will help to optimise reserves in the medullary bones before start of lay. This will

prevent osteoporosis in late age of the birds and maintain a good persistency.

Particular attention should be given to the daily energy and amino acid intake depending on feed consumption in order to cover the physiological needs of the birds.

Good feeding techniques should be implemented to promote feed consumption as much as possible. Birds should be trained during rearing to the best feeding program for the laying period.

Feed the birds as much as possible during the afternoon, with a last feeding 3-4 hours before lights off: minimum 66% of the daily consumption in order to benefit the ability of the birds to eat more during the afternoon.

This technique is also important regarding calcium metabolism. Feeding the birds in the afternoon will provide the layers with calcium during shell formation. In this way, we avoid taking too much calcium from the medullary bones, using feed as the main source of calcium.

Emptying feeders in the middle of the day also contributes to good balanced rations. Birds eat more big particles and by finishing their feed, layers will eat the fine particles containing vitamins, minerals and calcium powder.

Conclusion

The start of lay is a key period to optimise egg production. Mistakes during this period may not affect start of lay itself, but can damage production after peak of production (low peak production, drop of lay after peak because of too low energy/amino acid intake and poor persistency).

Fig. 1. Evolution of energy requirement depending on age.

