

# The importance of a good start in life

by Ken Laughlin, group technical director, Aviagen, Scotland.

It is increasingly important to have predictable broiler performance and the brooding period is a major period of a broiler flock's life.

During this period, the lifetime performance of the broiler is determined, and an extra 10g of bodyweight at seven days can increase the 40 day weight by 50-70g.

Good management in the first week is essential for optimum flock performance. During the first few days the chicks must have easy access to feed, water and heat in such a way that they are not forced to choose which of these essential needs they will satisfy.

In order to evaluate the success of early management seven day chick weight should be measured. A rule of thumb is that this should be at least four times the initial chick weight. The potential seven day bodyweight of the modern broiler chick is 180g or more. If the chicks achieve a good seven day bodyweight (160g or more), it is an indication that they have had a good start.

However, if the seven day bodyweight is poor (140g or less), then there are factors limiting the growth of the birds. Generally, flocks with poor seven day bodyweight will also be uneven.

Failure to achieve an acceptable seven day bodyweight should result in detailed examination of the following:

- The initial chick weight. If this is not known, then 65% of the supply flock egg weight can be used as a guide. Did the flock achieve four times this weight?
- Chick quality. High temperatures

Fig. 1. Relationship between early feed intake and seven day weight.

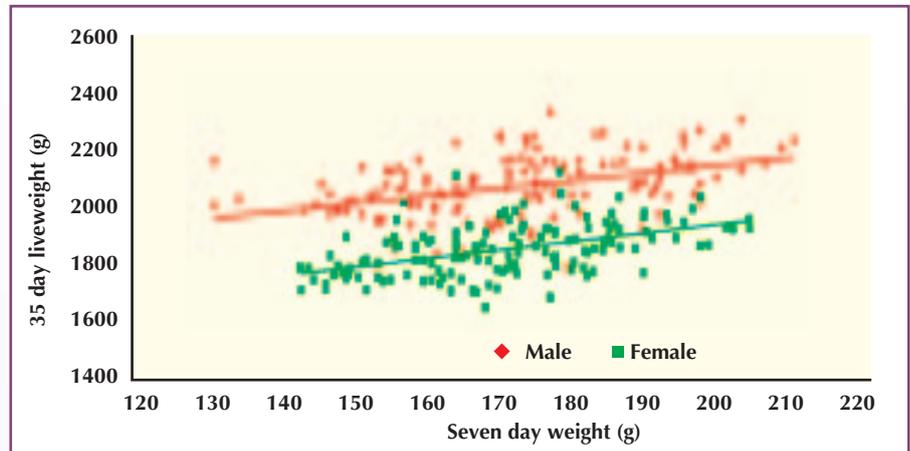
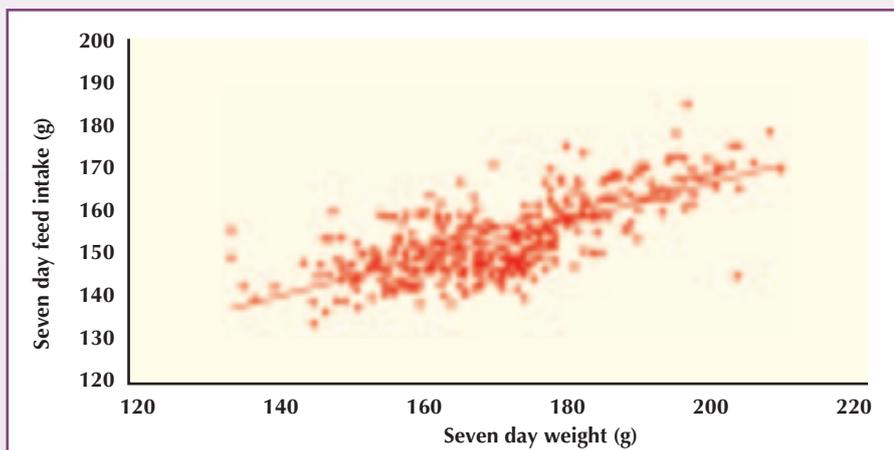


Fig. 2. Effect of seven day weight on 35 day weight.

within the hatcher affect early chick performance.

- The brooding conditions should be examined including air temperatures at chick level, humidity and air movement.

Feed intake is essential to achieving good early growth (see Figs. 1 and 2).

Feed placement and feed form are critical to ensuring a good start. Feed intake is also influenced by water intake which, in turn, is associated with ease of access, taste and temperature.

## Brooding conditions

The cooling effect of air movement, which can be beneficial at later ages, is a potential problem during the brooding period.

It is critical that air entering the house

during this period does so at the correct place and at the correct speed and that incoming air is adequately mixed with existing air before reaching the chicks.

## Broiler house layout

Good broiler performance is dependent on the chicks getting off to a good start as soon as they arrive on the farm.

Birds must have immediate access to feed and water and the transition from supplementary feed and water to the automated systems must not cause any slowdown of intake.

Measurement of crop fill is an important tool for monitoring and improving broiler performance. When chicks start feeding, the crop fills with a mixture of food and water if the chicks are feeding and drinking properly.

Gentle handling of the chicks within the first 48 hours can give a good indication as to whether the chicks have eaten and had a drink. Ideally, the crop should be full and rounded, and the contents should have a soft, porridge like consistency.

If the crop contents are stiff, or the original texture of the feed can be felt through the crop wall, then these birds have had little or nothing to drink.

The target crop fill is 80% or greater eight hours after delivery and 95% or greater 24 hours after delivery.

If crop fill is below these targets, then action will be needed to review feed placement, quality and water supply.

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Points to be considered are:

- Cover 30% of the floor area with paper as this helps prevent chicks eating litter and the noise they make on the paper acts as a stimulus.
- Place the chicks onto the feed on the paper – do not expect them to find it.
- Feed small amounts frequently on the paper, especially during the first 24 hours.
- Make sure that the feed form is suitable, such as a sieved crumb. If any bird seems short of water after 24 hours, then act to improve water availability.
- Make sure that the feeder is flooded with feed, so that the chicks can find feed.

- Adjust water pressure so that there is a drop of water on each nipple.
- Adjust water pressure so that there is water in the drip trays for the first 24 hours.
- Use supplementary drinkers for the first 24 hours.

### High temperatures and growth

High temperatures reduce appetite which depresses growth rate. Guidelines on the temperature and relative humidity required to keep the chick in its comfort zone can be obtained from Aviagen's technical literature. Ultimately, the

house environment should be adjusted using chick behaviour as a guide.

Dehydration is a common post-mortem finding with young chicks. Two factors which reduce the likelihood of this occurring are:

- Maintaining the humidity. Chicks will be less likely to dehydrate if humidity in the house is 60-70%.
- Easy access to water. Use supplementary drinkers

Transfer to automated feeder systems is critical. It is possible to have chicks with a good crop fill at 24 hours, for example more than 95%, which still have a disappointing seven day bodyweight.

When this happens, it is probably because the chicks have had difficulties moving on to the automatic feeding and drinking systems. If this is the case, smaller chicks will often be the worst affected, simply because they are less able to reach the feeders and drinkers.

There can often be a check in feed intake as the chicks start eating from the track or pans, which is followed a day or so later by a growth check.

Weighing a small sample of chicks daily will soon show if this is happening as the growth rate will slow and the CV get worse in the following two days.

Observations of chick behaviour while the feeders are running will highlight problems in this area, for example is it clear to them when food is coming?

Good nutrition is required for the chick to achieve its potential seven day bodyweight. The digestive system of the young chick is immature and care must be taken to ensure that the raw materials used are highly digestible. Total fat levels should be kept low and saturated animal fats should be avoided.

Seven day bodyweights less than target are often seen when starter diets contain less than 22% crude protein or 1.16% available lysine. The increased cost of the starter ration (0-10 days) is more than made up for by improved performance of the birds.

### Summary

As potential broiler performance improves, the achievement of target seven day bodyweight becomes increasingly important. The major objective in the first few days of life is to get the broiler chick eating and drinking. When this is achieved performance will be good. If broiler chicks are prevented from feeding and drinking by factors in the environment, performance will be depressed.

The management procedures described here will encourage the broiler chick to find and consume high quality feed and give it the best possible chance to achieve its potential performance. ■