Managing chick holding room temperatures

Newly hatched chicks cannot regulate their body temperature very well. Body temperature in young chicks therefore depends on the surrounding environment.

Yet it is crucial to help chicks stay in their thermal comfort zone after they hatch. If chicks are too hot or cold, they will use more energy during holding. If they are too hot, they will also pant and get dehydrated. These chicks will not perform well on the farm.

It is extremely busy on a hatching day in a hatchery and it can be hard to monitor and respond to chick comfort.

Sometimes problems with chicks being too hot or cold are only seen when DOA numbers increase. On the other hand, it is not simple to keep chicks within their comfort zone in a chick holding room. There is not one ideal chick holding room temperature, which is suitable in all hatcheries, because it depends on chick size, physical condition, room humidity, chick box type and air speed around the boxes.

You need to find the ideal holding room temperatures for different seasons in your own hatchery.

One Aviagen internal study has shown that vent temperature is a good indicator of chick comfort. A chick will be comfortable when its vent temperature is in the range of 103-105°F (39.4-40.6°C). Identify sample chicks and measure chick vent temperature hourly in the chick holding room. If chick vent temperature is too high, lower room temperature settings. If chick vent temperature is low, then increase room temperature settings.

If chicks are sampled and chick vent temperature measured at different locations in the chick holding room you can determine where any hot/cold spots are.

Then you can use the information to improve chick trolley design, chick trolley placement in the room, air circulation in the room and room ventilation, so that all chicks will be comfortable throughout the entire chick holding room. Using Excel to map the temperature distribution will help to identify problem areas.

In **Figure 2** the chicks were all slightly cold, except in the back right corner, furthest from the door. Raising the room temperature slightly, with some additional cooling fans in the back corner allowed the chicks to maintain a vent temperature above 103°F.

Figure 1 *These chicks are too hot.*

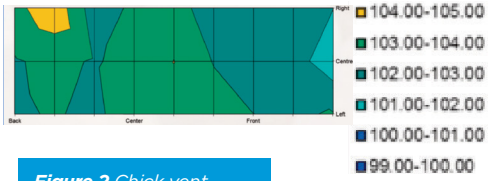

Figure 2 *Chick vent temperature by location.*