

August 12th, 2015

I. Permitting

A. Iowa

1. Had multiple sites break. 70 of 77 cases in Northwest Iowa. Had quite a mess on their hands.
2. Issued no official permits. Governor issued an official proclamation that gave them the leeway to give variances.
3. Used a trench burial design, called for 6 ft (usually 10 ft). Showed 2 layers of chickens, but they usually used only one.
4. 1st producer was adamantly against burial. Carcasses sat for 3 weeks shedding virus.
5. Allowed burial by variance. Didn't even get letters, got phone calls.
6. Had burial zone maps, also used it for composting.
7. Iowa does have composting rules. For their carbon source, they used cornstalks sourced from an ethanol plant.
8. Incineration-they gave permit by variance.
9. Dealt with most of it on the phone. They have phone records detailing the calls.
10. Landfilling-permit was not necessary. Landfills can take mortalities at any time. They aren't used to this magnitude. There were a lot of questions, especially about biosecurity. Turned to the USDA to create guidance document.
11. Public landfills have a board, which works like a city council. They were very fortunate to find one private landfill that took material. They have to be mindful of what other materials are included with the carcasses.

B. Kansas

1. They have been working on their plan since the 90s. They regulate over 3,000 facilities. Have pre-selected burial sites, but will try to talk them into composting. They have statutes that allow producers to bury mortalities/dispose of them on site.
2. The pre-approval process allows them to identify historical sites, water wells, etc.

3. If a facility doesn't have a pre-selected site, using their databases, they can have a suitable site identified in around four hours.
4. To get a pre-selected site, facilities fill out a form that gives their name and address. An employee comes to evaluate the site. The system is voluntary.
5. A spreadsheet was developed, based on 42 cubic feet per animal, plug in the number of animals and it will tell you how big the trench needs to be. The spreadsheet was designed by an engineer, and it includes litter, PPE, and feedstuffs added into the burial site.
6. The last form is the approval form, which the county needs to sign off on for the burial pit. The form is 2 pages.
7. Kansas pretty much said no to incineration unless they want to use fully enclosed units.
8. The landfills have said absolutely not, it's a volume issue. Even the biggest landfill couldn't handle even one whole feedlot.

C. Minnesota

1. Didn't have to do much permitting. Mostly did composting. The ground water and soil profiles made burial non-feasible.
2. Tried to work with landfills. As long as it was in their solid waste management plan, they could take them. Most weren't excited. Some outright refused.
3. They do use permit by rule, but farmers are not absolved of liability after burial.
4. Incineration is on the table, but they only have 2 air curtain incinerators. They are so small, and they would have had to get contractors to set them up. They would also have had to write emergency air permits.
5. They don't have pre-approved sites, but they have information regarding wells, etc.
6. Disposal of ash would have been normal landfill disposal.

D. Nebraska

1. They had Governor's Declaration of Emergency.
2. There were some requirements that came up with stormwater. They used internal guidance and best management practices to minimize issues. No stormwater permits were issued during incidents.
3. Wastewater-lagoons on 2 sites turned to Minnesota for their protocol. If they had NPDES permits in place, they needed to comply with those. Turn off endguns, use droplines, and avoid pooling.
4. Air-because there were so many different types of waste, they looked at incineration. In statutes, they have the ability to issue open burn permits. Air

turns to Waste Management to determine which materials can be used. Looked at several different types of incinerators. Gave enforcement discretion, but did not relax on incineration.

5. Waste-Statutes require disposal on site, so no permit required. Have evaluated all poultry facilities already. A few facilities aren't appropriate for on-site burial.
6. The Department of Ag worked very closely with DEQ. The producer was very determined to do things right.

E. Missouri

1. Only had two incidents early in Spring.
2. They proceeded using dead animal disposal procedures for mortality incidents.
3. Missouri has lots of karst areas. Burial sites are very limited. If there is major contamination potential on site, they can only bury 1,000 lbs/acre. If there is low contamination potential, they can bury 7,000 lbs/acre. Burying cannot exceed 10% of the land the owner has. Must be 300 ft from wells, sinkholes, existing homes, etc.
4. Lots of landowners still want to bury. Stipulations make it very tough.
5. Stormwater permits can be issued in expedited fashion.
6. Composting the University of Missouri is working on guidance documents.
7. Wastewater-if permitted, they already have what they can and can't do. Some concern about runoff from outside composting sites.

F. Wisconsin

1. Carcasses are classified as solid waste.
2. DNR serves in advisory role.
3. Burial-for solid waste, if it's onsite they are exempt. Off-site they have to be certified as solid waste disposal.
4. A Declaration of Emergency from the Governor's office can shorten timeframes.
5. Stormwater-NPDES already permitted in CAFO, goes into an amendment on their permit. If it's under 10,000 cu yards, they're exempt.
6. Burning-tried to minimize
7. Buffers-because they used mostly composting, the biggest issue was with setbacks from propane tanks. Fifty feet was considered reasonable. Otherwise, 100 feet seemed safer. Setbacks from wells needed to be at least 250 feet. Considerations were made. Stormwater runoff directed away from wells. Many facilities had non-complying wells.

8. Pre-approved. Working with CAFO section to see if they can identify appropriate composting sites.
9. Most of Wisconsin is not appropriate due to soil and groundwater profiles.

G. Other Discussion

1. Iowa-Can't bury litter, mostly due to volume of litter. They don't want that heavy of a nutrient load in the soil. Litter is waiting to be land-applied as soon as it's declared virus free. Must sit for 120 days. Bacteria is degrading virus in compost and manure. Told to put piles someplace with low traffic where it will be undisturbed.
2. Kansas-PPE can be buried in Kansas. There is a 3 year limit on how long the burial site must be declared on deed, just for mortality incidents.
3. Nebraska's main concern was ensuring that PPE was virus free when it left the facility.
4. APHIS-Litter and manure are money for producers. They are very careful not to take it.
5. Nebraska discourages burial.
6. If AI is low path, still want to do controlled slaughter.
7. In Iowa, in all cases, the burial sites were all part of farms. They did not have to request property from neighbors.
8. Does this outbreak make us look at CAFOs? Kansas-probably not, because of voluntary process. They have to have a preselected disposal site. In Nebraska to get a permit, they must have a plan for ongoing mortalities, but nothing for mass mortalities.

II. Cleaning and Disinfection Highly Pathogenic Avian Influenza

A. Purpose

1. C & D is done to prevent or mitigate the spread of foreign animal disease during an outbreak .
2. Involves the use of physical, chemical, or biological processes to remove, inactivate, reduce, or destroy pathogenic microorganisms

B. Cleaning

1. Involves the removal of organic material like manure and bedding
2. Washing removes materials like oils and grease that can inhibit the action of disinfectants.

C. Disinfection/Sterilization

1. Disinfection is a process that destroys most pathogenic and nonpathogenic microorganisms, but not all microbial forms, such as bacterial spores, to an acceptable level.

2. Sterilization is a process that destroys all forms of microbial life, including bacterial spores, to an acceptable level.

D. Avian Influenza

1. Type A Orthomyxovirus
2. Highly susceptible to drying and heat
3. Can survive for months in bodies of water

E. Disinfectants

1. Over 500 different products are registered with EPA as effective against avian influenza.
2. Most are combinations of 58 active ingredients.
3. Chlorine Dioxide is being used experimentally in Iowa.

F. AI Heat susceptibility-killed at 108 F. At 98,6 F, it is still viable after 24 hours, but after 36 hours, there's nothing.

G. Cleaning Options

1. Wet cleaning option
2. Dry cleaning option

H. Disinfection options

1. Wet disinfectant application
2. Dry and heating (100-120 F for 7 days)
3. Chlorine Dioxide (fumigation)-If APHIS is paying for service, must be APHIS approved prior to application. Even though Chlorine dioxide is listed by EPA, because FDA lists it as a pesticide, it must be documented and witnessed in Nebraska when used. Iowa does not have these requirements.
4. Premises may require combination of methods, but at least one choice must be made from both cleaning and disinfection and included as part of the approved flock plan.
5. Would prefer to do dry cleaning in turkey barns with clay floors. If wet cleaning is selected, put down shavings first to absorb runoff. Foaming disinfectants have been very effective.

III. Dealing with the Public/Media

Nebraska

- A. Nebraska had 6 sites, 3.9 million layers and 1.5 million pullets were impacted.
- B. Website- <http://www.nda.nebraska.gov/animal/avian/index.html>
 1. NDA revamped the webpage. It already had some AI information on it.
 2. January-May fixed the page content and made it easier to navigate
 3. There are sections for producers and consumers.
 4. As stages progressed, worked to develop some simple one page fact sheets.

5. Continues to highlight public health concern at bottom.
- C. News Releases**
1. Established several key messages
 2. They wanted to promote transparency
 3. Consistency was very important.
 4. After 4th case, they would have weekly briefings and do news releases on Tuesdays so the information would be in the local papers where the incidents occurred.
- D. Challenges**
1. Tried to take general public calls away from Veterinary staff, because they were so busy.
 2. Knox County site was presumptive positive. They felt because of local knowledge they needed to handle a presumptive positive site the same way as a positive site. Had to change the message later.
- E. Emergency Declaration**
1. Signed very quickly
 2. Needed so they could gain flexibility to use resources available.
- F. Social Media**
1. Posted to Facebook and Twitter NDA accounts.
 2. Used social media to announce cancellation of poultry shows.
- G. Salient Points**
1. Tried to align communication efforts with USDA. Nebraska had unique situation as only 1 producer was involved, coordinated with them as much as possible.
 2. NDA operated under ESF 11/ incident command structure.
 3. Staying ahead of next steps with additional/new fact sheets.
 4. Updated website was important
 5. Communication team attended as much as possible the twice a day incident command calls.
 6. Confidentiality was a unique challenge, since all cases were with the same producer.
 7. Had some challenges with the public health agency in that area of the state.
 8. Communication with the Poultry Industry.

Iowa

- A. Announced first case April 14th.**
1. Turkey flock.
 2. Coordinated with USDA and APHIS.

3. Media interest was high, but manageable.
 4. Dozens of cases elsewhere.
 5. When large laying operation was impacted, change whole scale. Started getting much higher attention from media.
 6. Implemented conference calls to control call volume.
 7. Included Egg Board and Public Health.
 8. Last case in July.
 9. Provided regular updates about decontamination and repopulation
- B. Information Coordination and Partnership**
1. Consulted with Minnesota, so they didn't have to do everything from scratch.
 2. Coordinated with Department of Public Health.
 3. Iowa State University and industry also consulted.
 4. Developed materials to use including webpages and 1 page factsheets.
 5. Footage in media now is not representative of facilities impacted.
- C. Lessons learned**
1. Identify and prep key spokespeople.
 2. Stay in your lane. Answer questions in your knowledge base. Let those with more expertise answer questions in theirs.
 3. Partnerships are valuable, allow you to focus on your area of expertise. Keeps you from having to speculate or reach when questions are posed.
- D. Response**
1. Homeland Security-their role was very different from their experience in AI incident in Iowa. They were located in the State Emergency Operations Center for 2 months. They worked with DNR, DOT, Public Health, etc. to determine what information was being distributed. Social media was monitored to check for and address misinformation.
 2. Supported and emphasized USDA and IDALS information by retweeting and reposting it.
 3. Made sure to keep local emergency managers updated.
 4. Public reaction-there was not much interaction from the public. There was immense media interest.
 5. APHIS asked their people not to take pictures and not to post information anywhere.
 6. Tried to keep information consistent and funneled through their chain of command.
- IV. Best Management Practices**
- A. Kansas -Technical Guidance Documents**
1. Small quantity of Livestock

2. Large quantity of Livestock
 3. Policy-permitting requirements for dead animal burial sites
 4. Composting at livestock facilities pamphlet.
 5. Three documents that deal with burial, one of them came about because someone wanted to put in a cemetery for horses. Kansas contacted other states to determine their permitting standards, and determined they would allow 7,000 lbs/acre per year.
 6. If you have five animals or less, you are a small animal producer and are therefore exempt.
- B. Minnesota**
1. Mostly composted.
 2. MOU with Board of Animal Health
 3. When it's a bird, they're responsible, when it is no longer a bird then the producer is responsible
 4. When compost is released it is no longer a bird.
 5. Used manure management guidelines for compost.
 6. On over 100 sites, only 1 had issue with placement of compost.
- C. Missouri**
1. Trying to get one page guidance on composting.
 2. Once it's moved out of building, land apply according to their nutrient management plan.
 3. Preplanning-they're looking at doing on site composting and how much litter is on hand.
 4. How much litter base is needed to just start making a pile?
 5. Have existing stockpile and guidance document.
- D. Nebraska**
1. Normal reaction is to get boots on the ground as soon as possible. This time, only one person is allowed on site.
 2. Used a lot of photography. Had Dave H. take pictures to address staff questions about site.
 3. Buy a really good waterproof camera in case it needs disinfected.
 4. Had weekly staff meetings on Mondays where Dave shared last weeks' pics and requests could be made for specific pictures to be taken.
 5. The compost piles ended up being too close together to turn them with the equipment on hand.
 6. In the future, make sure you know what equipment will be used to turn the compost so the rows are space properly.
- E. Wisconsin**

1. Figuring out what you need and how you're going to use it is key.
2. Many producers didn't have an Emergency Management Plan.
3. Need emergency plans and places to dispose of birds.
4. Crucial to keep them involved and informed.

F. Iowa

1. Didn't communicate very well with each other in the beginning.
2. Really need to bring partners on board early on, even if it's just FYI.
3. Developed several documents and policy guide.
4. When you need to finalize a document, make sure you set a deadline, otherwise you'll get comments 4-5 days after the document was finalized.

G. General

1. As you share information, make sure the info you're sharing is appropriate for your situation. Most use site-specific info.
2. Wisconsin would like to see questions answered with hard time frames for when things should be occurring. They would like to have guidance for optimum windows to minimize risks so depopulation doesn't outstrip disposal.
3. How do we get environmental and animal health sides aligned?
 - a. Iowa-having disposal plans for mass mortalities makes things much easier.
 - b. Nebraska-reminded unaffected facilities to look at their plans and update and revise them.
 - c. USDA-Still want euthanasia to be state and USDA driven. USDA wants the birds killed ASAP. In crisis mode-all resources go into euthanizing birds. Virus producers must be killed to reduce spread, then all resources go into disposal, finally, resources can go into cleaning and disinfection.
 - d. Remember layers are producing infected eggs. It's not dozens, it's truckloads and they have to be disposed of too.
 - e. USDA-Remember, letting producers wait to see if birds are affected delays the declaration that the area is virus free to trade partners.
 - f. In Kansas, staff doesn't have to be there when sites are treated. In Missouri, staff can opt to be there. SABRE has a national label from EPA.

V. Movement of Impacted Materials

- A.** Impacted materials include animal/bird carcasses, manure/litter, feed/feed ingredients, equipment, discarded building materials (curtains, belts), waste (used PPE, etc), Eggs
- B.** When infected premises identified, set up infected zone and buffer zone. These two zones make the control area.

1. "At Risk" premises can be added. These will have surveillance requirements.
 2. Contact Premises-premises with susceptible animals that may have been exposed to HPAI, either directly or indirectly, including, but not limited to exposure to animals, animal proteins, fomites, or people from infected premises
 3. Control area may have ally industries.
 4. Everything in facility has to be moved by permit and almost all of it is perishable.
- C. Secure Egg Plan-permitting workflow to allow for states to determine the product can be moved.**
1. Origin state receives request for permitted movement from producer.
 2. Origin state enters permit into EMRS
 3. Origin state reviews permit
 4. Origin state notifies destination state
 5. Destination state approves or rejects permit
 6. Destination state notifies origin state
 7. Origin state produces permitted movement forms, attaches testing information if needed, and distributes to producers.
- D. Testing requirements to move birds located in a control area**
1. Monitored premises
 - a. Collect swabs for the 5-bird pool samples on each premises every other day for 14 days.
 - b. Collect swabs for the 5-bird pools on each premises once every 5 days for the duration of the quarantine
 2. Prior to movement
 - a. 2 consecutive, negative 5-bird pool tests of birds to be moved
 - b. Sample (swab) immediately prior to moving product
 - c. Visual inspection of birds in all houses on premises for 2 consecutive days, including the day before and day of movement
- E. Permitted products- In Nebraska, Eggs were the permitted product moved most frequently.**
1. Egg-edible Non-pasteurized
 2. Egg-edible pasteurized
 3. Egg-inedible non-pasteurized
 4. Egg-Egg shells
 5. Egg-Nest Run Eggs
 6. Egg-Washed & Sanitized Table eggs
 7. Fresh/frozen poultry product

8. Offal
- F.** Other permitted materials-Issues mostly with transport, vehicles needed to be disinfected.
1. Bulk Feed
 2. Carcasses-daily mortality
 3. Carcasses-euthanized
 4. Dumpsters/garbage
 5. Poultry litter
 6. Propane delivery
 7. Trays/cartons
 8. Wastewater
 9. Wood shavings
- G.** Examples of biosecurity requirements for product movement
1. Truck drivers must wear disposable plastic boots or rubber boots that can be disinfected if they get out of the vehicle. Plastic boots may be disposed of on the premises.
 2. Hands and rubber footwear must be thoroughly cleaned and disinfected prior to leaving the premises.
 3. Tires must be sprayed with disinfectant before leaving the premises.
 4. At the end of each day, floor mats in the cab must be washed with disinfectant.
 5. Dedicated trucks will be used to transport materials between these sites and will be cleaned and disinfected after hauling each load and before being used to haul the next load.
 6. Daily shipment reports must be submitted and include truck and driver information (tractor license plate, trailer license plate, driver name).
- H.** Every state but Hawaii got products from Nebraska, Minnesota, or Iowa.
- I.** Iowa issued 3400 permits from their Department of Agriculture in the last four months.
1. Set up dedicated email and hotline for permits.
 2. Permit terms from 7-30 days.
 3. Had them renew once weekly.
 4. People wanted permits at 9 PM, many wanted permits on Saturday and Sunday
 5. 1 more permit requirement-required DOT routing for infectious material, which required them to call DOT every day by 9 AM to find out route to drive.

6. Many facilities built to hold just under the threshold for government permits, so they could stay off the government radar.
 - a. When first routing them, trucks had to go along very convoluted routes, public monitored them very closely.
 - b. A disinfected rolloff looks just like a full rolloff, which caused some problems.
 - c. Tried to keep trucks out of construction areas, which have higher accident rates.
 - d. Don't do DOT routing unless needed due to weight limits. Carrier weight limits were raised due to the emergency.
 - J. Dave Morton added-they moved a lot of stuff. The 1st week was tough, but once they got it figured out, it was okay. When they had to run product up to Wakefield, etc., they had two routes to take to avoid other farms. They spent a lot on extra freight.
 - K. Nebraska-Very happy with how permitting went and how easy the impacted company was to work with. They decided to announce when product was being transported and to get okays from the receiving State Veterinarians prior to transport. Sometimes, that process took a few days.
- VI. Federal Agency Assistance**
- A. Work Plans for different producers from different states.
 1. Do pay indemnity for fair market value of animals that have to be euthanized.
 2. Preparing barns for depopulation activities
 3. Provide for personnel to clean and disinfect building, etc.
 4. Insecticide and rodenticide application using EPA licensed products
 5. Labor cost for composting and any additional carbon source
 6. Feed destroyed as reported by State or Federal appraiser
 7. Removal of litter and compost from the barns or fields (all compost must remain for a minimum of 30 days)
 8. Equipment disassembly/reassembly
 9. Dusting/dry cleaning
 10. Wet cleaning
 11. Disinfection-disinfectants must be approved by APHIS-VS)
 12. Litter replacement
 13. Biosecurity supplies
 14. Items to be destroyed at appraised fair market value
 - B. State Agency

1. Prepare response documents, utilizing federal and state standard operating procedures and guidance documents for responding to HPAI. Ensure that these plans are consistent with National plans developed by Veterinary Services.
 2. Conduct epidemiologic investigations in accordance with HPAI regulations and program standards, including epidemiologic investigations as requested by Veterinary Services
 3. Conduct HPAI response and eradication activities such as depopulation, cleaning and disinfection traceback investigations, post-exposure monitoring and testing of high risk flocks, backyard flocks with dead or sick birds, and monitoring of other susceptible species exposed to avian influenza.
 4. Implement risk-based flock management plans and surveillance plans to mitigate risks associated with HPAI.
 5. Develop and implement a movement control area and permitting process for animal movement into and out of the area.
 6. State agencies do sometimes provide cooperative grants.
- C. APHIS budget is \$800 million.
1. Emergency funds can't be used to pay salaries.
 2. They can pay overtime and travel expenses
 3. Can get access to Commodity Credit Corporation (CCC) money
 4. Sometimes are told to use their own budget.
 5. The 2016 budget does not include any additional funds for AI response.
 6. They are changing their indemnity process.
 7. They are changing their focus from C & D to virus eradication.
 8. Changing how grower/owner payments are split.
 - a. Some growers don't own the birds, the company brings them and pays the grower a percentage
 - b. Previously, indemnity was paid to the company, which could split the money with the grower.
 9. Rather than cooperative contracts, want to pay by square footing so the process is more standardized. What can be considered clean is difficult to define.
 10. Indemnity set up for low-path AI, which gives people time to argue about price for birds. With the new process, once birds are dying, get inventory of birds and pay accordingly.
 11. In the last 13 years, the process has been redone 13 times.
- D. When commercial facilities are surrounded by other commercial facilities, they have to do sampling and testing to transport product. All countries involved at

the international meeting in Baltimore said backyard sampling was a waste of time and money.

- E.** EPA-Coordinate, Communicate, Plan, Prepare. The biggest challenge is keeping people “in their lane”
- F.** Plans may not always be followed which causes Federal headaches and can cause those cooperative agreements to cost taxpayers huge amounts of money.
- G.** We’re all going to have to work together, share resources, etc.