

Appendix D

In House Composting

Composting consultants include the following:

- Dan Schwartz – CFIA, 604-557-4505 / 4500
- John Paul – Canadian Composting Consultant, 604-504-5660 / 604-302-4367
- Larry Inman – Ag Bag Environmental, 503-325-2970
- Bud Malone – Delmarva, 302-856-7303
- Nat Tablante – Delmarva, 301-314-6810

1) In-House Composting (Summary of Malone/Tablante presentation)

2) General Considerations:

- a) Bird Age
- b) Litter Depth
- c) Litter Moisture
- d) Location of Carcasses
- e) Access doors for sawdust & compost removal
- f) Ceiling Height
- g) Capping/Turning Piles
- h) Least Material Handling Needs

3) Determine Litter/Carbon Needs

- a) 0.8-1 inches litter per pound of broiler/square foot barn
- b) If litter is deficient, carbon source may replace this in equal volume

4) Schedule supplies and coordinate with Depopulation and C&D teams

5) Select method of composting

- a) Mix and pile if birds evenly distributed
 - i) Remove one bucket width of carcasses from side and spread evenly in the center
 - ii) Minimum 3 inch litter base in center
 - iii) Roll materials from sides to form a 10 to 12 foot wide windrow with the feed line as a guide
 - iv) Carcasses placed together without contact with litter will decompose rather than compost
 - v) Cap the windrow with sawdust or litter to assure that all birds are covered by at least 4-6 inches of material
- b) Shred and pile for large birds
 - i) Shred birds with roto-tiller or run over them with skid steer
 - ii) 5" litter base desirable
- c) Layering may be best if carcasses are concentrated in one area
 - i) As with other, except multiple "6 inch capping" of each layer of birds
 - ii) 3" minimum base

- 6) Empty Feed bins and compost with birds
- 7) Bring in any mortalities that are located outside of the house
- 8) Clean all litter along sidewalls and corners with shovels, add to compost
 - a) Remove any organic material on equipment, etc. and add to pile
- 9) Compost any surplus litter or sawdust
- 10) Final Windrow 4-5 feet high, 10-12 feet wide and 80% length of house
- 11) Rodent and Darkling Beetle Control
- 12) Return all removed equipment inside the house
- 13) Provide Minimum Ventilation
- 14) Monitor Temperature:
 - a) 95% of probes at 100F or above for 5 days (insert CFIA protocol)
 - b) 135F reached within the pile
- 15) Heat Building to 100F for 3 days
- 16) Compost may be removed for further composting following reaching required temperatures and receipt of negative virus isolation samples
- 17) 10-14 days for temps
- 18) 7-14 days for VI (confirm with Malone/NVSL)
- 19) Post Warning Signs On Doors – Must be ventilated prior to working inside
- 20) C&D all equipment after use in initial composting and turning of windrow
 - a) Skid steer C&D
 - i) High pressure wash & disinfect at the farm
 - ii) Replace air filters
 - iii) Remove covers & wash interior surfaces
 - iv) Minimum three days down time before use at another farm
- 21) VI carried out before turning and one week before removal
 - a) Thirty samples per building
 - i) 5 soil
 - ii) 5 environmental
 - iii) 20 from compost pile
- 22) After moving windrow outside
 - a) Cap with 3 inches of sawdust
 - b) Cover with composting fleece
- 23) Reheat building after turning piles/removal 100F for 3 days
- 24) C&D following final removal of compost
 - a) Virkon S (1-2% soln)
 - b) Biosentry 453 (2-4 oz/gal)
 - c) 904 (1/2 oz/gal)
 - d) QAC 400 (1/2 oz/gal)
 - e) 904 (1/2 oz/gal)
 - f) Bio-Phene (1/2 oz/gal)
 - g) Poul-Phene (1/2 oz/gal)

25) AG BAG Composting (may be an option for virus negative birds)

- 26) Following is a summary of information that would be needed to get the ag bag composting started:
- 27) Four days notice would be needed to get all of the materials, equipment, inputs and personnel in order to get started with the Ag Bag process.
- 28) Once material is all on-site, roughly 70,000 birds should be able to be processed daily. This would be about 400 tons of material or two Bags per day.
- 29) 500,000 birds would require approximately 16 pods and 1.5 acres surface area.
- 30) Equipment sources:
- a) Grinder - Dave Girard, Peterson Pacific, Manufactures grinders, P.O. 4049, Eugene, OR 800-269-6520, cell 541-914-1012
 - b) Bagger – Ag-Bag Environmental, Debbie Linder or Larry Inman 92365 Riekkola Rd, Astoria, OR 503-325-2970
 - c) Bags – Ag-Bag
 - d) Aeration tubes – Ag-Bag
 - e) Blowers – Ag-Bag
 - f) Carbon Source – Wood Waste LLC (Pacific Land Clearing) Glen Zimmeran, Aumsville, OR cell 503-849-6093
 - g) Trucking – Don Averill Trucking 1500 Main St. Tillamook, Don Averill, Cell 503-801-1213
 - h) On-site expert to facilitate process – Larry Inman of Ag-Bag Environmental or others with company affiliations in British Columbia
 - i) Vertical Mixer contacts if one wants to attempt whole bird composting with virus positive birds - Farm Shop, Sunnyside, WA Phil Roach, 509-840-0355 or Supreme Mixers 1-800-877-9655 out of Abbotsford, B.C., Canada

31) Monitoring of Composting Process

- 32) A representative from ODA/USDA will monitor the temperature development in the windrow. Composting material will be left in the barn or bag until time and temperature requirements satisfactory to ODA/USDA have been achieved. It is recognized that if all parts of the pile achieve 130 F, the virus should be killed within 30 minutes. When monitoring temperatures the lower core and lower outskirts of the pile will be specifically targeted, as these are likely to be the coolest areas of the windrow. All parts of the composting material should reach an effective temperature for a sufficient amount of time.
- 33) See the NAIRP and HPAI Task Force SOPs for further details.

