HATCHER ROOM

Logging temperature in the hatcher basket

In the hatcher, the air temperature in the body of the machine will often be very different from the air temperature inside the hatcher baskets.

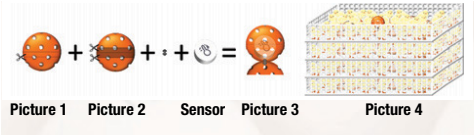
Air temperature at the probe can be quite variable in the short term, responding to changes in cooling, heating and ventilation, as well as the heat production from the hatching chicks as they emerge.

For these reasons the internal box temperature is far more relevant to chick welfare and performance than the air temperature within the machine, but this has been hard to measure and record accurately in the past.

The development of reasonably priced and accurate Bluetooth-enabled temperature loggers allows us to record temperatures within hatcher baskets anywhere within the hatcher, throughout their time in the hatcher (or in stacked boxes during chick holding and transport).

We know the chick's vent temperature is optimal between 103-105°F (39.4-40.6°C), but this is impossible to measure in the hatcher without disturbing its local environment. However, an optimal vent temperature roughly correlates to 86-89.6°F (30-32°C) in basket temperature, although this will be modified by air speed and wind chill.

How the sensor is positioned in the basket is critical because it needs to be above the height of the eggs (around chick head height once the chicks have hatched), in the center of the box. To avoid the sensors coming into contact with the chicks, it is important to encase them inside protective covers (with air holes to allow free exchange of air).



To build a cover, you will need two practice hockey balls and one small bolt. Cut the first ball into two – 1/3 and 2/3 as in **Picture 1**. Cut the second ball the same way, then cut a band off the larger portion so that both 'cups' are the same size as the smaller portion in the first ball (see **Picture 2**). Take two of the smaller pieces and bolt the curved sides together; these become the cup and stand for the sensor as in **Picture 3**. Once the sensor has been placed inside the cup, place the larger piece as a lid over the top; this should come down over and lie tightly over the lower cup. Place the whole unit in the middle of the basket that you want to monitor (**Picture 4**).

These baskets can be placed around the hatcher in a matrix to cover the key positions within the machine. It is recommended to have at least six units, numbered so their location in the hatcher is known. Avoid the very top or bottom baskets.