THE PROCEDURE FOR MEASURING CHICK YIELD

- To accurately measure chick yield and check the hatch timing of a flock:
  - monitor the chick yield from 3 incubator trays
  - use a balance that can weigh a whole incubator tray of eggs or a box of chicks to an accuracy of at least 5 grams (0.2 oz)

Note: *This procedure can be easily combined with the monitoring of egg water loss.*

Step 1:
Weigh empty setter tray – record weight.

Note: *This can be done at setting or transfer.*

Step 2:
Fill setter tray with fresh eggs. Exclude any cracked or poor shell quality eggs.

Step 3:
Weigh full setter tray – record weight and number of eggs on tray.

Step 4:
Label the tray so that it can be relocated at transfer.

Note: *Trays should be located in the incubator so that one is positioned near the top, one near the middle and one near the bottom of the incubator rack.*

Step 5:
At transfer ensure the hatcher tray is labelled so that it can be associated with the correct egg tray.

Step 6:
At hatch take-off, zero the balance with the empty chick box.

Note: *If the chicks are to be vent sexed then the chicks need to be weighed before sexing.*

Step 7:
Count all the good chicks from the hatcher basket into the box - record number.

Step 8:
Weigh the full chick box – record weight.

CALCULATION OF CHICK YIELD

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

For Example: Empty tray = 1205g;
Full tray @ set = 8201g; Number of eggs = 132;
Full chick box @ hatch = 4268g; Number of chicks = 120

$$\% \text{ Chick Yield} = \frac{4268 \quad 120}{(8201 - 1205) \div 132} \times 100$$

$$\% \text{ Chick Yield} = \frac{35.6}{53.0} \times 100$$

$$\% \text{ Chick Yield} = 67.1\%$$

This calculation also applies to imperial measurements

Example of chick yield recording sheet. This sheet also records egg water loss information as the two quality control processes can be easily combined - see **How To... Measure Egg Water Loss.**

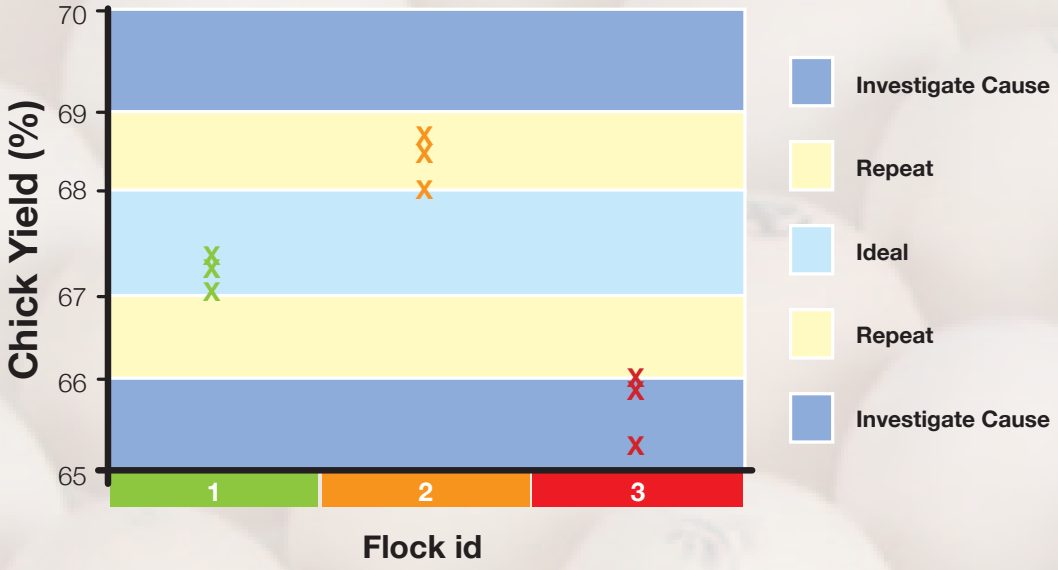
Egg Weights and Chick Weights

Company	ACME Farming	Date Set	26th Oct 2009
Farm	Windyhill Farm	Date Hatched	16th Nov 2009
Age	26 weeks	Date Broken Out	16th Nov 2009
Setter No.	1, 2 and 3	Hatcher No.	1

Tray No.	1	2	3	4	5	6	7	8	9	10
No. of Eggs	132	132	132	132	132	132	132	132	132	
Weight of Empty Tray	1205	1210	1205	1208	1206	1208	1212	1201	1205	
Weight of Full Tray	8201	8364	8175	8191	8242	8336	8089	8263	8307	
Transfer Weight	7382	7499	7324	7451	7510	7637	7113	7183	7206	
No. of Chicks Hatched	120	116	123	122	115	118	109	104	106	
Total Chick Weight	4268	4238	4384	4395	4193	4371	3748	3667	3724	
Culls and Deads	1	0	1	1	2	1	2	3	2	
Unhatched Eggs	11	16	8	9	15	13	21	25	24	
Egg Weight Loss (%)	11.7	12.1	12.2	10.6	10.4	9.8	14.2	15.3	15.5	
Mean Egg Weight (g)	53.0	54.2	52.8	52.9	53.3	54.0	52.1	53.5	53.8	
Mean Chick Weight (g)	35.6	36.5	35.6	36.0	36.5	37.0	34.4	35.3	35.1	
Chick Yield (%)	67.1	67.4	67.5	68.1	68.4	68.6	66.0	65.9	65.3	

INTERPRETING RESULTS

The graph below shows the chick yield results from 3 different flocks:



Flock 1 has chick yields within the acceptable range.

No action required.

Flock 2 has slightly high chick yield but close to the acceptable range.

Action: Check the chick yield from this flock again and if it is still high, use table below to investigate the cause of the high chick yield.

Note: *This high chick yield would be acceptable if the chicks do not arrive on the farm on the same day as hatch.*

Flock 3 has low chick yield and these chicks will be at risk of dehydration.

Action: Use the table below to determine the cause of the low chick yield.

FACTORS AFFECTING CHICK YIELD

Low Chick Yield	High Chick Yield
1. Incubating the eggs too long. 2. High incubation temperature. 3. Low incubator humidity.	1. Incubation time too short. This may be as a consequence of long egg storage, or eggs from very young or old breeders. 2. Low incubation temperature. 3. High incubator humidity.