

Chick Quality Analysis



Guidelines for the Chick Length Analysis

Chick length scoring is an objective chick quality evaluation that reflects field performance potential. The guidelines for chick length and % very small chicks by breeder age group are listed in Table 4A “Chick Length Guidelines”.

General Rules of Diagnostics

- Use the guidelines in Table 4A to evaluate chick length.
- Chick length is a very useful tool to objectively evaluate the performance potential of your chicks. Chick length measures the efficiency of the incubation process from day of set.
- Overall chick length increases with flock age.
- Small chicks within the flock are caused by incubation issues or lack of nutrients in the egg.
- The weighted average chick length and % of chicks in the small category can be graphed by breeder flock age group. This ongoing baseline will allow you to see and address any breeder or incubation issues that result in decreased field performance.
- Uniformity can be deceptive and is not a good measure of performance potential. When chicks are forced out of the shell by overheating, they will be uniformly small since growth is restricted. These hatches will have a very high uniformity percentage. A properly hatched flock will have some natural variation, but the % of very small chicks will be minimal.
- The actual percentage of very small chicks will vary with the shell quality of the flock. When shell quality is compromised, chicks cannot achieve their full growth and development potential and there will be more small chicks in the hatch. This is especially evident in old breeder flocks.

Chick Length Guidelines

Breeder Age Group	Normal Chicks	Very Small Chicks	Goal % Very Small Chicks	
			Goal A	Goal B
Young	19 - 21 cm	< 17.5 cm	< 1.5%	0%
Prime	19.5 - 21.5 cm	< 18 cm	< 1.5%	0%
Old	20 - 22 cm	< 18.5 cm	< 1.5%	0%

Chick Quality Analysis



Guidelines for the Navel Quality Analysis

Chick navel scoring is an objective chick quality evaluation that reflects field performance potential. The guidelines for navel quality are listed in Table 4B “Navel Quality Guidelines”.

General Rules of Diagnostics

- Use the guidelines in Table 4B to evaluate navel quality.
- Besides chick length, the navel quality of a day old chick is an important parameter to score chick quality.
- Navel closure defines the quality of the end of the incubation period.
- Important incubation factors that impact chick quality are temperature and humidity level during incubation. During the incubation process the temperature and humidity should be such that the chick loses enough moisture to develop optimally and for the navel to close properly.
- When the chick loses enough moisture, there is an adequate but not oversized residual yolk and the navel closes properly. When the navel closes properly, it prevents bacterial infections and elevated first week mortality.

Navel Quality Guidelines

Score	Goal	Characteristics	Measurement
Perfect (1)	> 55%	<ul style="list-style-type: none">▪ Navel is flat and closed.▪ Nothing is protruding from the navel.	Rub thumb over navel. Only a slight swelling should be felt.
Moderate (2)	< 45%	<ul style="list-style-type: none">▪ There is dried membrane in the navel.▪ A black button that must be < 2mm.▪ The navel may be swollen or red.▪ A string may be present.	<ul style="list-style-type: none">▪ Rub thumb over navel and feel something sharp or hard.▪ Blow the feathers aside. The navel may be red or swollen.
Poor (3) Goal A Goal B	< 2% 0%	There is a black button that exceeds 2mm.	Rub thumb over navel, feel and measure.
First Quality Chicks	≥ 98%	No black button that exceeds 2mm.	All chicks with perfect (1) or moderate (2) navel scores