FY2016 HPAI Response



United States Department of Agriculture Mortality Composting: Temperature Monitoring Protocol of Avian Influenza Infected Flocks May 9, 2016

Please note: These procedures may be revised as the situation develops.

TEMPERATURE MONITORING PROCEDURE

Monitor temperatures of the windrow daily at a minimum of 10 locations flagged by the Subject Matter Expert (SME). The temperature monitoring locations should be spaced equidistantly the length of each windrow. Take two temperature readings at each flagged location within a foot of the flag; one reading at a depth of 18 inches and another reading at a depth of 36 inches. To ensure consistent temperature monitoring to the same depth, mark the thermometer probe at 18 inches and 36 inches. Place the temperature probe ³/₄ of the way up the windrow at a 45 degree angle. Ideally, temperatures should be monitored by a single individual for consistency. Temperature probes should be calibrated before first use and weekly thereafter (see *Calibration of Analog Thermometers Job Aid*). Calibration dates can be recorded on the *Composting Temperature Log*, attached.

INSTRUCTIONS

- Turn on fans or open the doors and curtains to all the houses containing compost piles to allow them to air out and to maximize ventilation.
- USE THE BUDDY SYSTEM. Entering a barn with active compost or dead birds requires a two person team.
- Place the stem of the thermometer approximately 18 inches and then 36 inches into the compost pile half way up the pile at a 45 degree angle.
- Leave the thermometer at each depth and point for at least 60 seconds.
- Log the reading from the thermometer at each flag and at both depths.
- > Compare readings to previous day's readings.
- > After completing the house readings, close the doors and curtains.
- Calculate the average temperatures for each pile by averaging the 18-inch readings for all flags for that day then averaging the 36-inch readings for all flags for that day and noting the two averages on the *Composting Temperature Log*.
- Windrows should reach an average temperature of 131°F for a minimum of 72 consecutive hours at both the 18 inch and 36 inch depths or be assessed by a SME for possible corrective measures.
- > Disinfect the thermometer and return it to its protective case.
- Each thermometer will be kept at the respective premises being monitored. Do not take a thermometer from one premise to another.
- If by the third day after initial windrow construction, compost temperature averages remain below 100°F or greater than 160°F, a SME should be consulted immediately.
- During Phase 2, a SME should be consulted immediately if **any** monitoring location is consistently (more than 3 consecutive days) below 100°F or greater than 160°F.



Example temperature monitoring locations



TEMPERATURE MONITORING LOG SHEET

COMPOSTING TEMPERATURE LOG													
County:				Site Number:									
Street address, city, state:													
Farm Name:													
House/Windrow Number:				Date Started:			Date 1	Finished:	Da	Date Turned:			
Use the cells below to record				the temperatures each day, for 14 consecutive days, at 18 and 36 inches.									
Date	Depth	Flag #1	Flag #2	Flag #3	Flag #4	Flag #5	Flag #6	Flag #7	Flag #8	Flag #9	Flag#10	Avg	
	18"												
	36"												
	18″ 36"												
	18"												
	36"												
	18"												
	36"												
	18 ²⁷ 36"												
	18"												
	36"												
	18"												
	36"												
	18"								-				
	36												
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	36"												
	18"												
	36"												

Calibration Week 1 (Name): _	Date:
Calibration Week 2 (Name): _	Date:
Calibration Week 3 (Name): _	Date: