

Managing the breeder trough rear

One goal, 24 weeks to attain it. A simple task isn't it? For some people, achieving the right bodyweight with the best possible uniformity prior to point of lay would be considered as an easy target. For some others, it might even be seen as a basic and not really time consuming mission.

However, knowing that the target weight at point of lay is about half of the weight the birds can achieve if they are full fed (using standard broiler breeder feeds), and knowing that the difference can delay the age at point of lay by no less than 3 weeks (compared with a full fed broiler breeder hen), one realises that task might not be that easy or unimportant.

It could get even more complicated in case of high stocking density, poor environmental conditions or inadequate drinking or feeding equipments.

Therefore, rearing broiler breeders should be considered as a "long-term" process, where every step counts and which does not end when transfer to laying facilities is made, but when 1-5% of daily production is attained.

The brooding period

Since the development of the immune system, the skeleton and the feathers, are highly dependant on bodyweight evolution, and because these 3 parameters are very important to future performance, the aim of brooding is to attain the optimal growth.

And there is not a unique method to achieve this. If full feeding during the first 2-3 weeks of age is considered a must, the length time that the pre-starter feed is used (if any) could vary according to the actual weights: longer if underweight, shorter if overweight. The same applies for the lighting programme: the step-down programmes that the breeding companies recommend aim to encourage optimal growth (which often means achieving the upper side of the standard or even slightly above). They can, however, be adapted according to the actual body weight: providing a longer step-down if underweight, or a shorter step-down if overweight.

Feed formula and lighting programme alone, are not a guarantee of successful brooding. Light intensity during the first 3 days should be high enough (60 lux) to allow chicks to get familiar with their surroundings; the step-down temperature programme should consider the birds' activity and their feathering; stocking density at placement should be such that all birds may have access to feed and water at the same time (25-30 chicks per m²); permanent air-renewal should be provided (air-draughts to be avoided), and feeding and drinking equipment must allow easy access to food and water.

In this respect, and even if their management requires the farmer spending more time in the house, the use of baby-chick equipment (feed trays and chick fonts), is always of great benefit.

In addition to optimal growth, management during the brooding period must provide the best possible uniformity before feed restriction starts. This not only means an even light intensity throughout the brooding area, or uniformly distributed feeding and drinking equipment. It also involves increasing the brooding area (an ideal target would be to attain the final stocking density no later than the 14th day of age), and the use of a form of feed that allows all the birds to eat the same quality (crumbles or mini- pellets).

Figure 1: *Evenly distributed feeding and drinking equipments, low stocking densities and cardboard surrounds to prevent from air-draughts in an Egyptian Grand-Parent stock*



Figure 2: *Combination of baby and growing equipments, and feed scattered on papers underneath the nipple lines in a Russian Grand-Parent stockfarm.*



The growing period

Even assuming that brooding conditions have been good, no one can reasonably expect to achieve high uniformity at 3 weeks of age. Good uniformity ranges between 75 and 80%, but in some adverse conditions it could go as low as 60 or 65%.

Since a severe feed-restriction period is about to start, and in order not to penalise the underweight birds, a general grading is often recommended at this stage. Whether this is done visually or based on individual weights will depend on the condition of the flock. If significant differences are reported, pens of small, medium and large sized birds can be created and managed according to the actual weights.

The earlier the first grading is made, the easier is the management of the flock.

Keep in mind that birds are not expressing their growth potential during the growing period and therefore, are permanently hungry. If not properly managed, the competition and stress that result from feed restriction can damage the uniformity and the liveability of the flock.

Competition and stress increase as the flock grows and reach their peak during, roughly speaking, the 8th-16th week period. An experienced flock manager would, consequently, aim to reduce the adverse effects the above-mentioned stressing factors can provoke by adopting preventive measures: using equipment that ensures the entire feed allowance can be distributed as quickly as possible (ideally, 4-5 minutes); making sure that feed is uniformly distributed throughout the feeding space (permanent control of feed depth); allowing for a minimum feed amount per unit (1 pan-feeder, 1 m² of floor area, or 1 lineal metre of feed-chain) of no less than 700-800 grams and; permanently monitoring the times for feed consumption and trying to get them as close as possible to 35-40 minutes.

Several methods exist to achieve the above but their implementation depends on local conditions and cost considerations. Even though stress might be exacerbated on fasting days, use of non-feeding days is often the easiest option, the number of non-feeding days to implement being dependant on the time taken for feed consumption and uniformity (both in relation to stocking density). Under these conditions it is often not necessary to grade more frequently than 2 to 4 times during the rearing period.

In some areas, however, farmers cannot use non-feeding days and other methods must be found so to maintain uniformity, for example: without really reducing the feed-particle size, the use of a more diluted grower feed (that allows for higher feed allowances for the same target weights), permanent grading and smaller pens.

Whatever the feeding strategy adopted, and in order to comply with the parameters above, the available feeding space should be progressively increased and according with the stocking density, the entire feeding space should be available no earlier than the 7th-9th week of age.

Besides being a “uniformity-obsessed” individual, the farm manager must achieve the target weight and maintain optimal growth: the upper side of the standard until about the 6th week of age so to further develop the skeleton. From the 7th-8th week, he must progressively bring weights to the lower side of the standard to prevent an excess of muscle and fat deposits and from the 16th-17th week of age, according with the type of house (open or close), the season, and the desired age at point of lay, progressively bring weights to the middle/upper side of the standard so to get birds ready for the production period. That is to say, follow a well-known “S” type growing curve.

To help reducing competition and stress, several strategies can be adopted, for example: the use of dim lights in close-sided houses or use of black curtains in open-sided houses; the distribution of grain in the afternoon or during the non-feeding days; or the distribution of grit and the use of perches.

Figure 3: Manual floor feeding in a Zimbabwean parent-stockfarm.



Figure 4: Perches in a Zimbabwean Grand-Parent-stockfarm.



The pre-laying period.

The age at point of lay mainly depends on bodyweight objectives and subsequent lighting programme which, in turn, relate to individual strategies. Therefore, the pre-laying management will aim to allow the birds to attain these targets.

This is the period when the pre-nuptial moulting occurs, when the pelvic bones widen and when the combs and wattles develop. Since these 3 characteristics, along with several secondary ones, are strictly related to the individual condition of the bird, growth is of particular importance during this period. The proper development of body condition will ensure that the flock reaches sexual maturity at the desired time, without the risk of either males or females becoming over-fleshed.

Over-fleshed birds will not perform well and should, therefore, be banned from the poultry house.

In addition to growth, uniformity remains a key factor in ensuring that laying performance reaches its potential. Since the rearing period does not end until 1-5% of daily production is attained, it is important to continue working on uniformity until the flock is in lay. If implemented during the growing period, continue using non-feeding days until production starts (given its effect on sexual maturity, and not to further delay the age at point of lay, allow for no more than 2 non-feeding days per week from transfer and until production starts).

It is not normally necessary to continue sorting the flock in the production house. Make use of the transfer to carry out a final grading. This is particularly useful when birds have been everyday fed or when uniformity is poor. If there are significant differences in bodyweight, pens or houses of small, medium and large sized birds can be created and managed according to their condition. You still have 4-5 weeks to try getting the different groups as close as possible. Don't miss this opportunity...

Light stimulation should only start if birds are ready. That is to say, if bodyweight is on target. Stimulating underweight birds often leads to a high incidence of prolapse, increased numbers of double-yolk eggs and a limited response to further light increments.

As a matter of principle, a more uniform flock can be stimulated more strongly, giving a faster onset of lay with better peak production and a lower risk of disease.

Male management during the very first weeks that follow transfer determines future fertility rates. The males usually reach sexual maturity earlier than the females and, unless a strict bodyweight monitoring and subsequent feed allotments are undertaken, they can become overweight and aggressive. This is just because, no matter the feeding equipment used, males will always be able to steal some feed from the female feeders.

The easiest way to avoid the risks that emanate from such "involuntary" male overfeeding is to delay mixing as much as possible. If, in addition, mixing is progressively done (according to the sexual maturity of the females) incidence of behavioural disorders can be drastically reduced.

A simple task wasn't it?

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