Are you measuring and calculating your chick yield correctly?

Most commercial hatcheries nowadays measure and use chick yield as a Key Performance Indicator (KPI) to evaluate both hatch timing and incubation.

But the big question is: Are you recording your chick yield correctly?

Chick yield is the average weight of the chicks at pull, expressed as a percentage of the average egg weight at set. It tells you when the eggs are losing enough water during incubation, and also whether the chicks are being pulled at the right time at the end of the hatcher period. It is usually measured on sample trays – two or three trays per farm per set – and the full procedure is described in ***Hatchery How To Measure Chick Yield*** which is available on the Aviagen website.

It is worth auditing the procedure in your hatchery regularly to make sure that the method being used is correct, and has not drifted over time, or with changes in staff.

At the start: The fresh egg weight is based on the average weight of the eggs on a full setter tray. The empty tray weight must be measured and recorded, and subtracted from the full tray weight every single time.

Even in a new hatchery, tray weights will vary; and, once they have been topped up to replace damaged units, it is highly likely that there will be between-tray differences in weight. Check the eggs on the sample trays before they are weighed, including a quick pass over a candling table.

CALCULATE AVERAGE FRESH EGG WEIGHT:

$$\text{Avg fresh egg weight} = \frac{\text{weight of full egg trays} - \text{weight of empty trays}}{\text{Number of eggs in tray}}$$

Remove and replace any dirty eggs, any with abnormal shells and any broken or hairline-cracked eggs before the full tray is weighed. When setting these trays, make sure to place them in different representative locations in the setter, distributed top to bottom and front to back of the incubator. Record setter number and location.

At Transfer: When transferring, make sure to move the labels correctly to each hatcher basket so that the final chick weight can be associated with the correct initial egg tray weight.

At Hatch: Chicks should be weighed immediately after they are removed from the hatcher. Before weighing any chicks, place an empty chick box on the scales and zero (tare) the display. Skipping this step will give an artificially high chick weight. It is important to count all the first class chicks from each labeled hatch basket into the empty box one group at a time. Record the number of chicks and the weight. Don't weigh cull chicks as they will not be typical of first class chicks on the tray, and so will affect the average weight.

Record all the background details on a spreadsheet, along with the weights and calculated yield. This will allow you to check which machines are delivering the best chick yield, and to focus attention on the machines which need adjustment.

CALCULATE AVERAGE CHICK WEIGHT FOR EACH TRAY:

$$\text{Average Chick Weight} = \frac{\text{All Chicks weight in the box}}{\text{Number of chicks in the box}}$$

CALCULATE CHICK YIELD %:

$$\text{Chick Yield\%} = \frac{\text{Average Chick Weight} \times 100}{\text{Average Fresh Egg Weight}}$$