SETTER ROOM

Hot eggs damage chick quality

There is an optimal embryo temperature range where embryos will be comfortable.

When eggs get too hot, chick quality will suffer long before hatchability is affected.

Check the eggshell temperatures on days 16 to 18 of incubation, when the embryos are producing a lot of heat, to see if there are any dangerous hot-spots developing in the setters.

Use a Braun ThermoScan infra-red ear thermometer, or Tiny Tag temperature loggers to monitor the eggs in the center of the egg trays in as many different locations as you can.

Chick quality will be affected wherever you find eggshell temperatures exceeding 102°F (38.9°C). Chicks from overheated eggs will hatch earlier, so are more prone to dehydration. They will also be paler, shorter and the yolk sac will be bigger. Unhealed navels will be more common.

When chick quality is poor, not only will there be more culls and downgrades at the hatchery, but also performance on the broiler farm will be poorer.

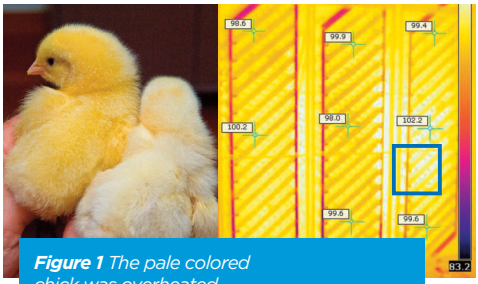

Figure 1 *The pale colored chick was overheated.*

Figure 2 *Hot area in a single stage setter.*

Chicks from eggs which have been overheated will not grow as well, and will tend to have higher mortality throughout the flock life. Feed conversion may also suffer.

If ventilation is adequate, hatchability is not usually affected until higher eggshell temperatures are reached.

It is easy to visualize the variation in eggshell temperature in the setters by entering the temperatures into an Excel spreadsheet, and plotting a graph using the chart type 'surface' and the option 'contour'. In the example given below, taken from a fixed rack multistage setter and using a thermal image iron color palette, the graph shows a cool spot near the door and two hot spots in stacks 7 and 13.

Places where eggshell temperatures exceed 102°F (38.9°C) indicate that action is needed.

Check door seals, fan speeds, setting patterns (was the set balanced?), spray nozzles, cooling coils, solenoids, water flows, fan blades, turning angles and frequency and incoming air temperature and humidity.