

Lessons Learned

Composting Avian Influenza Mortalities in Nebraska

2015 HPAI Response

Livestock Mortality Composting Demonstration
January 20, 2016

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On May 11, 2015 High Pathological Avian Influenza H5N2 broke in Dixon County Nebraska. The general control objects of the response were to...

“Conduct Avian Influenza abatement operations in the safest, efficient, humane manner possible while making every effort to contain the virus to impacted sites.”

In response, 4.8 million birds were euthanized and composted on-site to eradicate the virus.

NDEQ Concern: Protection of the Environment

- Disposal of Carcasses
- Disposal of Personal Protection Equipment and other waste materials generated on-site
- Wastewater Management
- Storm Water Management
- Burn Permits

Spring 2015



Avian Influenza N.E. Nebraska 2015

Incident Action Plan

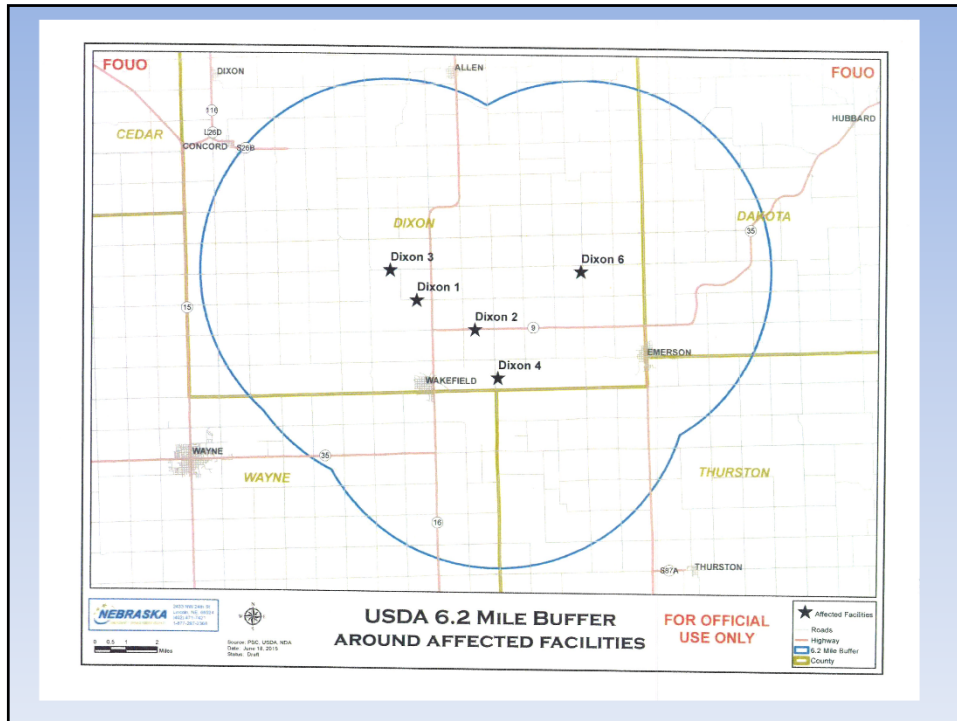
May 14, 2015

0700-1730



Incident Commander

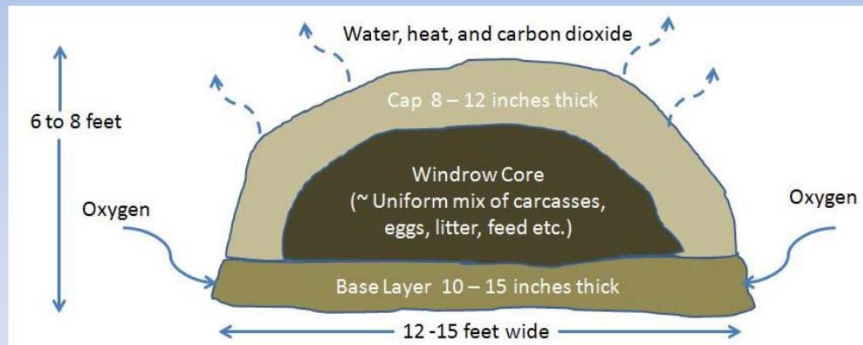
Tom Jensen



Composting

- Goal - Biological Heat Treatment not finished compost
- Composting Expert, trained equipment operators, carbon, water, space
- Windrows (6 to 8 feet high and 12 to 15 feet wide) on a uniform base layer (10 to 15 inches) of sufficiently porous and absorbent carbon material.
- 14 days initial composting, 131°F for 72 hrs

Cross Section of Compost Windrow



Dixon 1 – Disposal Plan May 16, 2015 Version 1 Edward Malek

Estimated 1.7 million layers of 3 lbs each

1 barn has died.

Estimated carbon source – 12 000 yds³

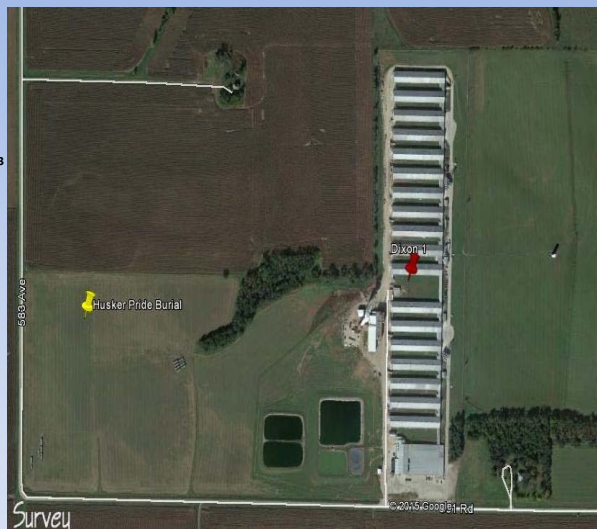
Estimated length of compost pile – 12 600'

Primary composting site, 2 to 4 rows to the east of the main barns.

Road to be built uphill east of the barns to the composting site.

Carbon trailers to enter the main gate turn in the turnaround and back to the staging area to keep this road clean. Carbon amendment will be moved to the composting area by dump truck or loader.

Dump trucks for manure and birds to keep near the west sides of the barns and to use the north loop for staging birds and manure.



**Dixon 1 – Disposal Plan
May 16, 2015 Version 1
Edward Malek**

Estimated time for depopulation:
1 600 000 birds @ 75 000 per day
Start day – Monday May 18, 2015
No break days of depopulation. (Need
to keep assessing staff for fatigue).
It will take time to develop abilities
for depopulation due to PPE and
animal welfare.

End day – Wednesday June 10, 2015
Estimated time for disposal:
Start day – Wednesday May 20, 2015.
It is acceptable for disposal to be 1
day behind depopulation.

Timing is dependent upon a steady
supply of carbon amendment.
End day – Friday June 12, 2015



Loading



Staging and Mixing Area



Off-Loading



Mixing



Mixing



Compost Row Preparation



Addition of Mixed Materials



Row Progression and Completion



Temperature Monitoring



Turning



Lessons Learned

- Preplanning helpful – Bury, compost or other?
- Disease Expert Approval, Motivated producer, Materials, Manpower and Expertise
- Indoor preferred, but outdoor composting may be necessary
- Outdoor Site Conditions –
 - More area needed than you might think
 - Run-on run-off control

Lessons Learned (continued)

- Biosecurity
 - PPE use during compost operations – clear protocols
 - Movement of wastes and materials
 - Disinfection of equipment
 - Clean areas, dirty areas
- Compost turner - makes better “finished” compost, but can be limited by space
- Compost use questions remain – land application as soil amendment preferred...but
 - Nitrogen content
 - Esthetics

Questions?

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