

Five factors to stimulate feed consumption in broilers

by Andrew Bourne, broiler specialist,
World Technical Support,
Cobb-Vantress Inc, Highway 412 East,
PO Box 1030, Siloam Springs,
Arkansas 72761, USA.

Escalating commodity prices are decreasing profit margins and driving producers to seek methods for optimising their performance. Growers need to take a detailed look at their management to find ways to fine tune their performance and gain the extra couple of cents per kg advantage.

The key to success lies in achieving least cost performance targets in the first 21 days. A well developed skeleton and healthy cardio vascular system by 21 days of age, at least cost, will ensure success.

The Cobb500 needs to quadruple its day-old body weight by day seven, mainly by attention to detail during the brooding period.

The Cobb500 can reach this target with less expensive, low density nutrition and does not require the high density and high cost starter or pre-starter rations recommended by others.

The first step is to weigh the birds weekly from day one to slaughter as without this data it is impossible to monitor cost. Weekly weighing is now regarded as a standard best practice internationally – from the small contract farmer in Southeast Asia to the large integrators in Brazil.

The importance of the brooding period



Litter temperature should be recorded before each placement. This will help to evaluate the effectiveness of pre-heating.

can not be emphasised enough. It is the only opportunity the grower has to quadruple the chick's body weight in a single week. The brooding period sets the precedent for good performance. Extra effort during the brooding phase will be rewarded in the final flock performance.

On hatch day the chicks are moved from a warm humid environment to the farm. To ensure a good start the grower must provide an environment that ensures optimum transition for the day old chick and immediate consumption of feed and water on placement in the chicken house.

The following five brooding essentials are equally important in ensuring optimal feed consumption during brooding.

1 Adequate feed access at placement during the first week will ensure proper intake and minimal competition among the chicks.

Provide sufficient feeding space for the birds by covering at least 50% of the house with chick paper. Offer at least 50-65g of feed per chick on the paper which will be easily consumed in 3-4 days. If chick trays are being used, ensure at least one tray per 100 chicks. The trays must be evenly distributed throughout the house and only removed when the chicks have access to a flooded feed pan. Removal of the feed trays too early is often obvious when 14 day body weights are below standard. Never allow the feed trays to run empty during this period.

1 Water access is equally important, but with a modern nipple drinker system it is easily achieved. The first water consumed by the chick must be clean. Always implement a water line sanitation program during house cleanout and flush the lines just prior to placement. Regular water sanitation and water line cleaning can provide protection against microbial contamination and biofilm build up.

Once established in water lines, biofilms

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Table 1. The desired airflow to provide the right growing conditions for the chick.

Pressure (Pascals)	Inlet space per m ³ /hour fan capacity	House width (m)	Air speed (m/s)
7.5	1 cm ² for each 1.05m ³ /hr	10	3.5
10.0	1 cm ² for each 1.20m ³ /hr	11	4.0
12.5	1 cm ² for each 1.30m ³ /hr	12	4.5
15.0	1 cm ² for each 1.45m ³ /hr	14	5.0
17.5	1 cm ² for each 1.60m ³ /hr	15	5.5
20.0	1 cm ² for each 1.70m ³ /hr	18	6.0
22.5	1 cm ² for each 1.85m ³ /hr	21	6.5
25.0	1 cm ² for each 2.00m ³ /hr	24	7.0

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provide a place for detrimental bacteria and viruses to hide from disinfectants. Products containing 50% hydrogen peroxide, stabilised with silver nitrate, have proven to be outstanding for removing biofilms in water lines.

1 Light intensity during brooding should be at least 25 lux at floor level, with levels not deviating more than 20%. Dark areas will result in reduced bird activity, low feed consumption and poor early growth.

1 Temperature, both litter and ambient readings, are vital to ensure chick activity. Pre-heating is important and should begin at least 48 hours before placement, even during summer. This will ensure the litter tem-

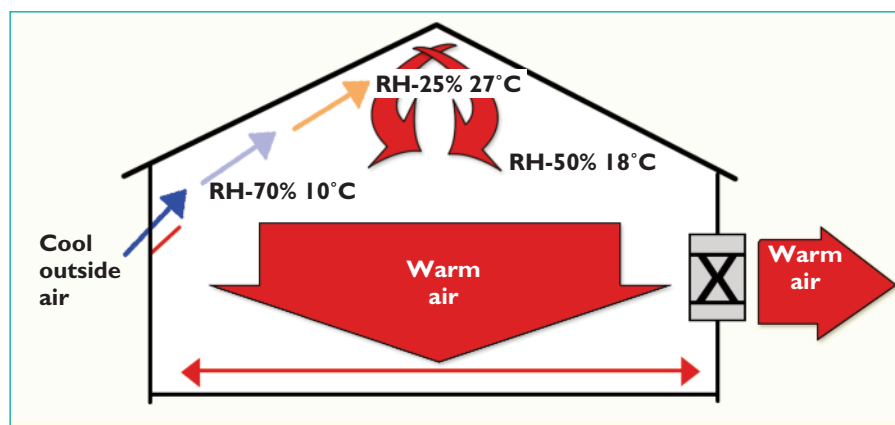


Fig. 1. Cross flow for minimum ventilation.

perature is at least 32°C (90°F) and that the air and internal structures are adequately heated at placement. Failure to achieve this all important target will reduce activity and result in reduced feed consumption. Without immediate consumption upon placement, the grower will lose the opportunity to quadruple day old chick weight in the first week.

1 Ventilation and air quality are one of the most common challenges facing the broiler grower, particularly where the ventilation systems have not been updated. The best return on capital investment for the grower can be found in the minimum ventilation system responsible for meeting the oxygen demands of the modern broiler chick.

Adequate oxygen supply during the early stages of cardiovascular system development, particularly in winter conditions, will enhance early growth and prevent problems like ascites.

The minimum ventilation system should have a fan capacity equal to at least 12.5% of the house volume. Minimum ventilation is always easiest to manage when operating on a five minute cycle timer with the minimum run time of one minute; ensuring cold incoming air is adequately mixed and heated with warm air in the ceiling before reaching the chicks (see Fig. 1 above).

Air should be entering the house at reduced pressure to allow air to reach halfway across the house before falling toward the litter. Adjustments to the inlet area and the required corresponding fan capacity will ensure the desired air flow to provide the right growing conditions for the chick.

The importance of the inlet system is often overlooked. Without an efficient, well designed inlet it is difficult to manage air flow, especially in very cold climates.

When considering the design of any new housing or when upgrading current facilities, one of the most important uses of the capital invested should be for the choice of the ventilation inlets and the house insulation.

Careful consideration of these five essentials will drive early feed consumption and growth, which in turn will offer the grower the opportunity to capture the maximum potential and the least cost advantage provided by the Cobb500. ■