



The WeCAHN Poultry network met by videoconference 15 September 2023 to discuss poultry health in western Canada during the second quarter (April-June) of 2023.

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1. Interesting Cases

i. Turkey poult with neurological signs:

Alberta.

- **History:** Increased mortality: first 2 weeks: 6%, first 16 weeks: 15%; birds were underweight.
- At 4 weeks old started showing neurological signs including crooked neck. Number of affected animals daily increased.
- Post-mortem's were done in the field and tissues submitted to lab.
- Laboratory findings on tissues: main findings were in the brain: mild inflammation (1/5 birds submitted).
- PCR test on pooled brain tissue – Avian Encephalitis (AE) virus negative, avian reovirus positive.
- Subsequently birds developed lameness.
- Second set of tissue submissions to lab included tendons and heart from affected birds.
- PCR on tendons: also positive for reovirus.
- Blood: drawn at 6 weeks testing for reovirus antibodies. Repeat at 11 wk -> demonstrated rising antibody levels to reovirus suggesting recent infection.

- **QUESTION:** could the original virus have mutated, or two different strains moved through flock?

ANSWER: Currently unclear.

ii. Turkey poult with neurological signs: B.C.

- **History:** Practitioner heard of flock of 500 with neurological problems, in an operation in business since the '50s, operating with limited facilities. This group of poult had problems from the start, with:
 - leg problems including slipped tendons by 3 days of age.
 - bacterial blood poisoning due to *Salmonella* Enteritidis (SE) which resulted in severe culling (10-30%).
 - started showing neurological signs (circling and crooked neck) at 7 weeks.



Interesting Cases (continued)

- PCR tests: Reovirus and AE both negative.
- Microscopic study on brains from birds with neurological signs: very mild inflammation.
- Remaining Ruleouts:
 - *Salmonella* Enteritidis.
 - Toxicity: salt? Unclear since the owners replaced the feed.

iii. Turkey poults with neurological signs: Saskatchewan.

- AE (Avian Encephalomyelitis) virus-like disease in turkeys.
- 2 flocks with similar clinical presentation and necropsy lesions within 1 week. Poults were 24 days old at necropsy for the one case, and 35 days old at necropsy for the other case. However, in both cases, the poults had showed clinical signs of neurological disease for a similar duration (approximately 2-3 weeks of age until 6-7 weeks of age).
- Both cases negative by PCR for Avian Encephalitis (AE). No definitive diagnosis was determined for these turkeys.

2. Meeting Takeaways

- Neurological disease in turkey poults was reported across the west, including:
 - Reovirus-associated, with both neurological and cardiac presentations.
 - Neurological presentations without definitive diagnosis, occurring from 2-7 weeks of age.

Many of these cases remain undiagnosed, and the flock veterinarian and lab would work together to make a flock-specific diagnostic plan in any future cases.

- WeCAHN is pleased to report that we will be launching a smallholders' production network later this fall. Of course small flock medicine and clinical presentations will be a major focus of this network. Our hope is that this can have a positive impact on commercial poultry by helping support mixed and large animal veterinary practitioners in the west in serving this group of clients.

