



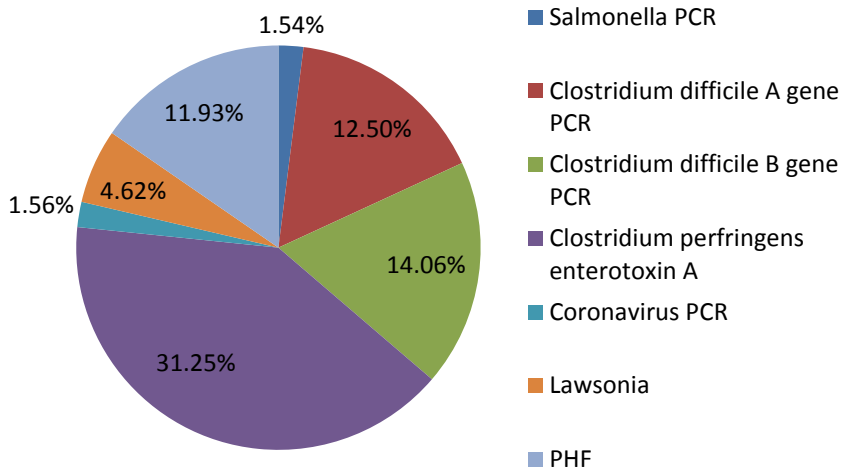
Ontario Animal Health Network (OAHN) Equine Expert Network Q3 (July 1st –September 30th 2015)

This information is a professional communication for practising veterinarians. The information was obtained from a survey of the clinical impressions of practising veterinarians and laboratory data from the Animal Health Laboratory and IDEXX Laboratories. It is the intent of this program to improve the health of Ontario's equine herd.

Key Points from Q3:

- An increase (3-5x normal) in diarrhea cases was noted predominantly in Eastern Ontario. In many cases Potomac Horse Fever was identified, but many were undifferentiated. Many cases were responsive to treatment with oxytetracycline.
- Several cases of fever and hypoproteinemia occurred. Some were positive for PHF others were undifferentiated.
- A decrease in infectious neurological disease, namely EEE and WNV, was noted this quarter compared to the same time last year.
- Allergic airway and skin diseases continue to be problematic.
- Fevers of unknown origin occurred sporadically in certain geographic regions.
- Lateral condylar fractures in Thoroughbreds and hind P1 fractures in Standardbreds were of note in the ORC death registry data .

Diarrhea Positive PCR tests for Q3 (AHL & IDEXX)



Key Points:

- PHF PCR testing should be done on manure when diarrhea is present and on blood and manure when only fever is present .
- A positive for C.diff gene DNA on manure samples indicates the presence of the gene only and should be followed by an ELISA to demonstrate the toxin is present.
- C. perf enterotoxin A DNA in the manure is a common finding in normal horses.

From Eastern Ontario: Horses with diarrhea were geographically close to swamps or marshes surrounding lakes. Horses presented with fever, depression, anorexia, mild colic, hypomotile guts. Some had warm feet, increased digital pulses and reluctance to move. Some developed injected mucous membranes and profuse watery diarrhea or loose cow pie manure. Most horses responded to tetracycline and fluid therapy.

Noteworthy Laboratory results

- Of the 738 fecal egg count tests performed at AHL this quarter, 81% of the McMaster tests (397 of 493) and 83% of the Wisconsin tests (204 of 245) were less than 200 epg which may support the theory that 20% of the horses carry 80% of the worm burden.
- Of the 109 equine Lyme tests performed at AHL and IDEXX this quarter, 6 were Multiplex positive, 8 were ELISA positive and 5 were IFA positive. 3 of the multiplex positives were from Eastern Ontario.



Highlights from the veterinary representation on the Network:

Northern Region (Drew Hunnisett)

- Fevers of unknown origin for 2-3 days and 39.5-40.5°C, normal bloodwork
- Fewer strangles cases than this time last year.
- Late cool spring and rainy June led to late first cut and poor quality hay.

Southwestern Region (Melissa McKee)

- Fewer farms this year afflicted with Strangles
- Increase in allergic conditions (respiratory, hives etc.)

AHL Pathology (Murray Hazlett)

- A case of pneumonia due to *Pneumocystis carinii* in a 7.5 week old Standardbred foal. *P. carinii* is a human pathogen for immunocompromised people.
- *Bradybacterium caseii* grew from the intravenous “jugging hose” of a Standardbred trainer whose horse died of endotoxemia. *B. caseii* is a human skin flora and an opportunistic pathogen.
- Oral sarcoid within the mouth (diastema) of a horse was confirmed with PCR for papilloma virus
- Increase in colitis cases over this quarter last year

Thoroughbred Racehorse (Jessica Peatling)

- Fevers of unknown origin at the racetrack, clinical signs correlated well with serum amyloid A (SAA 1400-1600 in abnormal horses). All recovered but had reduced athletic capacity.

Standardbred Racehorse (Chris Grossenbacher)

- Many horses with allergic airways and thick mucus which is difficult to clear.
- Many sore horses with concussive injuries this season.

OVC Large Animal Clinic (Memo Arroyo)

- OVC has seen an increase in eosinophilic keratoconjunctivitis cases -read here for more info:
<http://onlinelibrary.wiley.com/doi/10.1111/vop.12076/pdf>
- Increase in undifferentiated colitis cases this quarter
- A farm with horses with peracute hypoproteinemia and fevers, 2 were positive for Lawsonia on PCR, positive serology titres on nonclinical pasturemates
- Some cases of very poor nutrition (poor quality hay)

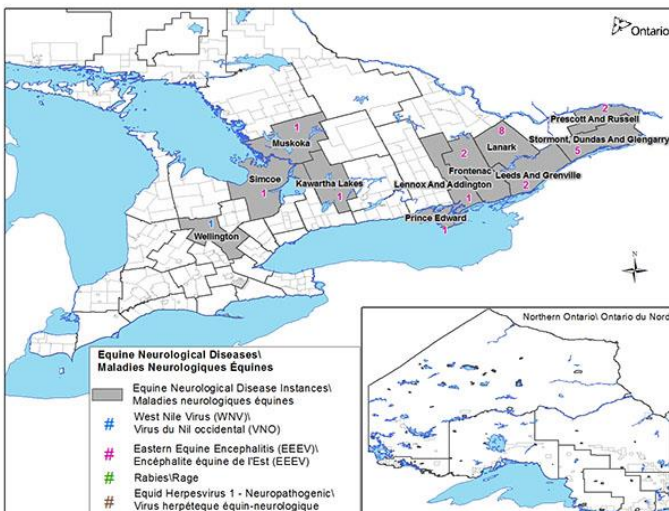
OMAFRA (Alison Moore)

EEE and WNV

- As of Sept 30, there have been 4 EEE cases and 3 WNV cases this quarter.
- EEE “outbreaks” seem to fall on a 5-6 year cycle
 - 1997 – 8 cases reported
 - 2002 – 10 cases reported
 - 2008 – 8 + 19 SW Quebec cases reported
 - 2014 – 24 cases reported
- http://www.omafr.gov.on.ca/english/livestock/horses/facts/nhd_surv2015.htm

Rabies

- There have been 7 calls regarding potential rabies exposure since March. Offending animals were: another horse (3), raccoon (1), coyote (1) and bats (2). There have been NO positive tests in horses this year.





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ORC Death Registry data for Q3

Quarter Horse

- Skull fracture
- Scapular fracture

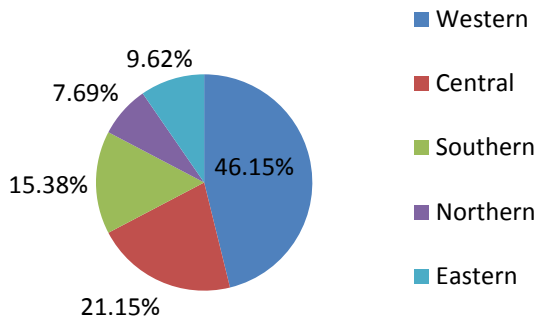
Standardbred

- Chronic arthritis LF P1-2 and P2-3 jnts
- LH P1 fx
- Anaphylaxis
- RH P1
- Salmonellosis
- Multisystemic hemorrhage
- Neurologic (undetermined)
- RH P1 fx
- Pulmonary hemorrhage
- Fibrinous typhlocolitis
- RF MC3 lateral condylar fx
- Thoracic/cardiac trauma, hemothorax

Thoroughbred

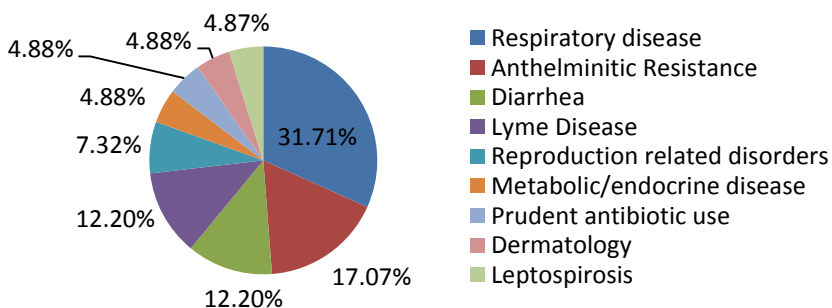
- Pulmonary hemorrhage
- LH P1 fx, MT3 lateral condylar fx
- LF prox sesamoids fxs
- Undetermined hemorrhage
- Undetermined
- LF MC3 lateral condylar fx
- Colon obstruction/diaphragmatic hernia
- RH MT3 lateral condylar fx, P1 fx

**Survey Respondents by
County, Region or
Districts**

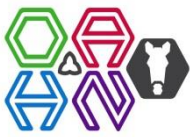


In order to provide a more complete picture of the health of Ontario's horses, we need your assistance by completing the quarterly surveys. More representation is needed particularly from the Northern and Eastern parts of the province.

**Reponses to question regarding
project topics**



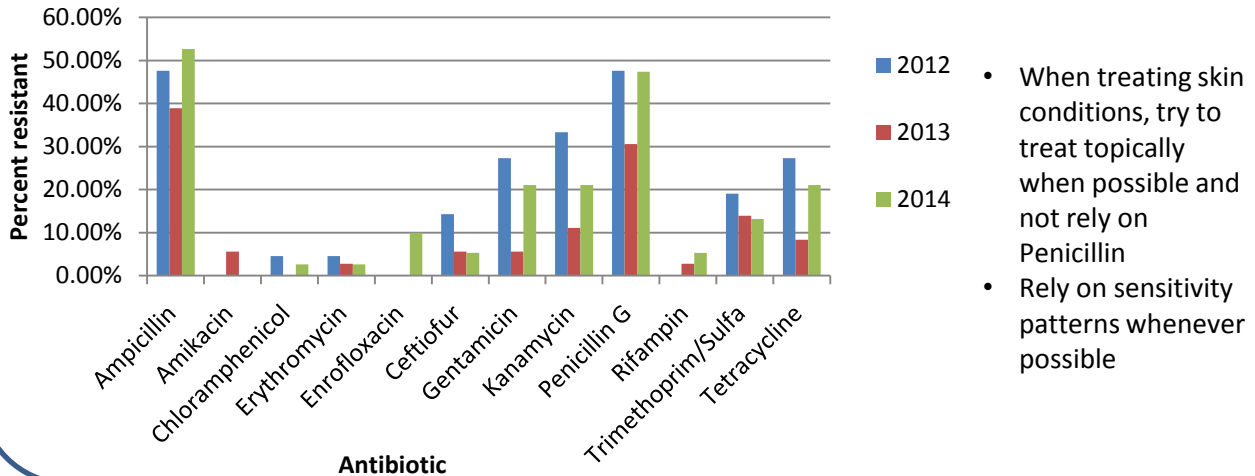
Thank you to those who completed the project topic question. The network will be developing an applied project based on one or more of the top answers to be submitted by December 1 to the OAHN project committee.



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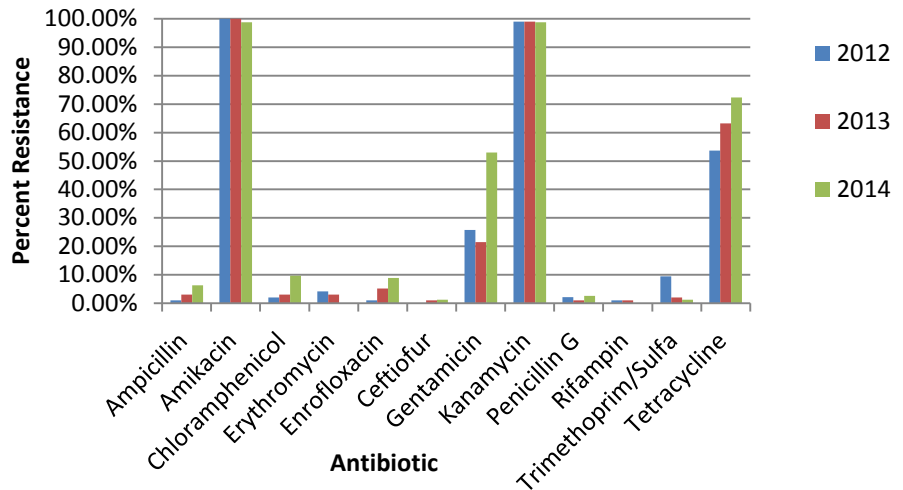
The following **Antimicrobial Resistance** patterns show trends in resistance from samples submitted to the AHL. They are presented for information purposes only. Veterinarians are encouraged to rely on sensitivity testing for clinical cases to decide appropriate treatment. Use of Class 1 Antibiotics (ceftiofur, enrofloxacin) should not be used as first line drugs when possible.

Antimicrobial Resistance of *Staphylococcus aureus*

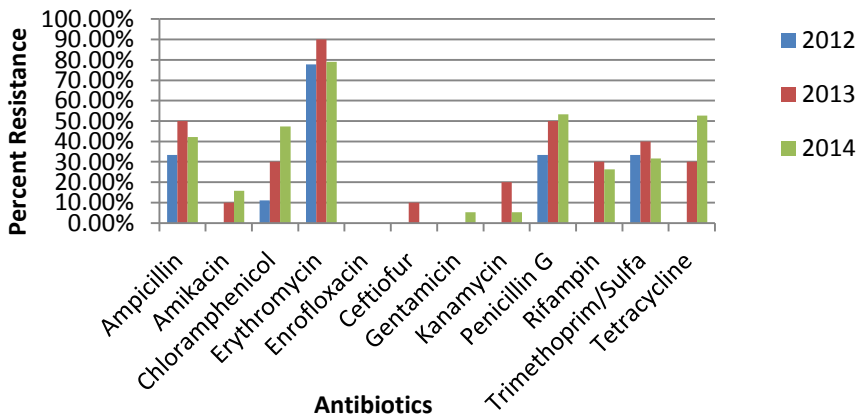


Antimicrobial Resistance for *Streptococcus zooepidemicus*

- *S. zooepidemicus* is the most common bacterium cultured from respiratory secretions
- Note the growing resistance to gentamicin and tetracycline
- Trimethoprim sulpha & penicillin remain good choices
- Use sensitivity testing whenever possible



Antimicrobial Resistance of *Actinobacillus equuli*



- *A. equuli* causes a variety of diseases in horses (foal septicemia, pneumonia, endocarditis, peritonitis) and its growing resistance to antibiotics is of concern
- Use sensitivity testing whenever possible



News and Notes

Current OVC Equine research

- Dr. H Staempfli
 - Use of probiotics in foals to prevent foal diarrhea
 - Incidence of foal diarrhea on farms in Ontario
 - **Effect of a Probiotic on Prevention of Diarrhea and *Clostridium difficile* and *Clostridium perfringens* Shedding in Foals**
<http://onlinelibrary.wiley.com/doi/10.1111/jvim.12584/abstract>
- Dr. J. Prescott
 - New “type F” *Clostridium perfringens* has been described in foals and dogs . The genome sequences of two of these netF-positive strains have been described.
 - **A Novel Pore-Forming Toxin in Type A *Clostridium perfringens* Is Associated with Both Fatal Canine Hemorrhagic Gastroenteritis and Fatal Foal Necrotizing Enterocolitis**
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4390311/>
- Dr. T. Koch
 - Umbilical cord blood derived stem cells
 - These stem cells have shown superior capacity to form joint cartilage compared to similar stem cells from bone marrow and adipose tissue. Tissue-engineered cartilage and bone plugs are now being produced using the stem cells. These constructs will be tested in horses with cartilage defects.
 - Drs. Koch and Koenig recently reported that equine stem cells reduce the inflammatory response in joints injected with an inflammatory agent (LPS).
 - [Equine allogeneic umbilical cord blood derived mesenchymal stromal cells reduce synovial fluid nucleated cell count and induce mild self-limiting inflammation when evaluated in an LPS induced synovitis model.](#) Williams LB, Koenig JB, Black B, Gibson TW, Sharif S, Koch TG. Equine Vet J. 2015 Jun 26. doi: 10.1111/evj.12477. [Epub ahead of print] PMID: 26114736
- Dr. D. Bienzle
 - Effects of bedding as a cause of exacerbation of RAO in horses
- Dr. L. Arroyo (Memo)
 - Pulmonary vascular hemodynamics using pressure sensor catheters placed in the pulmonary artery

Notes

- The National Equine Disease Surveillance Call is held monthly. Listen to previous calls by going to :
http://equinecanada.ca/industry/index.php?option=com_content&view=category&id=320&Itemid=641&lang=en
- **The date for the NEXT CALL is Nov 18th at 12:00 pm EST.**