

Animal Health Monitor

JUNE 2014



Articles of Interest:

- **Animal Health Act has Received Royal Assent**
- **PED Update**
- **Management of Rabies in BC**

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Animal Health Act has Received Royal Assent by Dr. Jane Pritchard

On May 29th, 2014, the *Animal Health Act (AHA)* for the province of British Columbia (BC) received Royal Assent. Within the next few months, the Act along with supporting Regulations will be brought into force.

The *AHA* will replace the *Animal Disease Control Act (ADCA)*. The *ADCA* was put in place in 1948, updated in 1956, and then left essentially unchanged as far as disease control until now. Much of the *ADCA* is ineffective in terms of enabling globally proven disease control methods.

The *AHA* was not passed in 2012 when initially tabled in the Legislature. The session ended before debate concluded on the Bill. Prior to reintroduction in Spring 2014, some modifications were made to address specific issues raised by the Information and Privacy Commissioner. The *AHA* fully protects information related to the submission and testing of samples, including the owner's information and the analytical results.

This information may only be released if the Minister of Agriculture feels it is necessary to protect the public interest.



Of more interest to the veterinarians of BC are the requirements now for reporting. Regulations under the *AHA* will list Reportable Diseases where actions must be taken by the province to control the disease and Notifiable Diseases where actions by the province are discretionary and the disease is of interest for monitoring purposes. Under Section 20 of the *AHA* it will be mandatory for owners of animals, persons responsible for animals, and veterinarians to promptly report these diseases if they become aware of them, but also to report highly unusual deaths and clinical signs of disease. There is also a duty for persons responsible for animals to not knowingly cause or

contribute to the spread of Reportable or Notifiable Diseases and to take preventative measures consistent with reasonable and generally acceptable practices of animal management.

Of particular interest to me, as the Chief Veterinary Officer, is that the province now has the ability to apply and enforce quarantine zones and surveillance zones to control Reportable Diseases.

There are many other important aspects to the *AHA* and Regulations that will be brought forward in the future.

Further information will be released targeted to stakeholder groups. It will be brought forward so everyone is aware of their responsibilities for reporting and controlling animal disease.

For further information, please use this link to the *Animal Health Act*: http://www.leg.bc.ca/40th2nd/3rd_read/gov19-3.htm

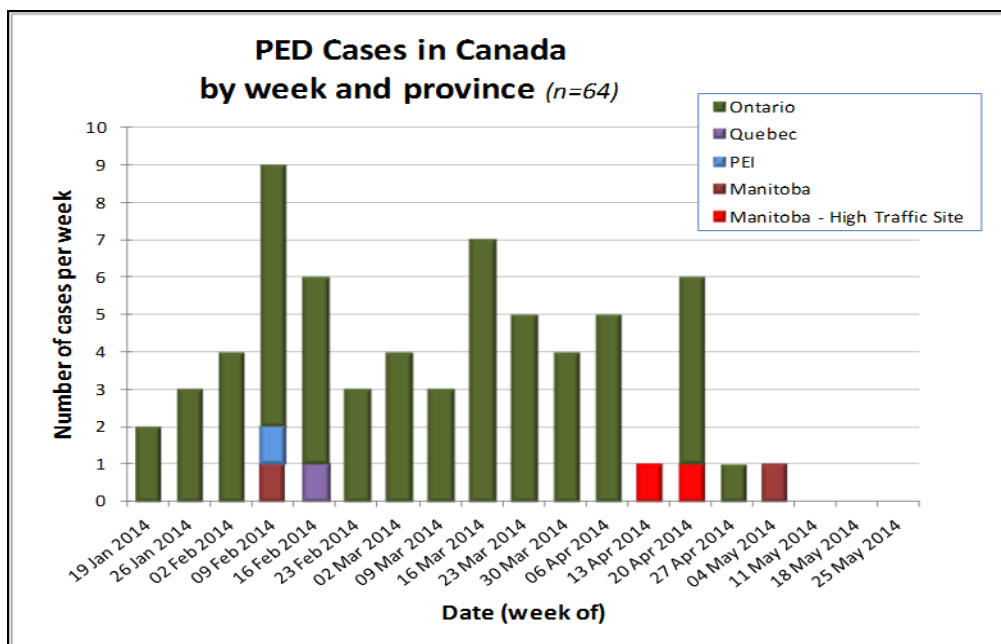
Update on Porcine Epidemic Diarrhea (PED) in BC by Dr. Nancy de With

Porcine Epidemic Diarrhea (PED) is a disease of swine that was first identified in the United States (US) in May 2013 and in Canada in January 2014. This is a very serious disease; the US has seen over 6,800 positive laboratory submissions from 30 different states.

PED only affects pigs and has clinical signs that can range from mild “loose” feces to acute watery diarrhea with vomiting and dehydration, leading to death. Many animals in a herd will be affected, often reaching 100%. The mortality is generally low in older animals, but may be high in piglets (40-100%).

PED in Canada

PED has been reported from four provinces. The chart shows the number of cases in pigs each week from January to the end of May 2014 by province—Ontario (58 cases), Quebec (1), Prince Edward Island (1), and Manitoba (4). The chart does not include cases occurring in June. Most of the cases have occurred on farms, but some infected pigs were found on high-traffic sites in Manitoba. The virus has not been found in BC.



The PED virus is most commonly spread through fecal-oral contact with infected swine, but may also be spread by contaminated equipment and trucks, fomites, or personnel. A variety of farm types have been affected, from farrow to finish. Producers are encouraged to strengthen their biosecurity measures on farm and to consult with their veterinarian if any pigs are showing signs of illness. The virus (PEDv) survives well in cold weather, at a time when cleaning of barns, equipment, and trucks can be more difficult. Several provinces have found PED virus on environmental swabs collected at various locations, including livestock transport trucks.

Cont'd Update on Porcine Epidemic Diarrhea (PED) in BC

Biosecurity Plan for the BC Swine Industry

The governments of Canada and British Columbia recently announced that they have invested over \$600,000 from *Growing Forward 2*, a federal-provincial-territorial initiative to increase surveillance and develop preventive measures to reduce the risk of PED arriving in BC, and to develop a response to contain the disease if it is found in the province.

A monitoring plan and environmental sampling protocols were developed and testing at the two main abattoirs in BC that handle pigs began in February 2014. Environmental swabs are being collected several times per week, and all samples have tested negative. Testing will continue through the summer. Enhanced truck washing and driver sanitation options are being considered for both short term and long term solutions. On-farm biosecurity audits have already been completed on most of the swine farms in BC, and containment plans are being developed for the swine industry should the disease be found.

New Variant of PED

PED is caused by a coronavirus, and there are a variety of strains of PEDv. The strains in the US are closely related to each other and most similar to a strain from China. However, in January of 2014, samples were taken from a farm in which sows were known to be infected, but piglets showed few clinical signs with no mortality. Genetic analysis showed that this is a new variant of PEDv that showed 89% nucleotide identity to the currently circulating strains in the US.

The Animal Health Centre has developed an RT-PCR (reverse transcription polymerase chain reaction) test for use on swine that are suspected to have PED. As the test is based upon a conserved region of the virus genome, it should also detect the new variant PED virus.

Diagnosis of PED can be made on feces or intestines from acutely affected pigs. For further information on sample submission, please contact the Animal Health Centre at 604-556-3003.

This disease does not affect people, and is not a food safety concern. Further reading:

Wang L, Byrum B, Zhang Y. *New variant of porcine epidemic diarrhea virus, United States, 2014* [letter]. *Emerg Infect Dis* [Internet]. 2014 May [accessed May 26, 2014]. <http://dx.doi.org/10.3201/eid2005.140195>

NEWS RELEASE COMMUNIQUÉ *Biosecurity plan for B.C. livestock reduces risks of disease*
http://www2.news.gov.bc.ca/news_releases_2013-2017/2014AGRI0014-000655.htm

American Association of Swine Veterinarians

<http://www.aasv.org/aasv%20website/Resources/Diseases/PorcineEpidemicDiarrhea.php>

The Pig Site

<http://www.thepigsite.com/diseaseinfo/83/porcine-epidemic-diarrhoea-ped>

Save the Date for Zoonotic Diseases Continuing Education by Dr. Brian Radke

The 13th BC Zoonoses Symposium will occur on August 13, 2014 at the University of British Columbia (UBC) in Vancouver, BC. This collaborative, inter-disciplinary symposium provides an opportunity for professionals from across BC to gather, network and learn about disease issues affecting animals and humans. The symposia include presentations on a wide variety of One Health Topics.

The 12th symposium in Surrey, BC included information on antimicrobial use in animals, vector-borne zoonotic diseases, and zoonoses associated with a variety of wildlife species, including city rats!

With over 100 attendees, the 12th symposium was well attended. The audience included public health inspectors, public health physicians, public health researchers, students and veterinarians. Most of the veterinarians are engaged in public practice and a goal is to increase attendance by private practitioners and animal health technicians.

There typically is no registration fee for the symposia, but registration is required for planning purposes.

See the Symposium's website (<http://www.bccdc.ca/dis-cond/types/Zoonotic/13thZoonotic+DiseaseSymposium.htm>) for more information on registering. Agendas and presentations from previous symposia are also

available at <http://www.bccdc.ca/dis-cond/types/Zoonotic/12thZoonotic+DiseaseSymposium.htm>.

The symposium is a partnership of the BC Ministry of Agriculture and the BC Centre for Disease Control.

For more information about the Symposium, including being added to the email distribution list, or to discuss making a presentation at the symposium, please contact Brian Radke, Public Health Veterinarian, brian.radke@gov.bc.ca.

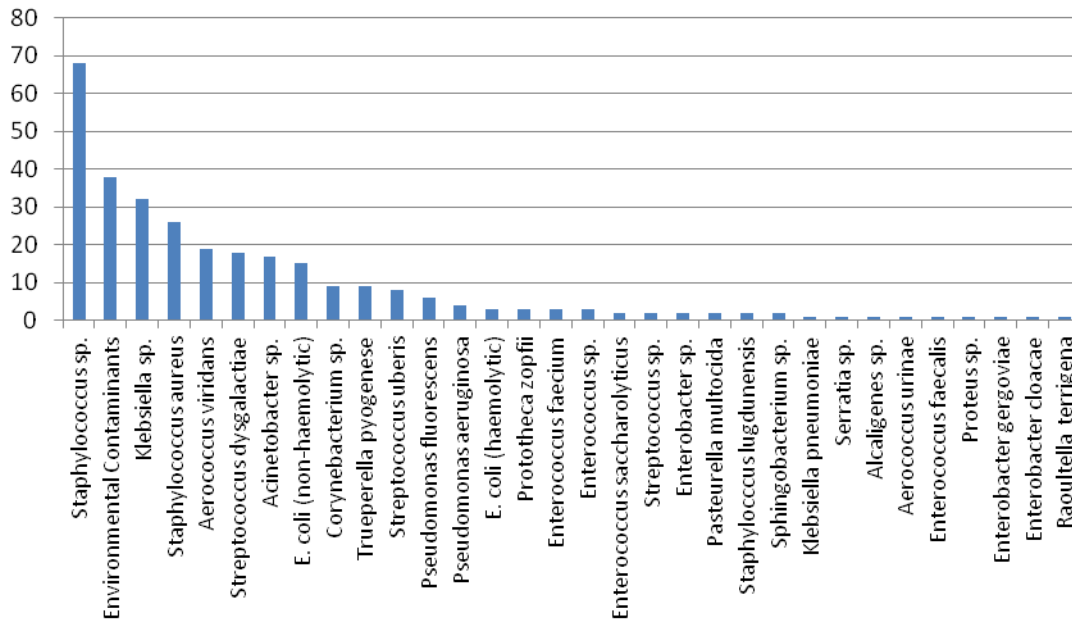
The 2014 Symposium will be in conjunction with the 69th International Conference on Diseases in Nature Communicable to Man (<https://sites.google.com/site/incdncm/>) which will be held August 10-12 at UBC.

The conference seeks to increase knowledge and awareness of zoonotic disease within the medical and public health communities.

Held annually since 1946, the conference is multi-disciplinary, and typically includes presentations on viral, rickettsial, bacterial, parasitic, and prion-related diseases acquired from natural sources, including animals (wild or domestic), contaminated water or food supplies, arthropod vectors and other sources. See the website for more information on conference registration.

Milk Culture Results by Dr. Jane Pritchard

January 1–May 31, 2014—Results of milk cultures sorted by frequency of isolation.



Between January 1 and May 31, 2014, 525 milk samples (101 submissions) were received for culture and sensitivity at the Plant and Animal Health Centre. Out of the 525 samples submitted, no bacteria was isolated in 255 samples. Trueperella pyogenese was previously known as Arcanobacterium pyogenese.

Resistance by Isolate	amp	kf	ob	e	xnl	p10	pyr	sxt	tet	# of isolates tested
Staphylococcus sp.	7%	0%	7%	7%	0%	7%	10%	1%	9%	68
Klebsiella sp.	72%	19%	75%	75%	19%	75%	75%	0%	6%	32
Staphylococcus aureus	4%	0%	0%	8%	0%	4%	4%	0%	8%	26
Aerococcus viridans	0%	0%	47%	5%	5%	5%	0%	11%	32%	19
Streptococcus dysgalactiae	0%	0%	0%	6%	0%	0%	17%	6%	33%	18

amp - ampicillin	ob - cloxacillin	xnl - excenel	pyr - pirlimycin	sxt - sulfamethoxazole/ trimethoprim
kf - cephalothin	e - erythromycin	p10 - penicillin	tet - tetracycline	

Haemonchosis—A Threat to Small Ruminants and Camelids by Dr. Ann Britton

Haemonchosis is an important parasitic disease of small ruminants and camelids. The disease is most commonly reported in warm, wet areas of the world but is also prevalent in more temperate, non arid climates as can be found in British Columbia.

The nematode parasite *Haemonchus contortus*, also called the abomasal or barberpole worm, sucks blood from the abomasum or third compartment (C3) in the fourth larval and adult stages of the life cycle. Each worm can consume up to 0.05 ml of blood daily so that heavy infections can cause anemia and hypoproteinemia of sufficient severity to result in the death of affected animals. Young stock are most at risk, but the disease can affect all ages.

Each adult female worm can produce up to 10,000 eggs per day at her peak of production, which can last for months. Once passed in the feces, eggs will hatch and become third stage infective larvae in as little as 4 days in warm moist conditions. In less than ideal conditions, it can take weeks or months for infective larvae to develop. Thus, heavy infective burdens can build quickly in warm wet weather on pasture. Once ingested, the third stage larvae moult through fourth stage to adult stage within the abomasum or C3, suck blood and commence egg production in 16 to 21 days. By 30 days post ingestion, maximum egg production is reached.

Haemonchus contortus does not survive well in dry and cold conditions and cold winters can significantly reduce pasture burdens. However, the parasite is capable of undergoing hypobiosis (a period of larval dormancy within the abomasum over winter). From 2 weeks before parturition to about six weeks following lambing, larval development will resume and large numbers of adults can be produced leading to a resumption of blood sucking and heavy egg production at the most metabolically demanding time in the dam's life. This is called the periparturient egg rise (PPER) and significantly contributes to the parasite burden of dams as well as increasing the environmental load to which susceptible young stock are exposed.

Over recent years, we have seen an increasing number of fatal cases of Haemonchosis at the Animal Health Centre. It is not clear whether this results from any or all of: increased numbers of small ruminants and camelids being raised in our catchment area, increased parasite burdens building up over time on affected farms or increased resistance to deworming medications. Resistance to anthelmintics is a concern and there have been recent published studies which suggest that this may be occurring. Good pasture and barn management, in association with strategic deworming programs can minimize the effect of *Haemonchus contortus* in a flock.

Young animals are now on pasture and the most critical time for Haemonchosis is approaching. The Animal Health Centre advises owners of small ruminants and camelids to be vigilant going forward with their management practices by reducing stocking density if possible, weaning onto clean pastures and conducting routine examination of animals for signs of anemia (FAMCHA check), swelling under the jaw or ventral bodyline and weight loss so affected animals may be caught early and treated.

We strongly advise discussion with your veterinarian about the appropriate choice of anthelmintic(s) for your deworming program and the addition of routine fecal testing to confirm effectiveness and monitor parasite loads.

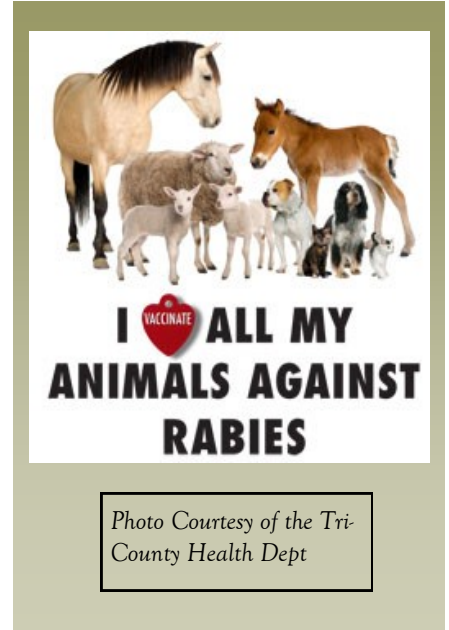
Management of Rabies in BC by Dr. Brian Radke

Effective April 1, 2014, the CFIA ceased to provide rabies response activities such as sample collection, submission, and post-exposure management. The CFIA will continue to perform and cover costs for laboratory testing involving rabies-suspect domestic and wildlife animals, and humans to the virus.

The BC government, including the BC Centre for Disease Control, regional Health Authorities, the Ministries of Health, Agriculture, Environment, Forests, Lands and Natural Resources, in conjunction with the College of Veterinarians of BC, are continuing to refine provincial responsibilities for rabies activities.

Licensed veterinary practitioners will continue to play important roles in the provincial response to protect animal and human health from rabies. Information about rabies management and support materials has been, and will continue to be, communicated to veterinarians via the College of Veterinarians of BC. Communications to veterinarians are also posted on the College's website.

The public health veterinarian at the BC Centre for Disease Control is the point of contact for BC veterinarians requiring more information about rabies, and can be reached at 604-707-2400.



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Past editions of the Animal Health Monitor can be found on our website:

<http://www.agf.gov.bc.ca/ahc/AHMonitor/index.html>

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