Special Communication on Highly Parthenogenic Avian Influenza and Dairy-May 2, 2024

The Highly Pathogenic Avian Influenza virus remains a concern for New York farmers who are looking to protect their livestock while also maintaining consumer confidence of the food supply. This is why it is imperative to have the latest information about the outbreak that has affected dairy cows in other states.

New York Farm Bureau (NYFB) and Northeast Dairy Producers Association (NEDPA) are jointly organizing a special webinar this **Thursday, May 2 at noon** in conjunction with Cornell CALS. Panelists will feature experts from Cornell, including PRO DAIRY and the College of Veterinary Medicine, along with state and dairy industry representatives. The goal is to provide you with important information to help make the best decisions for your farm, based on the latest science-backed data and guidance.

Panelists

- **Dr. Tom Overton**, Department Chair, Professor, Animal Science, Program Director, PRO-DAIRY
- **Dr. Elisha Frye**, DVM, DACVPM, Assistant Professor of Practice, Veterinary Support Services, Animal Health Diagnostic Center, College of Veterinary Medicine, Cornell University
- **Dr. Joy Bennett**, DVM MPH DACVPM, Director, Division of Animal Industry, NYS Department of Agriculture and Markets
- **Dr. Samuel D. Alcaine**, Ph.D., Associate Professor Dairy Fermentations, Food Science, Cornell University
- **Alan Bjerga**, Executive Vice President, Communications and Industry Relations, National Milk Producers Association
- **NEDPA** and **NYFB** staff

Summary Notes from Janet:

- At this time, there are no confirmed HPAI in beef or dairy cattle in New York State. Vigilant
 monitoring by producers with fast communication to their veterinarian for testing of suspicious
 animals is crucial. Veterinarians will collect samples and send to Cornell's Animal Health
 Diagnostic Center (New York State's certified National Animal Health Laboratory
 Network (NAHLN). If their PCR testing indicates H5N1, USDA tests again to confirm.
- Implement biosecurity measures on your farm NOW. Increased on farm biosecurity will help prevent an outbreak on your farm. See the biosecurity resources at https://www.nmpf.org/resources/hpai/. There are resources here in English and Spanish.
- Get a PIN for your farm now: New York To request a PIN call <u>518-457-3502</u> and ask for Ms. Erin Bond (preferred) or email the request to: <u>erin.bond@agriculture.ny.gov</u>
- Pasteurized Milk is safe to drink. Dairy Farmers in the states that have confirmed HPAI in dairy
 can visually see HPAI infected milk and are not sending it out for sale. The pasteurization process
 and equipment at each facility are inspected and monitored to ensure efficacy.

- Raw Milk and Raw Milk Cheeses have not been sufficiently tested yet for HPAI. These products have bacterial health risks at all times.
- Animals going to county fairs from within states that do not have positive cases will need a clean CVI within 10 days of the event. If animals are coming from out of state, they have to meet the federal order. And, if the situation changes the requirements will change.

The National Milk Producers website at https://www.nmpf.org/resources/hpai/ has many practical resources for farmers. Many of these items are in English and Spanish.

AVIAN INFLUENZA AND WILD BIRDS - RIGHT CLICK ON A LINK BELOW FOR THAT INFORMATION

- USDA APHIS Avian Influenza and Wild Birds
- Improving Biosecurity with Wildlife Management Practices: Preventing Access to Barns and Other Facilities
- Improving Biosecurity with Wildlife Management Practices: Reducing Water Access
- Improving Biosecurity with Wildlife Management Practices: Protecting Food Resources
- Prevent Avian Influenza at Your Farm: Improve Your Biosecurity with Simple Wildlife Practices

Beginning of presentations:

Resources

PRO-DAIRY website

https://cals.cornell.edu/pro-dairy/our-expertise/herd-health

Robert Lynch DVM, Herd Heath Specialist



Cornell Institute for Food Safety

https://cals.cornell.edu/institute-for-food-safety/resources/hpai



Resources in Spanish Kaitlyn Lutz, VMD, CCE NWNY regional team

Towards the bottom of this page there is a list of resources with many in English and Spanish including FAQ's and a Biosecurity guide: https://www.nmpf.org/resources/hpai/

Infographic on PPE for H5N1: <u>Protéjase del virus H5N1 si trabaja con animales de granja</u>-Protect yourself from getting sick when working with cattle_Spanish (cdc.gov)

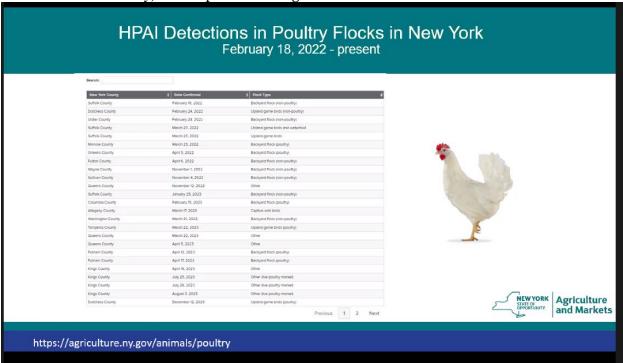
Great, simple fact sheet on symptoms and PPE:

https://www.migrantclinician.org/es/resource/la-gripe-aviar-y-tu-seguridad-guia-paratrabajadores-de-lecherias.html

A short video I made (since low literacy is an issue) with updates on the situation as well as signs to watch for and biosecurity measures (I hope to update it this week):

https://vod.video.cornell.edu/media/HPAI%20in%20Dairy%20Cattle%20Update_Spanish_4.4.20 24/1_hup0qiw6

 First Presentation by Dr. Dr. Joy Bennett, DVM MPH DACVPM, Director, Division of Animal Industry, NYS Department of Agriculture and Markets



HPAI in Poultry in New York May 2023 – Apr 2024

- July 25, 2023 Kings County / LBM
- July 28, 2023 Kings County / LBM
- Aug 3, 2023 Kings County / LBM
- Dec 12, 2023 Dutchess County / Upland game birds
 - · 4178 partridge, pheasant, chukar
- Feb 26, 2024 Onondaga County / Backyard flock
 - · 10 chickens
- Feb 26, 2025 Monroe County / Backyard flock
 - · 21 chickens, turkeys, ducks
- New detections in NY posted at https://agriculture.ny.gov/animals/poultry



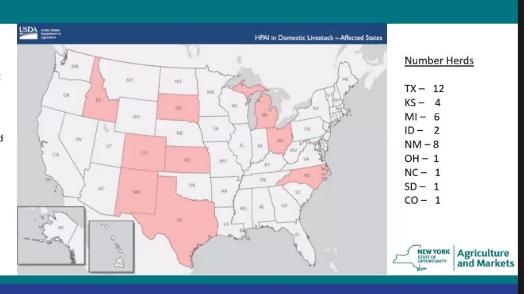


Confirmed Cases of HPAI in Domestic Livestock

First confirmed case:
• March 25, 2024

As of May 1, 2024:

- 36 dairy cattle premises affected
- 9 states



New York State Emergency Order

- Issued April 17, 2024
- Prohibits all importation of dairy cattle into New York from affected or suspect premises; and
- Requires that all dairy cattle imported from an affected state:
 - are accompanied by a Certificate of Veterinary Inspection (CVI) signed by an accredited veterinarian within 10 days prior to entry into NY; and
 - the CVI must contain the following statement:

"All animals identified on the Certificate of Veterinary Inspection (CVI) have been examined and do not originate from a premises with a confirmed detection of Highly Pathogenic Avian Influenza, or that is currently under investigation as a suspect premises."

Agriculture

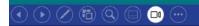
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Federal Order

- Issued April 24, 2024
- Requires testing of lactating dairy cattle prior to interstate movement
- Requires reporting of positive influenza A test results in livestock by laboratories and state veterinarians to USDA
- Requires owners of herds in which dairy cattle test positive for interstate movement to provide epidemiological information, including animal movement tracing.

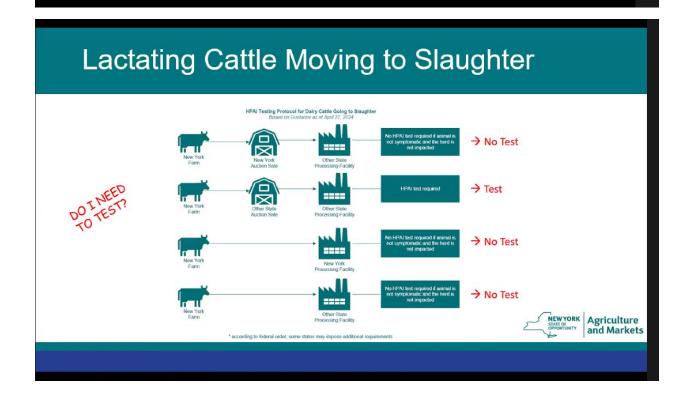
These requirements are immediate for lactating dairy cattle; and may apply to other classes of cattle it shown to be a potential risk in the spread of this disease



Requirements for Interstate Movement

- Healthy lactating dairy cattle (no signs of illness)
 - Must be tested prior to interstate movement (milk sample)
 - Sample must be collected within 7 days prior to movement
 - · Must be tested at a NAHLN Lab
- · Non-lactating dairy cattle including heifers, dry cows, and bull calves
 - Testing is recommended prior to interstate movement but not required
 - Recommended sample type = nasal swab
- · Clinical (sick) lactating dairy cattle are NOT eligible for movement
 - Signs of HPAI include sudden drop in feed intake, marked drop in herd level milk production, thickened or colostrum-like milk, respiratory signs, low-grade fevers.





Lactating Cattle Moving to Slaughter – Required Documentation

- If moving direct to slaughter in another state, must have either a:
 - · Certificate of Veterinary Inspection, OR
 - Other documentation of movement approved by the sending and receiving state animal health officials







Certificates of Veterinary Inspection

- All lactating dairy cattle moving interstate must be accompanied by a CVI per 9 CFR Part 86.
 - All cattle on the CVI must have individual official identification.
 - The individual official identification must be recorded on the CVI.
 - The CVI must include a statement that the cattle are free from, and have not been exposed to, a known contagious and infectious disease.





What happens when a cow tests positive?

- Samples may take 1-3 days for results at a NAHLN lab
- · Positive samples will be confirmed at NVSL
- Samples may take 1-2 days for results at NVSL
- · Animals must not move while tests are pending
- · Sick animals should be isolated from the rest of the herd







What happens when a cow tests positive?

- Movement restrictions will be placed on the affected herd
- All lactating cattle in the herd will be quarantined for 30 days
- After the 30 day period, they may be re-tested to qualify for interstate movement
- Movement of non-lactating cattle from the premises would need to be considered on a case by case basis







APHIS Recommendations for Cattle Movements

- Cattle should be moved only when necessary
- Do not move animals showing clinical signs of or exposed to HPAI
- All animals that move onto a premises should be isolated for 30 days and monitored for signs of illness
- Ensure only healthy cattle are moved and they have proper documentation (Certificate of Veterinary Inspection, Owner shipper statement, etc)
- USDA recommends premovement testing for non-lactating cattle (nasal swab)



Agriculture and Markets



 $\label{lem:cornellan} \begin{tabular}{ll} Cornell animal health diagnostic center for questions $\underline{-$ https://www.vet.cornell.edu/animal-health-diagnostic-center} \end{tabular}$

Biosecurity

- Keep wild birds, especially wild ducks & geese, away!
- Limit the movement of visitors, vehicles, or equipment onto the premises
- Avoid housing multiple species together (poultry/pig/cattle/etc)
- Monitor herd for signs of illness and report unexplained illnesses or deaths to NYS Department of Agriculture and Markets
 - 518-457-3502
 - dai@agriculture.ny.gov
- Monitor and report any strange behavior or die-offs in wild animals immediately



Disposal of Infected Cattle

- HPAI in dairy cattle is classified as an emerging disease (vs. foreign animal disease in poultry) event by the USDA
- HPAI is a threat to poultry industry, dairy industry, wildlife, pets, and potentially to public health
 - If off-site options are utilized, heightened biosecurity is a MUST

- Composting
- Burial
- Rendering
- Landfill
- Incineration





Biosecurity Information

- USDA-APHIS Requirements and Recommendations for Highly Pathogenic Avian Influenza (HPAI) H5N1 Virus in Livestock For State Animal Health Officials, Accredited Veterinarians and Producers
 - www.aphis.usda.gov/sites/default/files/aphis-requirementsrecommendations-hpai-livestock.pdf
- New York State Cattle Health Assurance Program (NYSCHAP)
 - https://www.vet.cornell.edu/animal-health-diagnosticcenter/programs/nyschap
- NMPF Biosecurity Resources
 - https://www.nmpf.org/resources/hpai/
- Secure Milk Supply
 - https://securemilksupply.org/milk-producers/biosecurity/
- Secure Beef Supply
 - https://www.securebeef.org/







Second Presentation by

Dr. Elisha Frye, DVM, DACVPM, Assistant Professor of Practice, Veterinary Support Services, Animal Health Diagnostic Center, College of Veterinary Medicine, Cornell University

HPAI in Dairy Cattle: current status and testing details



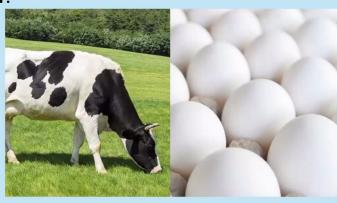
Elisha Frye, DVM, DACVPM
Cornell Animal Health Diagnostic Center
New York State Veterinary Diagnostic Laboratory
Ithaca, NY



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Outline

- What is Influenza A and HPAI?
- Outbreak since 2022
 - Birds
 - Mammals
 - Dairy cattle
- Testing details for Federal Order
- Other testing available
 - USDA will pay for all other testing of cattle; not required



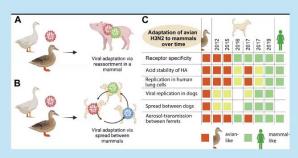
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Many names for the same virus

- Avian influenza
- Influenza A
- Bird flu
- HPAI
- H5N1
- · Bird flu in cattle
- · Bovine influenza A virus



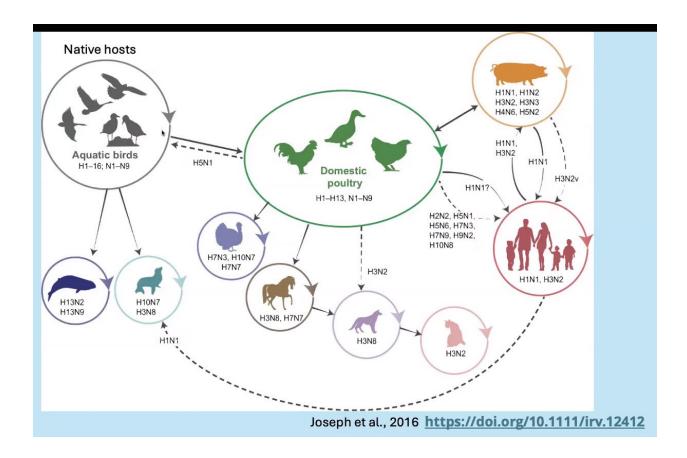


Influenza A virus = reservoir is aquatic birds

- ZOONOTIC
- Classified based on the surface proteins
 - HA hemagglutinin (H1-H18)
 - NA neuraminidase (N1-N11)
- H1N1 was "the mother" flu virus
 - 1918 Spanish influenza
 - Avian origin
 - Infected 500 million people
 - Killed 50 million people
- H and N swap and change



https://www.mayoclinic.org/diseases-conditions/history-disease-outbreaks-vaccine-



Swine as a "mixing vessel" for influenza

- H1N1 (2009) = swine flu
 - · Humans to pigs
 - · Pigs to humans
- H3N2
- H1N2
- "Triple reassortment"
 - · Avian, human and swine in pig
 - · Antigenic shift

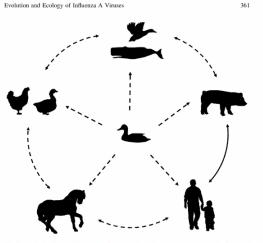


Fig. 1 Original "Wheel of Influenza." Aquatic birds are the natural reservoir for all subtypes of influenza A viruses. Transmission of influenza A viruses is known between pigs and humans (solid line)

Emergence of H5N1

- 1997 H5N1 "bird flu"
 - · First detected in China
 - Highly pathogenic avian influenza (HPAI)
 - Based on mortality in domestic poultry
 - Infected 860 people
 - >50% died

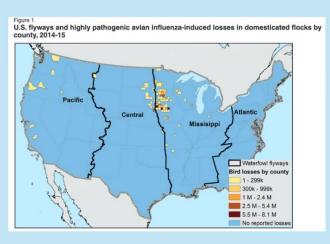




H5N1 2014-2015

- Domestic poultry in US
 - · Cost \$850 million
 - Depopulated >40 million birds

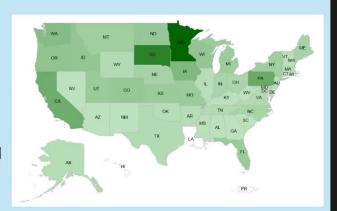


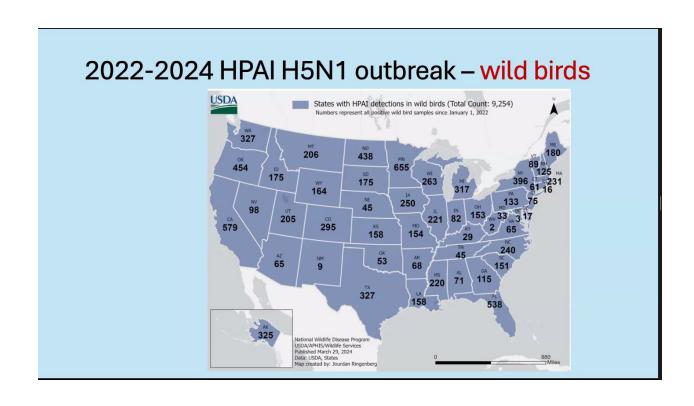


https://www.cdc.gov/flu/pdf/avianflu/bird-flu-origin-graphic.pdf

2022-2024 HPAI H5N1 outbreak - poultry

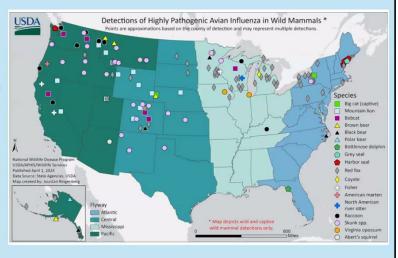
- Detected in poultry 2/2022
- As of 4/24:
 - · 1128 flocks affected
 - 483 commercial flocks
 - 685 backyard flocks
- 90.83 million birds depopulated
- · 48 states affected





2022-2024 HPAI H5N1 outbreak – wild mammals

- 215 detections in wild mammals
- 21 species tested positive
- Neurologic
- Most fatal



Feb 2024: Sick cattle in TX pan-handle

- 600,000 cattle in panhandle = NY cattle population
- Reports of huge numbers of sick cattle
 - MASSIVE drop in milk production
 - · Drop in feed intake
 - Thick/colostrum like milk
 - · Nasal discharge
 - Low grade fever sometimes
 - · Few deaths





You will see large drops in feeding and lactation. Nasal Discharge. And, thick colostrum. And, Barn cats died or disappeared.

Milk samples from affected farms





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2024 HPAI H5N1 finds new species...

- 3 labs found HPAI
- Large amount of virus in milk
- No dry cows or youngstock appeared sick
- Interstate movement spread virus
- · Cow to cow transmission
- 1 HPAI cow at slaughter

Highly Pathogenic Avian Influenza (HPAI) Detections in Livestock

Last Modified: April 27, 20

Print

The U.S. Department of Agriculture, Food and Drug Administration, Centers for Disease Control and Prevention, and State veterinary and public health officials are investigating an illness among dairy cows.

As we learn more about this evolving situation, APHIS will continue to provide confirmatory testing for samples from livestock as well as guidance for producers, weterinarians, and state animal health officials. As the situation changes, we will continue to post updated information at the links below.



2 reported human cases of HPAI in US since 2022

- 1 CO prisoner who was depopulating poultry in 2022
- 1 dairy farm employee in 4/24Pinkeye
- Both recovered
- 23 human cases internationally
 - 7 deaths (Cambodia, China, Vietnam)
- No human-to-human transmission

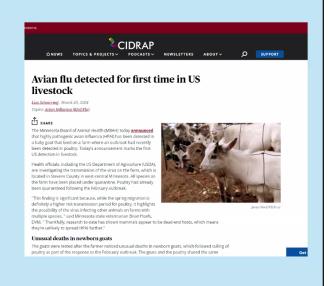
https://www.cdc.gov/media/releases/2024/p0401-avian-flu.html



https://www.cdc.gov/media/releases/2022/s0428-avian-flu.html

HPAI in 5 goat kids

- 3/20/24
 - Minnesota reported HPAI in 5 baby goat kids
 - · Neurologic signs
 - HPAI poultry on same premises
 - 5 days prior to USDA announcement in dairy cattle



Federal order testing

- Interstate movement of lactating dairy cattle
- Does not include dry cows
- Does not include cows going direct to slaughter
 - · Need CVI; exemption btw NY an PA
- Does not include lactating beef cows
- Does not include youngstock
- https://www.interstatelivestock.c om/ for interstate testing reg



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ALL TESTING MUST BE AT A "NAHLN" LAB

- 40 states
- 56 labs
- Test is HPAI PCR
 - (like early COVID testing before at home kits)
- All positives must be sent to USDA for confirmation



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ALL TESTING MUST BE AT A "NAHLN" LAB

- 40 states
- 56 labs
- Test is HPAI PCR
 - (like early COVID testing before at home kits)
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Federal order: sample is MILK from a VET with a PREM ID

- 10-12 ml
- · Submitted by veterinarian
- Farm must have premises ID
 - Erin.Bond@agriculture.ny.gov
- Use screw top 15 ml vial for AHDC
 - · Free from the lab
- · Your vet can call the lab





AHDC already prepared for samples

- Results available 1-3 days after receipt
- Results:
 - · Non-negative
 - · Not detected
 - USDA confirms all non-negative



USDA also paying for other HPAI PCR testing

- Any other animals on the farm can be tested at no charge
- Nasal swab in a red top tube for nonlactating animal
- Screening milk from raw milk sellers
- Dead cats or birds on farms can be tested
- Milk from lactating animal for other reasons ok



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Animal Health Diagnostic Center

Third Presentation by

Dr. Samuel D. Alcaine, Ph.D., Associate Professor - Dairy Fermentations, Food Science, Cornell University



State of the Glass

Sam Alcaine, PhD
Associate Professor
Director – Northeast Dairy Foods
Research Center
Cornell University

HPAI Control in Milk

- · Abnormal milk not to be used Load Control
 - Bloody, stringy, off-colored milk, or milk that is abnormal to sight or odor, is so handled and disposed of as to preclude the infection of other lactating animals and the contamination of milk utensils.
 - The Regulatory Agency requires such additional tests for the detection of milk with abnormalities, as they deem necessary. (antibiotics, pesticides, etc)
- Pasteurization Load Reduction
 - HTST/Continuous Flow: 72°C for 15 mins
 - Vat: 63°C for 30 mins
 - +3°C for high fat or high solids products.
 - Egg white studies show the virus is inactivated by heat.
 - · Verification studies ongoing.



HPAI in Commercial Milk

- FDA 297 Samples Across 38 States
 - · Fluid milk, cottage cheese, sour cream.
 - ~20% tested positive via PCR
 - PCR can not differentiate between infectious and inactivated virus.
 - All 297 negative via egg infectivity test.
 - · Infant Formula. All samples PCR negative.
- Ohio State: 150 samples across 10 States
 - 58 PCR positive.
- USDA has started looking into ground beef from states with H5N1
 - First 30 samples all tested negative via PCR
 - · CDC has not observed an increase in influenza cases
 - Non-CDC Wastewater study saw spring increase in Influenza A. In Texas saw H5 marker increase, but no increase emergency room visits



HPAI in Raw Milk

- The 20% positive rate suggests the virus is wider spread than the currently confirmed 34 farms.
- Current H5N1 strain found in both cattle and poultry, suggesting that state-tostate spread may happen outside of cow movement, so even if your state is has no positive cases regularly check your cows for signs of illness.
- Prevalence of asymptomatic/low symptomatic cows vs symptomatic cows not known, <u>stay on top of news of</u> <u>state-to-state spread</u>.



HPAI ImplicationsRaw Milk Products

- · We do not know the infectious dose.
- We do not know how well or poorly the virus survives in raw milk cheese over time.
- We do not know what sub-pasteurization (thermization) treatments are sufficient to reduce the load to an acceptable level.
- Many questions remain for raw milk cheese producers if a cow in the herd tests positive.
- Products should not be made from contaminated or potentially contaminated milk.
 - If you are in a state with positive herds consider testing bulk milk, cheese should at least be within control of producer following 60-day aging rule.

https://www.fda.gov/food/milk-guidance-documents-regulatory-information/questions-and-answers-regarding-milk-safety-during-highly-pathogenic-avian-influenza-hpai-outbreaks

Raw Milk Producers <30d for testing so bulk milk testing will be completed before the 60d aging.

Expect More Raw Milk Questions

- Cats on TX farm premises were fed raw colostrum and milk from affected cows.
- https://wwwnc.cdc.gov/eid/article/30/7/24-0508_article







https://www.cdc.gov/flu/avianflu/h5/worker-protection-ppe.htm

Implement if you are in a state positive for HPAI .. but have it ready acquire it before it is needed.



Contaminated Raw Milk Handling

- Do not use milk from animals known to be sick or exposed to sick animals.
- Milk should be disposed of in a manner to prevent being an environmental source to wild animals. Ideally heat-treated. Consult with State.
- Milk/by-products should be pasteurized if being rerouted to calves or other animals.

https://www.fda.gov/food/milk-guidance-documents-regulatory-information/questions-and-answers-regarding-milk-safety-during-highly-pathogenic-avian-influenza-hpai-outbreaks

Fourth Presentation by

Alan Bjerga, Executive Vice President, Communications and Industry Relations, National Milk Producers Association

Focus on

Consumer Reaction to HPAI Animal -Human consumer health concerns. Luckily, the media is not sensationalizing this outbreak. We need to deal with the legitimate concerns but not inflate the problem.

Animal health concern but do we have a human health concern? Not as of yet but it is being carefully monitored to be certain we do not have a human health concern.

Raw milk needs to be considered carefully and tested continually.

This is not a consumer health safety issue.

Continued communication across USDA, Government Officials, Veterinarians, Diary Community and public. **NMPF.ORG HPAI resources at https://www.nmpf.org/resources/hpai/.**

Eventually HPAI outbreaks will enter the policy making category. NMPA will be part of those talks.

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Questions and Answers Moderated by

Ashley, NY Farm Bureau

Has there been any testing of dairy cows so far in the Northeast?

Elisha Frye 01:07 PM from Cornell's Animal Health Diagnostic Center

Yes, since Saturday, we have tested over 100 milk samples for lactating animals crossing state lines at the Cornell vet diagnostic lab, and they have all been negative.

Can bulk tanks be sampled or only individual cows?

Elisha Frye 01:06 PM

Currently USDA is not allowing / discouraging bulk tank milk HPAI PCR testing, but that may change

Can you share a website where veterinarians and farmers can get more information about testing?

Elisha Frye 01:11 PM

https://www.vet.cornell.edu/animal-health-diagnostic-center/news/testing-cattle-highly-pathogenic-avian-influenza-hpai

Are Producers allowed to send in samples for HPAI testing? I thought only veterinarians may sample and send in milk for testing, just so I am clear.

Elisha Frye 01:02 PM

Yes, only veterinarians can submit the samples to NAHLN laboratories.

Is bulk tank testing an appropriate way to monitor herd infection if no symptomatic cows are present?

Elisha Frye 01:01 PM

Currently the USDA is not allowing / discouraging bulk tank milk testing, but that may change soon.

How easy, or hard, is it for a dairy producer to easily test some cows for this, especially considering that there can be asymptomatic cows out there? Can a producer easily get testing kits for this?

Elisha Frye 01:03 PM

The USDA is mandating that the HPAI PCR only be performed at a NAHLN laboratory. There are no kits available and I do not think there will be a kit any time soon for this virus.

How challenging would it be to get a simple test out there for farmers? I ask because the spread in asymptomatic cattle may be wider than thought?

We do not have one at this point but samples can be sent to the testing centers and results returned within a week at this point.

LF Bioenergy is following F.A.R.M. biosecurity protocols on its RNG sites (clean clothing/boots, clean vehicles, not going on multiple sites in a day etc.) - anything else we should be aware of?

Do a risk assessment for your farm. Cover all traffic pattens to onto the farm, have a plan ready to be implemented and communicate it to all farm workers and visitors. Industry professionals going from farm to farm – cleaning and disinfect tires, clean & disinfected boot covers.

How widespread is the practice of feeding broiler chicken house litter to cows? how is it sanitized?

Thomas Overton 01:09 PM

Extremely rare and I am not aware of any in the Northeast.

Can you comment on the somatic cell count pattern on the farms known to have the infection?

Elisha Frye 01:31 PM

In one farm, there was a jump of approximately 50,000 SCC during the outbreak. I do not have any individual animal SCC though

CDC information and statistics on H5N1 https://www.cdc.gov/flu/avianflu/avian-flu-summary.htm

Can we talk about keeping birds out of feed rooms, bans, mows etc. Practical restrictions.

Contact: Wild bird mitigation.

USDA Wildlife Services – Programs to keep wild birds away from Dairy Farms.

CCE Onondaga is reaching out the our local Wildlife Services to coordinate prevention methods on farms.

Will animals going to county fairs need a clean CVI within 10 days of the event?

Yes, but if animals are coming from out of state, they have to meet the federal order. And, if the situation changes the requirements will change.

This is the season for school farm tours - should these school field trips be discontinued at the present time if the farm is located in a state that has not had a positive case of HPAI yet?

With no positive cases in NYS. Farm tours can continue with biosecurity in place. Keep in mind foot traffic can spread disease.

Pasteurization process and safety of operations?

multiple monitoring and recording keeping in place to ensure that pasteurization is being done properly and checked frequently for efficacy.