

ROUTINE CALIBRATION OF COMPOST THERMOMETERS MAINTAINS EQUIPMENT ACCURACY

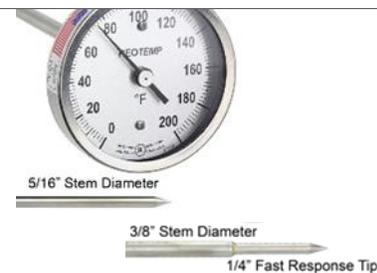


The purpose of windrow composting of HPAI related poultry carcass mortality is inactivation of avian influenza virus. Compost pile temperature measurements are a critical indicator of effectiveness of the compost process for virus inactivation. Temperature monitoring is performed by a compost subject matter expert (SME), regulatory monitoring staff, contractors, or farm personnel. Accurately monitoring and recording daily

temperatures is vital to demonstrating that the composting process meets time and temperature requirements designated by USDA-APHIS. *These time and temperature requirements must be met as part of the process to release quarantine on the infected premises.*

The calibration process described below is appropriate for most commercially available dial-type compost thermometers. Compost thermometers commonly in use for HPAI response are 36" or 48" length bimetal dial industrial compost thermometers (such as the 5/16" stem heavy duty, or 3/8" stem with 1/4" fast response tip super duty) manufactured by Reotemp Instruments.

Common bimetal dial compost thermometers



THE THERMOMETER SHOULD BE CALIBRATED BEFORE FIRST USE AND, AT A MINIMUM, WEEKLY

Calibration should also be performed if any of the following occurs:

- ◆ It is dropped on a hard surface or subjected to severe shock
- ◆ It is subjected to forces causing excessive pressure or bending of the stem
- ◆ It is subjected to prolonged vibration
- ◆ It is exposed to extreme temperatures outside the range of the dial
- ◆ The calibration screw on the back of the dial is turned accidentally



Safety: The pointed stem of the thermometer is very sharp. Take care when

handling and use a protective sheath when the thermometer is not in use.

Note: If the stem of the thermometer is bent or the dial is un-sealed or broken, the thermometer should be discarded and another procured. It is recommended that, where possible, thermometers be purchased with and fitted with a "probe handle" or "probe guard" for safer handling and protection of the stem and dial.

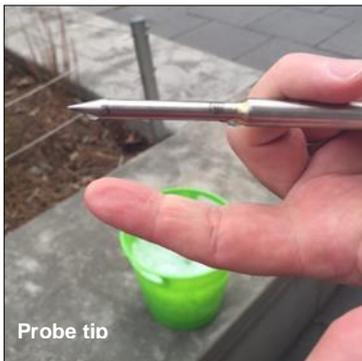


MATERIALS NEEDED TO PERFORM CALIBRATION:

- ◆ Sturdy pail or bucket
- ◆ Cold water
- ◆ Ice (crushed or small cubed)
- ◆ Flathead screwdriver
- ◆ Compost temperature log or calibration form
- ◆ Pen or pencil

CALIBRATION INSTRUCTIONS:

1. Assemble a water bath of *known temperature*, typically an ice bath 32°F (0°C). Place enough ice in the bucket to have at least 6" depth, adding just enough water to fill spaces between the ice pieces. Let sit for one to several minutes.
2. Agitate (stir) the bath just before and occasionally during calibration.
3. Immerse thermometer tip *at least 4" into bath*, as the sensitive portion of the thermometer is the last 2-3" of the stem. Be sure tip does not touch sides or bottom of bucket.
4. Leave thermometer in the bath for at least one minute.



5. If the dial does not read 32°F, using the flathead screwdriver, turn the small (1/4") hex screw head on the back of the dial case of the thermometer until the pointer is at 32°F. Turn the screw counter-clockwise to increase temperature or clockwise to decrease temperature.



6. When adjustment is complete, re-check the thermometer in ice water. Repeat adjustment if necessary.
7. Each time a thermometer is calibrated it is to be documented that calibration was completed. Information can be recorded on the compost temperature log or a separate calibration form. Include an equipment identifier, date, reference temperature (32°F), and name of the individual performing the calibration.