

# Hatchery Calibration

Aviagen Turkeys Ltd ®



## Definition

- Routine hatchery calibration is required to ensure that incubators and hatchers function correctly. All machine sensors should be calibrated at the intervals recommended by the manufacturer.
- Other equipment within the hatchery may also require calibration, e.g. sensors controlling room temperatures and humidities, and cooling water temperatures.

## Procedures

- Where the equipment manufacturer provides instructions on how to calibrate a sensor, these instructions should be followed.
- Thermometers used for incubator and hatcher calibration should be readable to at least 0.1°C (0.2°F), accurate to 0.2°C (0.4°F) and have a stability of less than 0.05°C per year. Thermometers with greater readability (<0.05°C) and accuracy (<0.1°C) are available and would be preferred but do tend to be expensive (Fig. 1).
- Equipment used to calibrate sensors should also be regularly calibrated to a national certified standard by an accredited laboratory. The manufacturer's recommended frequency of calibration should be followed, normally annually.
- Procedures should ensure that the calibration is always done in exactly the same way. For example, when calibrating incubator temperature, the direction of ventilator movement and egg turning will alter the pattern of airflow within the machine and can affect the calibration procedure. Therefore it is important that the incubators are always calibrated when: (1) eggs are turned in the same direction, (2) ventilation fans are operating in the same direction, (3) the machine is filled at the same capacity and (4) the eggs are at the same stage of incubation.



Figure 1: Calibration thermometer

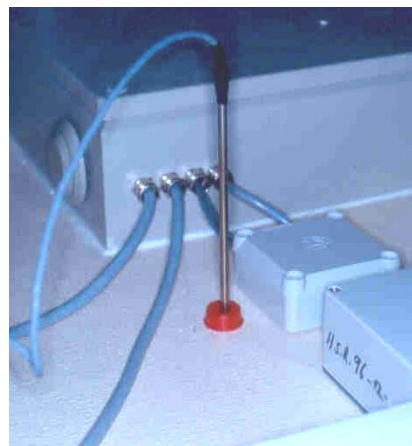


Figure 2: Locating the thermistor next to the incubator sensor

- Ideally the calibrating sensor should be placed as close to the machine sensor as practical (Fig. 2). The calibration sensor should be placed in the machine and allowed to stabilise for a period before taking a reading. The manufacturer may give recommended times for stabilisation, but normally 1 hour is sufficient.
- If any adjustments are made to the machine sensor following calibration, allow the machine to re-stabilise before checking the reading.
- Keep records of the results of the calibration. These records should show:
  1. Identity of incubator or hatcher and the calibration sensor.
  2. Reading on the calibrating sensor.
  3. Incubator or hatcher sensor reading before any adjustment made.
  4. Incubator or hatcher sensor reading after adjustment (if necessary).
  5. Date of calibration.
  6. Date of next calibration.
- Incubators and hatchers should be calibrated at least annually and after any maintenance work carried out on the control systems. However, the frequency of calibration should be modified by experience: for example, if large (> 0.3°C) adjustments are required every incubator calibration then it may indicate that more frequent calibration is necessary.

*The contents of this Management Article are © Aviagen Turkeys. As performance can be affected by various factors existing in particular operations, these objectives or advice cannot and should not be regarded as a form of guarantee and Aviagen Turkeys Limited accepts no liability in relation to your use of this information*

**Aviagen Turkeys Ltd.**

Chowley Five, Chowley Oak Business Park, Tattenhall, Cheshire CH3 9GA

**Tel:** +44 (0)1829 772020 **Fax:** +44 (0)1829 772059

**Web:** [www.aviagenturkeys.com](http://www.aviagenturkeys.com)

