



*The WeCAHN smallholders network met 7th June 2024 with veterinary practitioners, producers, provincial veterinarians, diagnosticians, and researchers in attendance.*

### Report Contents:

- i. Network practitioners' clinical impressions survey.
- ii. Laboratory data identifiable as originating from small-scale production.
- iii. Scan of other surveillance networks.

### Case reports:

#### i. Hypothetical case: Milk cow with sudden drop in production

**History:** Cow kept on an acreage, acquired as cull from local commercial dairy herd with sudden drop in milk production.

#### Clinical signs:

- Off feed
- Fever
- Thickened milk (looks like colostrum)

**This could be a potential case of H5N1 in dairy cow.**

### For more information on the US outbreak:

USDA -APHIS HPAI in dairy cattle: <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/livestock>

WeCAHN HPAI in mammals: <https://www.wecahn.ca/wecahn-networks/hpai-in-mammals>

CAHSS HPAI in dairy cattle: <https://www.cahss.ca/cahss-networks/dairy>



### Takeaways:

- So far no H5N1 detections have been reported in Canadian dairy cattle.
- The origin of the US dairy outbreak is thought to be a single spillover event from wild birds to dairy cattle occurring late last year, with the virus subsequently circulating in dairy cattle undetected for months.
- With the transmission routes between infected herds still unclear, western Canadian livestock producers need to maintain some index of suspicion for H5N1 infection in dairy cattle meeting the case definition above.

## Case report: Upper respiratory disease in a small flock chicken

Physical exam: Upper respiratory infection in a chicken (swelling around eyes) previously housed with pigeons.

Diagnostics: Tested negative for Avian Influenza (AI) Newcastle Disease (NDV), and Infectious laryngotracheitis (ILT).

Treatment: Responsive to treatment with broad spectrum antimicrobial.

**Takeaways:** Even though this case was responsive to antimicrobials, the lab submission to rule out more serious disease agents such as avian influenza virus or infectious laryngotracheitis virus was important. Had one of these more serious viruses been involved, rapid diagnosis would be critical to limiting their impact and spread.

## Syndromic Surveillance

### i. Small ruminants

#### Clinical Impressions Survey:

One network practitioner completed this part of the Smallholders Network Clinical Impressions Survey. For purposes of this survey, Rarely = 1-2 times from January - March 2024 Commonly = 1-2 times per month; Very frequently = 3+ times per month. Coccidiosis (single-celled parasite), strongyle worms, haemonchosis (barber pole worm), lice, lameness, and mastitis were reported Rarely by one practitioner.

#### WeCAHN Small ruminants network meeting discussion points:

##### HPAI in goats reported in Minnesota in March 2024.

The goats on a backyard premises shared the same pasture and sole water source with infected ducks and chickens. The goats began to kid only days after the birds were depopulated. Of 10 goat kids that have died, ranging from 5 days to 9 days of age, five goat kids between 7 and 9 days of age have tested positive on brain and other tissues for H5N1

clade 2.3.4.4b virus. Sequencing showed that isolates from the first goat and infected poultry were highly related.

Influenza researchers stress that influenza viruses frequently are found across multiple species, so the recent detection of H5N1 in goats is noteworthy but not especially surprising.

Likely the main takeaway from the dairy outbreak isolates' sequencing data is that the strains circulating in U.S. cows and one goat flock identified to date are significantly different genetically, suggesting no link between the two species' outbreaks.

In Canada the occurrence of H5N1 in ANY species is federally reportable disease, so should a western veterinary practitioner encountered a suspect H5N1 case in goats, they are expected to contact their district CFIA office, who will discuss whether/how to proceed with testing. Index of suspicion would be increased by the presence of unexplained deaths/neurological signs in neonatal goats in the context of dead poultry/wild birds infected with H5N1, on-farm.

Practitioners considering testing are reminded that CFIA response action may vary with host species.

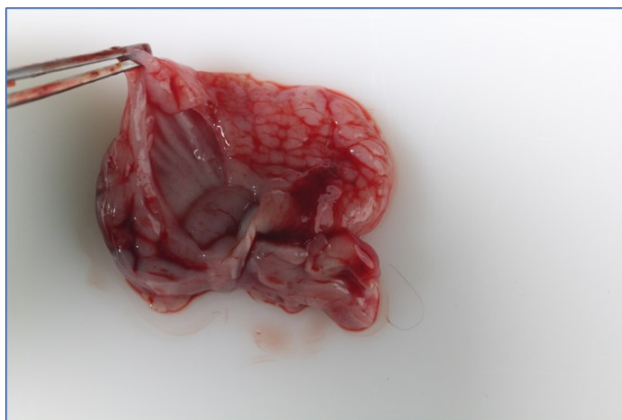
#### This remains the one reported case of H5N1 Avian influenza in small ruminants in North America to date.

**Takeaways:** So far the single H5N1 detection in US goats remains unique, and the case isolate is genomically different from the strain circulating in US dairy cattle. Western Canadian livestock producers are reminded that H5N1 is reportable in ALL species in Canada. A veterinarian wishing to test goats for suspect H5N1 infection, which could hypothetically be based on history of unexplained neonatal deaths especially with dead birds on premises, should contact CFIA. Veterinarians and producers are also reminded that the regulatory response may vary across animal species.



## Small Ruminant Abortions: *Neospora*, *E. coli*, *Coxiella*, *Campylobacter*

Abortions from multiple infectious agents were reported this quarter. Once again abortion associated with *Neospora*, a single-celled protozoan parasite, was reported, this time with a 23-week female foetus with muscular hemorrhages, and abnormal brain development, PCR positive for *Neospora* on brain tissue. *E. coli* bacteria were associated with abortion in 4 near-term lambs, with no unusual findings on post-mortem, and microscopic evidence of placenta infection and foetal pneumonia. *Coxiella* and *Campylobacter* bacterial infections were both detected in ovine abortions on the prairies, and both can also infect humans.



Hydrocephalus with *Neospora*-associated abortion.  
Photo courtesy of Dr. Dayna Goldsmith, University of  
Calgary Diagnostic Services Unit

The range of agents found, and their varied control strategies, as well as potential for zoonosis (human infection) with *Coxiella* and *Campylobacter*, support the potential value of diagnostics on abortion cases.

A common rule of thumb reported by practitioners is to bag and freeze aborted foetuses wearing PPE, and to submit to a veterinary diagnostic lab after the third case in a small flock, or when the rate of abortions reaches 2% in a larger flock.

For more information: Recommended Diagnostic Process for Abortions in Sheep and Goats: [https://www.wecahn.ca/wecahn-tools/wecahn-information-library/Recommended\\_Diagnostic\\_Process\\_for\\_Abortions\\_in\\_Sheep\\_and\\_Goats](https://www.wecahn.ca/wecahn-tools/wecahn-information-library/Recommended_Diagnostic_Process_for_Abortions_in_Sheep_and_Goats)

## Caseous lymphadenitis project at Animal Health Centre, Abbotsford, B.C.

**Why:** At present there are no commercially available serologic tests for CL in Canada. Flocks/herds testing for CL must ship samples to the US, which is prohibitively expensive. To make CL testing more accessible for Canadian sheep and goats, the Animal Health Centre has brought in a test for CL and needs your help validating it. To do this, we need serum samples from sheep and goats, particularly those that may be positive for CL.

**What:** Serum samples from Canadian sheep and goats can be submitted to the Animal Health Centre in Abbotsford. They will be tested in-house and the samples submitted to California-Davis for confirmatory testing at no-charge to the submitter, who will be provided with results. We are particularly interested in positive samples. Samples from vaccinated herds/flocks are welcome (please indicate roughly when they were vaccinated on the submission form).

**When:** This is a limited-time offer starting May 1, 2024 until we receive at least 200 samples (perhaps more depending on the number of samples that are positive).

**How:** Collect or work with your veterinarian to collect serum samples and send them to the Animal Health Centre at 1767 Angus Campbell Rd. Abbotsford BC along with a submission form available at [https://www2.gov.bc.ca/assets/gov/farming-naturalresources-and-industry/agriculture-and-seafood/animal-and-crops/animalhealth/ahc\\_mammalian\\_submission\\_form\\_fqm-012m-04.pdf](https://www2.gov.bc.ca/assets/gov/farming-naturalresources-and-industry/agriculture-and-seafood/animal-and-crops/animalhealth/ahc_mammalian_submission_form_fqm-012m-04.pdf). If you have further questions please contact the Animal Health Centre at [PAHB@gov.bc.ca](mailto:PAHB@gov.bc.ca).

Thanks to Dr. Glenna McGregor at AHC for sharing this project information with us.

## Swine:

### Clinical Impressions Survey

Two network practitioners completed this part of the clinical impressions survey.

#### Lameness:

**Bacterial lameness** was reported never to Commonly and rated Stable by both practitioners completing this section of the survey.

- See at all ages: nursing piglets, grow-finish, and finishers.
- Present as swollen joints, or hind end stiffness.
- May have prior hoof lesions.
- Occurs initially as a blood poisoning event as opposed to a traumatic one.
- Lots of differential diagnoses: *Strep. suis*, Glasser's disease, *Erysipelas*, *Mycoplasma hyosynoviae*.

**Due to injury** was reported never to Rarely and rated Stable by both practitioners.

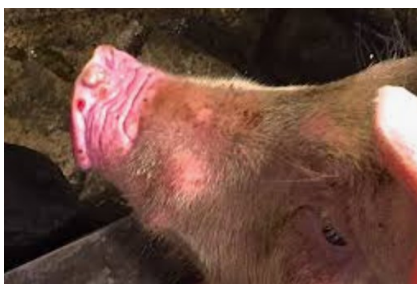
**Associated with osteoarthritis** was reported never to Rarely and reported **Increasing** by one network practitioner.

**“Other” conditions** reported included roundworms and nutritional deficiencies, which were reported never to Commonly and rated Stable by both practitioners.

### Canada West Swine Health Intelligence Network discussion points:

#### Seneca Valley virus

Detection of Seneca Valley Virus (SVV) has caused problems for the cull sow flow to the USA during the summer in both 2022 and 2023.



Therefore, it is prudent to be extra vigilant when shipping cull sows:

- “Blisters” or vesicles, which can be signs of SVV infection or other diseases including Foot and Mouth Disease, are reportable to CFIA.
- It is always recommended to avoid shipping cull sows with skin lesions that could look like healed blisters, pustules (or vesicles).
- Producers should call the herd veterinarian for a diagnosis on skin lesions.

Thanks to the Canada West Swine Health Intelligence Network (CWSHIN) for this overview.

For more information: <https://www.cwshin.ca>

#### Skin diseases in small pig herds

Given CWSHIN discussion of several important skin diseases in commercial swine practice:

QUESTION: what breeds of pigs do you see most frequently?

ANSWER:

Kune Kunes and other coloured breeds.

People also tend to provide wallows in summer to help thermoregulate.

But people are still VERY conscious of skin lesions, even though skin colouring and mud may make skin lesions tougher to see.



QUESTION: if you are on a call and see “blister” lesions i.e. suggestive of a vesicular disease, how do you respond?

ANSWER: we don't move. We call CFIA and stay on the farm. A hold is put on movements of animals off-farm and feed etc which is released when they are diagnosed FMD negative.

Takeaway: owners of small swine herds are reminded that blisters on your pig’s skin likely indicate a common problem. However, to identify the appropriate treatment and also rule out more serious disease, it’s important to consult your veterinarian.

## For more information

Seneca Valley virus in swine <https://www.swinehealth.org/seneca-valley-virus-summary-2/>

Recent commentary: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/fmd>

Swine pox: <https://vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases/pox>

Foot and Mouth Disease in swine: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/fmd>

## Small flocks

### Clinical Impressions Survey:

Seven practitioners completed this part of the clinical impressions survey.

#### Early mortality due to bacterial infections

were reported never (n = 4) to Rarely (n = 2) to Commonly (n = 1), rated Stable by 6 and decreasing by 1.

#### Early mortality due to other reasons

were reported never (n = 3) Rarely (n = 2) to Commonly (n = 2) and rated Increasing by 1, Decreasing by 1, and Stable by 5. Reasons listed included chilling, impactions, fungal infections and starveouts.

**Egg yolk peritonitis** was reported never (n = 4) to Rarely (n = 2) to Commonly (n = 1) and rated decreasing by 1 and Stable by 6.

**Infectious Laryngotracheitis (ILT)** was reported never (n = 6) to Rarely (n = 1) and rated Decreasing by 2 and Stable by 5.

**Marek's Disease** was reported never (n = 3) to Rarely (n = 1) to Commonly (n = 3) and rated Decreasing by 1 and Stable by 6.

**Mycoplasma** was reported never (n = 3) to Rarely (n = 2) to Commonly (n = 2) and rated Decreasing by 1 and Stable by 6.

**Other conditions** reported included upper respiratory disease, cause unknown, mites, tapeworms, and bacterial upper respiratory infections.

## WeCAHN poultry network meeting discussion points:

### Metapneumovirus outbreaks in U.S., Ontario, and Manitoba in May-June 2024

- Avian Metapneumovirus (aMPV) update take-aways:

-it's on the differential list for resp ds.

chickens: swollen heads

turkeys: sinusitis

-a "respiratory" multiplex pcr which included aMPV would be nice.

-Note that it's been detected serologically in BC turkeys via surveillance during a previous outbreak in the US midwest. Likely as we start looking for it again, we'll find it.

For more information: CFIA: Avian metapneumovirus: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/immediately-notifiable/avian-metapneumovirus>

### Case report: *Salmonella* Enteritidis (SE) outbreak in commercial table egg layers:

Attending veterinarian was called to investigate increase in mortalities likely due to *E. coli*.

- Post-mortems were done. Group D *Salmonella* was cultured 4+ out of the ovaries, meaning this potentially could be SE or *Salmonella* Pullorum.
- SE was confirmed by PCR 5 days later. IN the interim veterinarian was concerned about the potential need for egg recall.
- The attending veterinarian did the followup risk assessment and flock was de-populated. Rats were discovered in the attic of the barn and these were considered potential reservoir.

### Takeaways

- Post-mortems are important!
- SE should be considered as possible cause of blood poisoning.

## Provincial Reports

### Alberta Non-commercial non-quota surveillance program from March 15<sup>th</sup> to May 30<sup>th</sup>

8 cases were submitted by vets : only chickens

Diseases noted:

Infectious Laryngotracheitis (ILT): 2 cases

Marek's disease: 1 case

Ovary and abdominal infection (E. coli) : 2 cases

E.coli blood poisoning (chick): 2 cases

Severe skin irritation (feet): 1 case (suspicion of burn)

Twisted intestine : 1 case

B.C: A program was initiated last fall to support diagnostics originating from small scale ruminants and small flocks.

Top 3 diagnoses January—May 2024:

Small flocks: Marek's Disease, Yolk sac peritonitis/salpingitis (abdominal infection), Infectious Coryza.

Small ruminants: Undetermined, bacterial enteritis (intestinal inflammation), diet (management related).

**Saskatchewan:** no cases submitted Q1 2024.

## Centers for Disease Control

*Salmonella* Outbreaks linked to backyard poultry

Fast Facts Illnesses: 195

- Hospitalizations: 50
- Deaths: 0
- [States](#): 38
- Investigation status: Active

For more information:

<https://www.cdc.gov/salmonella/backyardpoultry-05-24/index.htm>



## CDC recommendations to reduce Salmonella risk to small flock owners

### Wash your hands

Always wash your hands with soap and water immediately after touching backyard poultry, their eggs, or anything in the area where they live and roam.

Use hand sanitizer if soap and water are not readily available. Consider keeping hand sanitizer at your coop.

### Be safe around backyard flocks

Don't kiss or snuggle backyard poultry, and don't eat or drink around them. This can spread *Salmonella* germs to your mouth and make you sick.

Keep your backyard poultry and the supplies you use to care for them (like feed containers and shoes you wear in the coop) outside of the house. You should also clean the supplies outside the house.

### Supervise kids around flocks

Always supervise children around backyard poultry and make sure they wash their hands properly.

Don't let children younger than 5 years touch chicks, ducklings, or other backyard poultry. Young children are more likely to get sick from germs like *Salmonella*.

### Handle eggs safely

Collect eggs often. Eggs that sit in the nest can become dirty or break.

Throw away cracked eggs. Germs on the shell can more easily enter the egg through a cracked shell.

Rub off dirt on eggs with a brush, a cloth, or fine sandpaper. Don't wash eggs because colder water can pull germs into the egg.

PAGER: <https://go.wecahn.ca/45LtS9O>

## LISTING OF VETERINARIANS ACCEPTING SMALL SCALE CLIENTS

WeCAHN maintains a database of western Canadian veterinary practitioners accepting small scale clients, which is hosted at our website:

<https://www.wecahn.ca/wecahn-networks/wecahn-smallholders-network>

Veterinarians wishing to have their clinics added to the list are invited to contact us:

[we.cahn@pds.usask.ca](mailto:we.cahn@pds.usask.ca)

Funded under the Sustainable Canadian Agricultural Partnership, a federal-provincial-territorial initiative.

### Meeting takeaways

- Diagnosis of small ruminant abortions is important to identify potentially zoonotic causes, and to guide control measures, which vary across common agents.
- With fair/show/petting zoo season underway, small flock owners are reminded of the CDC's guidelines to minimize the risk of Salmonellosis to your birds or your families.

PAGER: <https://go.wecahn.ca/45LtS9O>

