

Heat stress in small flocks

Presenting complaint:

A small flock with 15, 42- day -old, meat type chickens, finds 2 birds dead in the past couple of days. Neither bird appeared sick prior to death. Today some loose, bright orange stools are noted around the coop. The chickens are not eating as much as normal but otherwise there are no other signs of illness.

The temperatures for the past five days have been around 35C every day. The coop design is a wooden structure with a dirt floor, with wood shavings for litter. There are narrow inlets under the eaves which are open but there has been little wind to encourage natural air flow. The coop has an outdoor run but there aren't any trees nearby to shade the run.

Today the birds are panting and resting more with their wings lifted away from their body.

What is the problem?

Why do the chickens have runny, orange stool?

What are your next steps?



Our response:

This is a case of heat stress. The average body temperature of a chicken is 41.5C.

- Chickens cannot sweat to reduce their temperature.
- Overheated chickens will pant, lift their wings away from their body, rest against a cool surface if available, and increase water consumption.

- Blood vessels dilate potentially making the comb and wattles appear more red.
- As they become hotter, they need to pant faster. However, fast panting requires a lot of energy and causes imbalances in metabolism. Rapid panting is also less effective at cooling because more heat is generated. This is unsustainable and will eventually result in death.
- Heat stress results in decreased blood flow to the intestinal tract. Decreased oxygen delivery to the tissue cause break down of the intestinal wall. Dead intestinal cellular tissue appears bright orange on post-mortem and when passed in fecal material.
- Therefore, heat stressed birds are more prone to bacterial infections.

Interventions

- To improve cooling in this case, provide a well shaded area of the outdoor run where birds can rest with better air flow than in the coop.
- If it is possible to provide a fan this will also help. Good ventilation is essential to keeping heat and humidity down. If the litter is damp it should be replaced with dry litter.
- Clean, fresh water that is below 25C should be provided regularly so birds can cool themselves by drinking. Products such as organic acids, electrolytes, and probiotics can be added to water.
- Organic acids can improve water intake, electrolytes will help maintain hydration and reduce electrolyte disturbances caused by panting, and probiotics will help support intestinal health.
- It can also be beneficial to remove feed mid-morning and return it late afternoon so that birds do not have excess heat generation from digestion during the hottest period of the day.



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