

# Effective breeder management in hot climates

Managing breeder flocks in high temperature climates is an even greater challenge than managing flocks of the same genetics in temperate climates.

Effective breeder management includes several factors in both rearing and production:

- Body weights.
- Flock uniformity.
- Lighting program.
- Feeding technique.
- Male management.
- Hatching egg handling.

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Preparing birds for production starts in rearing. A strong correlation exists between five week body weight and laying persistency plus liveability in production. The same applies to 16 week flock uniformity which strongly correlates with egg production (Fig. 1).

The objective is to obtain the best possible body weight at five weeks and good 16 week flock uniformity.

Use good quality crumble starter feed, fresh drinking water, allow access to water and feeders, and create a good climate.

The period with first feed (pre-starter) should be extended for birds in hot climates (Fig. 2).

Vaccination procedures should also be applied correctly to ensure good responses and maximum protection in the production period. Health status must be monitored by regularly checking flocks for the main pathogens.

## Bodyweight

Especially in hot climates a drop in production is observed after normal start of lay (post-peak dip). The birds struggle to reach and maintain their target body weights and low body weight at start of lay leads to mortality (prolapse) and lower laying persistency (egg mass).

The drop is caused by too low an energy intake. Energy requirements

	Body weight at five weeks of age		Flock uniformity at 16 weeks of age	
	Correlation factor	Qualitative correlation	Correlation factor	Qualitative correlation
Production between 68 and 72 weeks (%)	0.82	strong	0.46	good
Egg number at 60 weeks	0.83	strong	0.54	strong
Egg number at 72 weeks	0.93	strong	0.72	strong
Liveability at 72 weeks	0.71	strong	0.40	good

Fig. 1. Body weight and flock uniformity in rearing correlates with production parameters.

are determined by maintenance, egg production, and growth.

From 18-35 weeks, birds still grow and start producing at the same time. Unfortunately feed intake capacity is still limited and does not meet requirements for energy and nutrients (deficiency). Check body weights regularly to make sure requirements for growth, performance and maintenance are respected.

## Lighting program and feeding technique

Egg size directly influences chick size as day old chick weight is considered to be 66% of the hatching egg weight.

Light stimulation programs serve as a management tool to steer egg size. However, if stimulation is started too soon, early egg production is promoted, resulting in a lower egg size and an increased risk of prolapse.

In breeders start light stimulation at start of lay (2%) and never before 18 weeks. In hot climates, light stimulation should be done in the morning hours (cooler) and mid-night feeding (two hours light, three hours after lights off) is preferred to stimulate feed intake.

The feeding technique can influence egg shell quality and because hatchability is linked with egg shell quality, the feeding technique can affect hatchability. At the end of rearing (pre-layer diet) calcium supply should be sufficient to minimise bone decalcification and achieve a robust medullary bone and strong skeleton.

During production provide coarse

calcium particles (2-4mm) that dissolve slowly and stimulate the use of calcium from feed instead of bone for calcification process in egg formation. Feed mainly in the afternoon (minimum 60%) and include midnight feeding.

If drinking water is too warm, birds reduce water intake and consequently reduce feed intake, resulting in lower egg production and bad egg shell quality.

## Male management and egg handling

The main actions to prevent delay in hatching egg production and hatchability problems are:

- Prevent regrouping of males, especially at the end of rearing. If regrouping is observed, separate males immediately and progressively reintroduce them at the start of lay.
- Disinfect eggs as soon as possible on the farm to reduce initial conta-

mination of egg shell and perform a second disinfection at the hatchery.

- At moment of transfer include only 5% males and reintroduce others progressively.

Chick quality is also influenced by handling of hatching eggs:

- Store eggs in temperature controlled area (16°C +/- 2°C) to avoid early embryo development during storage.

## Key points

Effective breeder management allows a flock to express their genetic potential and have a long and successful production cycle.

The key points in good management are body weight, flock uniformity, lighting program, feeding technique, male management, and hatching egg handling.

Finally, make sure you are familiar with the genetic potential of your birds and their breed specific management requirements. ■

Fig. 2. Different feeding program for rearing in hot climates.

