

How to Assess Crop Fill

Aviagen Turkeys Ltd ®



Definition

Assessment of crop fill at key times after placement is a useful means of determining appetite development and checking that all poults have found feed and water.

If adequate crop fill is achieved, appetite development will be boosted, early growth rate will be enhanced, ensuring welfare and liveability of the birds is at a good level and skeletal and intestinal gut development will be at desired levels, so affecting flock uniformity and production potential. Optimising early development also supports development of the immune system which can have lasting effects on the bird's health.



The procedure for assessing crop fill

Crop fill should be monitored between the first 5 and 8 hours after placement and will indicate if the poults have found feed and water. During our studies, Carrying out a crop fill analysis between 5 to 8 hours gives the strongest representation of how the poults have started and the early development of the poults. A minimum of 100 poults should be assessed in multiple locations to give accurate results.

Equipment

- 1. A catching frame.
- 2. A pen or pencil.
- 3. Paper to record crop fill.







Step 1

Using a catching frame, separate approximately 25 poults at a time from different brooding rings/areas in the house.

Step 2

Handling each poult with care, gently feel the crop of each poult in the catching area using your thumb and forefinger.

Step 3

Score the contents of the crop of each poult (see figure 1) using the following categories:

- 1. = Crop empty poults have not found feed or water.
- 2. = Full but hard with original feed texture felt / partially full poults have feed but little or no water.
- 3. = Full, soft, and rounded poults have found feed and water.

Figure 1. Example of crop fill recording sheet.

Hours after placement	8
Category	Number of poults in category
1. Empty	
2. Full but hard with original feed texture / Partially full	*** *** *** ***
3. Full, soft and rounded	### ### ### ### ### ### ### ### ### ##
Total Recorded	110

Step 4

Calculate the percentage (%) of poults in each categories 2 &3 by dividing the number of poults recorded in the categories 2 & 3 by the total number of poults assessed and multiplying by 100 (see figure 2)

Figure 2. Example calculations of poult crop fill percentage.

% poults in categories 2 & 3 =
$$\frac{\text{Number of poults in categories 2 & 3 x 100}}{\text{Total number of poults assessed}}$$

$$= \frac{95 \times 100}{110} = 86.4\%$$

Step 5

Compare your results with the target crop fill assessment guidelines in figure 3.

Figure 3. Target crop fill assessment guidelines.

Time of Crop Fill Check After Placement	Target Crop Fill (% of Poults with category 2 & 3 crops)
5 Hours	>50%
6 Hours	>60%
7 Hours	>70%
8 Hours	>80%



Interpreting results

Key Points

Crop-fill on or above target guidelines = No action required. Continue to monitor crop fill in future placements.

A crop-fill of 5% or more below target guidelines (e.g. 75% or lower at 8 hrs after placement) requires further investigation of brooding practices required.

Areas to consider:

Environment checks

- Houses are pre-heated at least 48 hours prior to poult arrival.
- Poult comfort is optimum by monitoring and adjusting if needed:
 - Air temperature at poult height
 - Litter temperature
 - Relative humidity
- Light intensity is at the optimum level in the brooding area and that the lighting programme has been set correctly.
- Air quality is correct for young poults with a maximum CO₂ of 2500ppm at poult level.
- Airflow is correct and that there are no draughts onto the birds.

Feed and water checks

- Poults have unrestricted access to well-presented feed and cool fresh water.
- Adequate supplementary feeders and drinkers.
- Provide small amounts of feed frequently in supplementary feeders.
- Supplementary (mini) drinkers are cleaned and refilled 3 times a day.
- Feed physical quality and water quality are correct.

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Aviagen Turkeys Ltd.

Chowley Five, Chowley Oak Business Park, Tattenhall, Cheshire CH3 9GA Tel: +44 (0)1829 772020 Fax: +44 (0)1829 772059

Web: www.aviagenturkeys.com

