

# **BIRD MANAGEMENT**

This is not so much about managing the bird but rather managing the bird's environment so that the bird can produce to its genetic potential.

This would include:

- Good housing.
- Bio-security.
- Sanitation
- Preparing the house for the new flock.
- Placing the birds.
- Temperature control.
- Ventilation.
- Lighting.
- Litter management.
- Disease prevention and disease control.
- Stockmanship and paying attention to detail.

Always look for what is wrong and don't forget to look at the birds as they will tell you if something is wrong.

We don't have time to look at everything so lets rather concentrate on the first two weeks of a birds life.

The biggest problem I have found in visiting emerging farmers is not getting the chicks off to a good start.

The first 7-14 days of the chick's life determines the performance that can be achieved. Poor management in this period leads to high mortalities after 28 days of age.

Make sure that the house is properly sealed so that there will be no draughts coming onto the chicks. Feeders and drinkers must be arranged within the brooding area so that the birds don't travel more than a metre to reach food or water.

## **Temperature Control:**

Light the brooders 24 hours before placing in summer and 48 hours before in winter. This is to preheat the house and ensure that the shavings are warm. The shavings should be at 29-32°C.

The longer time in winter is not only to heat the shavings but also the building. If the building is not warmed up by the time the chicks are placed then after the sun goes down heat which should keep the birds warm is being lost into the surrounding structure.

The day-old chicken has to rely on the same mechanisms as an adult bird to regulate its body temperature, namely to lose heat to the environment by means of radiation, convection and conduction:

- Heat loss via radiation is where heat is lost into the surrounding atmosphere or air.
- Heat loss via convection is where heat is removed from the bird by the wind blowing over it.
- Heat loss via conduction is where heat is lost by the bird into whatever it is in contact with or lying on.

If the shavings are cold the chick will lose heat by conduction into the shavings. It will feel cold and instead of eating will just lie down and huddle with other chicks. When they are very cold they will even climb on top of each other and the bottom chicks suffocate.

When the bird gets older it will eat more food to generate heat but young birds seem to just huddle so if the temperature is too cold it leads to runts.

**Feel the chick's feet. If the feet are cold then the chick is cold.**

At hatching the body temperature of the chicken is lower than that of the adult bird (approximately 38°C as opposed to 42°C) and the complete ability for homoeothermy (maintaining a constant body temperature) is only achieved 10 to 14 days after hatching.

The day-old chicken is not capable of producing sufficient heat to maintain its body temperature.

The ratio of body surface to body mass is large in the day-old chicken and it decreases with age so the young chick will therefore lose heat at a faster rate than an adult bird. The young chicks body is covered in down which has a poor insulating value so if temperature is not controlled it will lose heat at a rapid rate through radiation and conduction.

The heat that the chick generates to maintain body temperature comes from the digestion of feed and muscle contractions during running around and from heart contractions and respiration. This heat is produced when glucose is combusted in the cells by oxygen to produce energy. The glucose comes initially from the yolk and then from the feed.

If there is no feed there is no energy for maintenance and the bird will soon die as a starve-out or non starter.

**Therefore controlling the temperature and getting the birds to eat good nutritious feed as soon as possible becomes extremely important.**

Always ensure that there are enough brooders for the number of chicks so that they always stay warm. Gas or electricity is cheaper than mortality.

Two hours after placing go back and check on chicks comfort. They should be eating and drinking and be evenly spread throughout the brooding area. If not, adjust temperature until they are comfortable.

Ensure that the ventilation is correct in that the house does not feel stuffy.

This can only be done when first entering the house as one's body soon adjusts to the environment inside the house and look at the birds as they will tell you if they are comfortable or not.

Young chicks should be eating and drinking and running around.

If not ask yourself why not???

When entering a house always do so quietly so as not to disturb the birds. Use all your senses to determine if there is anything wrong. Look, smell, feel and listen. After a few minutes your body adjusts to the environment and you won't be able to smell or feel what's wrong.

Ensure that no draughts blow onto the chicks as this will remove their body heat very quickly.

This means:

- That curtains should lower from the top down in naturally ventilated houses.
- In mechanically ventilated houses the cold incoming air should be directed towards the ceiling to mix with the hot air rising up.

For the first two weeks of the birds life there should be very little or no air movement around the birds.

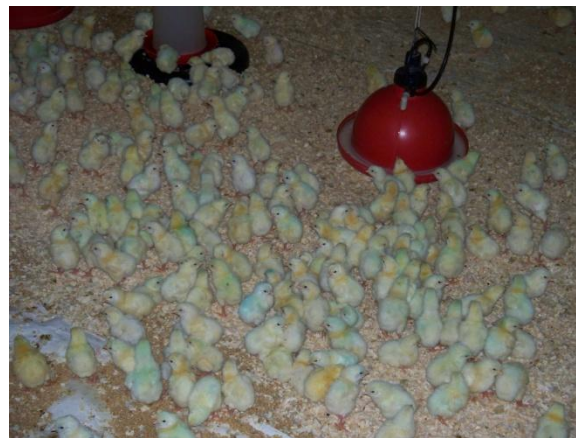
**YOUNG CHICKS TOO COLD**



**YOUNG CHICKS MOVING AWAY FROM A DRAUGHT**



**YOUNG CHICKS COMFORTABLE AND RUNNING AROUND**



Thereafter check on the chicks often during the day to ensure good conditions. This is especially important with curtain sided houses as the weather is constantly changing so curtain adjustments need to be made. Check that chicks are comfortable before retiring at night. Also when the chicks are young get up early before the sun comes up to check that they aren't too cold.

Have tools to help you manage. Have a Maximum and minimum thermometer in the house to see what happened to the temperature when you weren't there.

As previously stated everything must be ready in the house for when the chicks arrive.

Water must be placed in the house the morning that the chicks arrive so that it is not too hot.

**Nutrition:**

On arrival the chicks must be placed onto the food and not onto the shavings as chicks must start eating as soon as possible.

Some people advocate that if the chicks are stressed when they arrive, due to poor transport conditions or long distances, withhold the feed for a couple of hours so that the birds can drink. **THIS IS WRONG.**

Put electrolytes, stress pack or brown sugar in the drinking water but do not withhold food.

The body system of day-old chicken has undergone drastic changes directly after hatching: As an embryo it was using fat as an energy source and absorption of the fat was directly into the blood stream.

After hatching the yolk has been drawn into the body and all of a sudden the chicken has to start using the **gastro-intestinal tract** to digest fats from the yolk. The wall of the tract is still **poorly developed** in the day-old chicken and it thus has a very **limited ability to digest fats** efficiently to serve **as an energy source**.

The intestinal tract consists of muscles and amino acids are needed to form muscle protein to build up these muscles. The gut needs to increase in size and be able to make (secrete) enzymes for digestion of feed. Enzymes are for breaking down the food and they are protein for which amino acids are also needed!

This means that the chick must start eating feed as soon as possible and the feed must contain high levels of nutrients such as starch and proteins that are of a good quality to enable gut wall development and the formation of enzymes. If the birds do not have access to an early feed intake the gut wall degenerates rapidly resulting in non starters and runts.

A delay of 24 hours in feeding results in a difference of 48 grams in the body mass of chickens at 21 days of age.

**The damage caused during a 24 hour delay in feeding, is so severe that the chicken is simply not able to catch up before marketing age, i.e. 35 – 38 days of age.**

The benefit of early feed intake is even more noticeable in the 7 day chick weights of broilers and the advantage is carried through to market age. The weight at 7 days of age should be about 4 times the day old chick weight. If not then brooding management needs to be seriously looked at.

Research has shown that providing feed in the Hatcher produced chicks which were 2 to 3.5 grams heavier and that this was carried through to 21 days of age.

For every 1 gram of weight gained at 7 days of age will give 6-10 grams of extra weight at 35 days of age.

The identification of chickens that are eating well is possible within 12 hours of placement and at that stage 80% of them must have feed in the crop. If this is not the case, reasons for poor feeding must be investigated e.g. cold draughts, lack of water, too hot in the brooding area, feed structure too coarse etc.

Water is essential for the chicks. If there is no water the birds will not eat.

The next morning after placing the chicks, feel the crops of 100 birds and more than 80 of them must have feed and water in the crop.

#### **FEELING THE CROP THE DAY AFTER PLACING TO ENSURE THAT YOUNG CHICKS HAVE EATEN AND DRUNK WATER**



The yolk sac contains antibodies (from the breeder hen) to fight off disease. If feed is available these antibodies in the yolk are taken up by the blood stream via an organ called the Diverticulum of Meckel. This enables the bird to resist diseases in the early brooding period. If there is no feed available for the day old chick it will live off the yolk sac which means that the antibodies will be digested so making the chick more susceptible to disease.

Always use the right feed for the age of bird. Use starter crumbles not mash for small chicks as it is easier to eat and more can be consumed in a shorter time. What birds can eat in 20 minutes on crumbs or pellets will take

45 minutes to eat in mash. Starter is also high in protein which is needed for gut development and enzyme production.

Ventilation:

Having the correct ventilation is essential. Too many farmers shut the house up tight to try and save on heating bills.

Curtains must open from the top down so that the cold air does not fall directly onto the chicks but can mix with the hot air which is rising.

Birds breathe in oxygen and breathe out carbon dioxide. If the carbon dioxide levels are too high the birds just go to sleep and don't eat or drink. Minimum ventilation is for Oxygen requirements and removal of carbon dioxide, ammonia and moisture

In Conclusion:

- Ensure everything in the house is ready for the chicks before they arrive.
- The house must be preheated so that the shavings are warm.
- If it is too cold or too hot the chicks will not eat.
- Place the chicks on the feed so that they will know where the feed is and start eating as soon as possible.
- Ensure that there is always good ventilation and the house is not stuffy no matter what the weather.
- Be a good stockman and watch bird behaviour and then correct the environment so that the chicks are eating and drinking and running around.
- Pay attention to detail.
- Management in the first two weeks must always be good to get the birds off to a good start.
- Check both day and night for bird comfort. This takes hard work.
- There is an old proverb that says: **“All hard work brings a profit, but mere talk leads only to poverty.”**

Good Luck and may you be successful in your poultry business.

