

Animal Health Monitor

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- ⇒ **Rabbit Hemorrhagic Disease in BC**
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December 1, 2018 Changes in Access to Veterinary Antibiotics by Dr. Jane Pritchard and Dr. Brian Radke

Some veterinary antibiotics require a veterinary prescription and are sold by veterinarians or pharmacists. Other veterinary antibiotics are available over-the-counter (OTC), that is, they do not require a prescription. Producers can currently purchase OTC antibiotics from veterinarians or from BC farm and ranch supply stores licensed under the BC Veterinary Drug legislation. These OTC antibiotics include those administered via injection, orally, topically, intra-mammary, intra-uterine and mixed in the drinking water. BC commercial feed mills can sell feed medicated with OTC antibiotics, and subject to a prescription, can sell feed medicated with prescription antibiotics.

Effective December 1, 2018, Health Canada will add all medically important antimicrobials to the federal Prescription Drug Lists. Medically important antimicrobials are those defined by the Veterinary Drugs Directorate of Health Canada as being important to the practice of human medicine. **Most, but not all, veterinary OTC antibiotics are medically important.** More information about this change and others related to combating antimicrobial resistance is available from the Canadian Veterinary Medical Association (CVMA) and Health Canada websites.

This Dec. 1 change will have implications for livestock and poultry producers, their veterinarians, feed mills and the licensed farm and ranch supply stores. **Most of the antibiotics currently sold by licensed farm and ranch supply stores will be added to the federal Prescription Drug List.** Information from the federal government has been shared with the stores, including a poster listing the Dec. 1 prescription status of the various veterinary antibiotics. Stores are encouraged to display the poster in a prominent high traffic area of their business for the benefit of their staff and customers. **Then, as of Dec 1, 2018 these stores will no longer be able to sell the affected antibiotics.**

Producers will require a veterinary prescription for prescription antibiotics which can then be purchased from the veterinarian, or potentially a pharmacy.

Effective December 1, 2018 many of the OTC antibiotics used in medicated feeds will be added to the Prescription Drug List. In addition, use of medically important antibiotics for growth promotion is no longer permitted. Feeds medicated with ionophores, bambamycin, or chemical coccidiostats will continue to be available without a prescription. A veterinary prescription will be required for producers to buy, and feed mills to sell, feed medicated with prescription antibiotics. **The number of feed prescriptions written by veterinarians and received by feed mills is expected to increase dramatically.** The federal government is currently leading the development of species specific templates for feed prescriptions and a list of required items for veterinary feed prescriptions. It is expected these will be released to the CVMA, veterinarians and the feed industry, among others, within weeks.

Although commercial feed mills can sell medicated feed, they cannot outright sell the prescription drugs that are added to the feed to result in the medicated feeds. The sale of prescription drugs, including those added to feed, are limited to veterinarians and pharmacists. The CFIA oversees operation of commercial feed mills, including their use of medications.

In summary, as of December 1, 2018 producers will require a veterinary prescription to purchase virtually all non-feed antibiotics and many feeds medicated with antibiotics. Veterinarians can expect increased contact with producers requiring antibiotics, including medicated feed and antibiotics administered via routes other than in feed. Commercial feed mills are expecting a substantial increase in the number of feed prescriptions.

Systemic Yeast Infection in Muscovy Ducks by Dr. Tony Redford

In late July of 2018, a young duckling was submitted to the Animal Health Centre after a number of ducklings from the source farm had died. The most significant findings in the submitted duckling were a severely enlarged liver, and firm, wet lungs. Tissues were taken for ancillary testing. On microscopic examination of the tissues, the interstitium of the lungs showed marked expansion due to edema and inflammation. In addition, within the lung, liver and a few other organs, many cells contained collections of 2-4 micrometers diameter, round to oval, basophilic organisms, consistent with intracellular yeast. Thus, a systemic, disseminated yeast infection was diagnosed as the cause of death, and likely to have affected the other ducklings that had died on farm.

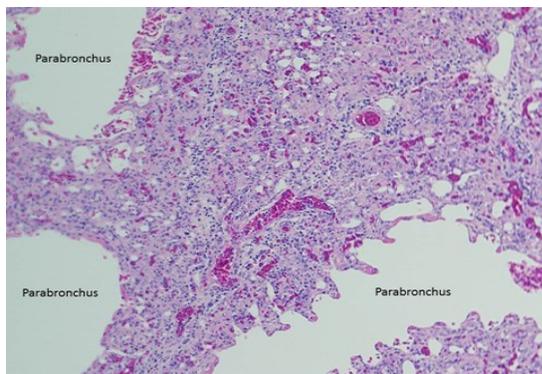


Figure 1. There is marked expansion of the interstitium with inflammation and edema.

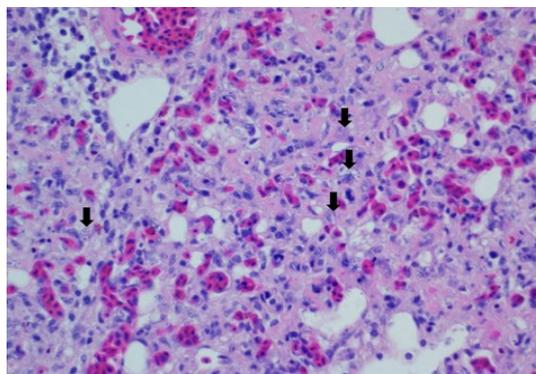


Figure 2. Many cells contain collections of intracellular yeast within their cytoplasm (arrows).

Cases of systemic intracellular yeast infection have been sporadically reported as a cause of increased mortality in Muscovy and domestic ducks in Canada and the United Kingdom. This disease is occasionally referred to as “Muscovy duck disease.” Disease typically occurs between August and December, though the current case was in late July. The mode of infection and the mechanism of disease are still unclear.

Birds with access to outdoor ponds seem to be at increased risk, though this likely comprises most of the population of Muscovy and domestic ducks. Disease caused by similar organisms has been reported in a great blue heron in Saskatchewan, though no direct link has been proven.

Clinical signs are variable and highly dependent on the organs affected, though respiratory signs are relatively common as lungs are frequently affected, and death usually occurs soon after clinical signs begin. There are no specific treatments for this systemic yeast infection, though symptomatic treatment may be helpful.

Molecular Diagnostics Section at the AHC

The molecular diagnostics section of the Animal Health Centre (AHC) was initiated in 1993 for the rapid and accurate detection and differentiation of animal pathogens using molecular biology techniques such as polymerase chain reaction (PCR) and DNA sequencing. In 1995, the AHC was moved to the current facility and the molecular diagnostics section was relocated to a suite of dedicated rooms especially designed to increase accuracy and efficiency of PCR methods and DNA sequencing.

Currently, the molecular diagnostics section offers over 200 diagnostic tests for a wide range of mammalian, avian and fish pathogens using conventional and real-time PCR tests and DNA sequencing. This section also develops, validates and applies new molecular diagnostic techniques for the detection and typing of both common and emerging animal pathogens. In addition to routine diagnostic testing, molecular diagnostics section regularly undergoes proficiency testing conducted by the CFIA’s National Centre for Foreign Animal Diseases (NCFAD) and USDA’s National Veterinary Services Laboratory (NVSL).

A complete list of tests offered and sample submission guidelines, as well as links to AHC sample submission forms can be found on the ‘Molecular Diagnostics’ page of the AHC website (www.gov.bc.ca/animalhealthcentre).

As proper collection and handling of clinical specimens are critical for the success of diagnostic testing, sample submission guidelines on the AHC website must be followed when submitting samples for PCR tests to obtain best results.

Rabbit Hemorrhagic Disease in British Columbia by Dr. Glenna McGregor

In mid-February 2018 feral rabbits were found dead in small numbers on a university campus in Nanaimo and all the rabbits in a small feral colony on Annacis Island in Delta were found dead. Upon necropsy examination of these rabbits, Animal Health Centre (AHC) pathologist Hein Snyman noted widespread acute hepatocellular necrosis, disseminated lymphocyte karyorrhexis and necrosis in the spleen and visceral lymph node, scattered acute renal tubular necrosis, and variably present intra-glomerular thrombi; all typical lesions of Rabbit Hemorrhagic Disease (RHD). This diagnosis was confirmed with PCR for Rabbit Hemorrhagic Disease Virus and sequencing of the PCR product was consistent with RHDV. RHDV was also confirmed through independent PCR testing and other ancillary diagnostic testing (electron microscopy, rabbit inoculation) of duplicate tissue samples from these rabbits by the Canadian Food Inspection Agency at the National Centre for Foreign Animal Disease (NCFAD) in Winnipeg.

Rabbit Hemorrhagic Disease, sometimes referred to as “Bunny Ebola”, is an extremely contagious viral disease of domesticated and wild European rabbits with a mortality rate that often reaches 100% in unvaccinated European rabbits (*Oryctolagus cuniculus*). It can be readily transmitted by direct contact with live or dead animals, and on fomites. Following the initial diagnosis, there were reports of large numbers of dead feral rabbits around Nanaimo and a few in the lower mainland. Several commercial rabbitries were affected with mortality rates often reaching 100% over the course of a few days.

There are many strains of RHDV, with three major viral subtypes recognized: RHDV (classical RHDV), a related antigenic variant RHDVa, and a recently emerged strain RHDV2 (also called RHDVb). Whole genome next generation sequencing by NCFAD of the virus from the BC rabbits most closely matched (93% identity) an RHDV2 isolate from an outbreak in a rabbit farm in Navarra, Spain in 2011. The origin of the virus in BC is unknown.

RHDV2 was first identified in France in 2010, and since then, has spread throughout Europe, replacing the circulating RHDV/RHDVa strains in most European countries. Its antigenic profile is quite different from that of classical RHDV, and while classical RHDV spares rabbits younger than 6-8 weeks, RHDV2 affects rabbits of all ages. In Europe, RHDV2 tends to have a lower mortality rate than classical RHDV (5 to 70% vs. 80-90% lethality). In BC, however, the ongoing mortality rate has reached 90 to 100% in feral colonies and several affected commercial rabbitries.

This was the third confirmed diagnosis of RHD in Canada, the first in BC, and the largest reported outbreak of RHD in North America.

It was the first outbreak to involve RHDV2 in North America.

Since the initial diagnosis, 20/58 cases tested at the AHC for RHDV have been positive. Positive cases were detected in feral European rabbits, pet rabbits and/or meat rabbits from Nanaimo, Delta, Courtenay/Comox, Richmond, Coombs, Parksville and Ladysmith.



Figure 1. European rabbit (*Oryctolagus cuniculus*) that died of RHD. Note the mottled liver, hemorrhage in the lungs, and dark kidneys. Photo courtesy of Dr. Heinrich Snyman.

So far only European rabbits (*Oryctolagus cuniculus*) have been affected in BC. This is consistent with the experience in other parts of the world where other lagomorphs generally seem to be unaffected by classical RHDV/RHDVa. However, it is the first RHDV2 outbreak in North America so there is very limited information pertaining to the specific susceptibility or resistance of wild rabbit species that are prevalent in British Columbia. No native rabbits are present on Vancouver Island where the majority of the outbreak occurred, but invasive Eastern cottontail rabbits in the area did not appear to be affected.

The last positive case was detected in early May—since then all animals tested (23) have been negative. Anecdotally, apparently healthy feral European Rabbits are returning to affected areas. It is unknown whether this marks the end of the outbreak or if it will recur in the weeks, months or years to come. In areas where RHDV is endemic, such as Australia, RHDV tends to cause recurrent short, but strong, disease outbreaks with high mortality, but low persistence. In most Australian rabbit populations, these outbreaks occur annually, or less commonly, every second year.

A vaccine was brought in on Emergency Drug Release from France by the BC Ministry of Agriculture for use in domestic rabbits. So far, to our knowledge, no vaccinated animals have contracted the disease.

For more information on vaccine availability and how to protect domestic rabbits, consult with your veterinarian.

African Swine Fever by Tom Droppo, Swine Industry Specialist

African Swine Fever (ASF) is a federally reportable disease. It is a virus that was first identified in Africa in the wild pig population. It has recently spread to Eastern and Western Europe, Russia, and now China. Domestic pigs of all ages are highly susceptible to the disease.

ASF is one of the most severe diseases of swine, and represents a major threat to pork production. ASF has not been identified in North America (NA); but the risk of transmission is higher now with the recent spread. Europe reported over one million pigs culled and 750 cases in August 2018. China, the largest pork producer in the world, reported its first case this spring, and since then, has reported 22 cases in seven provinces.

ASF is a deadly, hemorrhagic disease of pigs that is contagious and causes high mortality. There is no vaccine nor treatment available. Biosecurity is the number one disease prevention tool. ASF does not spread to people, and so is not a public health concern.

The ASF virus is long lived and very hardy. It is a human driven disease through globalization, people and animal movement. It can survive and be transmitted in live animals, embryos, semen, feces, food scraps, processed meats, feed products, and on people's clothing and shoes. The virus is quite stable over a wide range of temperatures and pH and can survive drying, curing, and remain active in frozen meats 3 to 6



Figure 1: Pig affected by African Swine Fever. Photo courtesy of BC Government.

months. ASF is susceptible to disinfectants. Typical routes of infection are oral and nasal. Ticks and flies can carry the virus in their mouths and thus infect by biting.

Infected animals may not show signs immediately. Virus incubation period varies from 5 to 14 days, which allows time for animal movement before virus identification. Clinical symptoms of ASF are similar to several other diseases. It can be either acute or chronic—hemorrhagic bleeding from multiple organs to nasal discharge. If an infected pig survives, it can shed the virus up to six months.

The Animal Nutrition Association of Canada (ANAC) is working closely with the Canadian Food Inspection Agency (CFIA) and the Canadian Pork Council to ensure that NA suppliers of vitamins, amino acids and minerals, which are predominantly sourced from Chinese manufacturers, are sourced only from HACCP-based companies.

CFIA is working with Canada Border Services Agency (CBSA) to increase surveillance of travellers returning from high risk countries. Over 8,000 pork products were seized at US borders in 2017, which is only a fraction of what actually gains entry.

September 2018 statistics reveal there are 14,300 pork producers of which 6,500 (or 45%) are small lot, backyard producers in Canada. There is also a significant wild pig population in Canada. All pig populations are at risk.

The impact of ASF detection in NA would be significant in terms of border closures, trade disruptions, animal movement restrictions, farm quarantines and mass destruction of pigs on affected farms.

ASF PREVENTION - SIMPLE STEPS

Make your herd health and biosecurity a priority



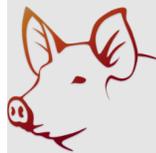
1 WHEN TRAVELLING

- Don't bring meat products back to Canada with you (this is illegal).
- Disinfect all footwear/clothing prior to return from travel.
- Ensure human food waste is not fed to your animals.



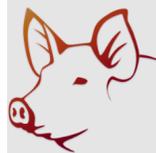
2 EVALUATE HEALTH AND BIOSECURITY

- Confirm staff/visitors have not traveled to countries where ASF is detected, BEFORE entry to the farm.
- Ensure all visitors abide by on-farm biosecurity practices.



3 CONTACT YOUR HERD VETERINARIAN IMMEDIATELY

- ASF is known to mimic other swine diseases such as Erysipelas, PRRS and Circovirus. Contact a veterinarian ASAP to determine the cause of disease.



4 STOP ALL PIG MOVEMENTS TO/FROM FARM

- Never move/sell or send to auctions/yards sick or compromised pigs on your farm to prevent further spread of infection

SIGNS OF ASF ILLNESS

- Fever
- Loss of appetite
- Skin hemorrhages
- High mortality within 10 days of clinical signs

SOURCE: WWW.OAHN.CA

WWW.SWINEHEALTHONTARIO.CA

Prevention through tight biosecurity remains the number one means to prevent the introduction of African Swine Fever.

Hereditary Osteochondrodysplasia in a Scottish Fold Cat by Dr. Stephen Raverty

A 1.5 year old male Scottish Fold Cat presented recently to a local small animal practice with a history of lameness, discomfort with handling, and stiff gait. Initial clinical assessment revealed folded ears, irregular bone growth of the tarsal, metatarsal and metacarpal bones and phalanges. Dorsopalmar and lateral radiographs identified prominent periosteal reaction of the tarsus and epiphysis of the phalanx and metatarsus. Based on the degree of discomfort and prognosis for suitable recovery of this animal, elective euthanasia was performed.

At necropsy, the animal presented in good body condition with prominent enlargement and foreshortening of the left, and to a much lesser extent, right fore and both hind limb claws. On incision of the skin, there was moderate periosteal and periarticular fibrosis with irregular bone growth and shape of the carpi, metacarpi, metatarsi, and phalanges. In more severely affected bones, secondary degenerative arthropathy and exostoses were apparent. The caudal vertebrae and tail appeared within normal limits.

A buccal swab was obtained and forwarded to the Veterinary Genetics Laboratory at UC Davis. Genetic analysis confirmed two copies of the SF/SF mutation, which is associated with folded ears and severe bone and joint issues.

The Scottish Fold Cat breed was established in Scotland in the 1970s and the folded ear phenotype was attributed to the Fd allele, inherited as a simple autosomal dominant trait. Although severe osteochondrodysplasia is recognized in homozygous cats (Fd/Fd), pedigree analysis confirms that even heterozygous cats (Fd/+) can incur a milder form of chondrodysplasia which may be inherited as an incomplete dominant pattern. Bone lesions may be initially detected as young as 7 weeks of age, but are slowly progressive and may not be clinically apparent for several years.

Should Scottish Fold Cats present with similar clinical signs and evidence of pain or discomfort, genetic analysis is recommended.

17th Annual BC Zoonoses Symposium by Dr. Brian Radke

The 17th Annual BC Zoonoses Symposium will occur on November 15, 2018 at the Langley Golf Centre in BC's Fraser Valley. The Zoonoses Symposium is a collaborative, interdisciplinary forum that provides an opportunity for professionals from across BC to gather every year. The Symposium provides a platform for animal health and public health professionals to share current information and new research on diseases transmitted between animals and people that are of importance to British Columbia.

Typically, approximately 100 attendees are present in person. Last year there were over 60 webinar participants for each presentation. Half of the webinar participants were from BC, along with participants from 5 other provinces and Washington state. The audience included public health inspectors, public health physicians, public health researchers, students, veterinarians and animal health technicians. The Symposium programs offer a broad range of One Health topics that are relevant to professionals from a variety of disciplines.

This year's agenda is being finalized and will include

information on *Brucella canis* in imported dogs, canine influenza, farm to fork whole genome sequencing of *Salmonella* Enteritidis, and *Cryptococcus gattii*. There will be three Climate Change and Health case studies using a World Café style discussion format.

For information on this year's Symposium, including registration, please see [http://www.bccdc.ca/health-professionals/education-development/zoonotic-symposiums-\(zoonoses\)](http://www.bccdc.ca/health-professionals/education-development/zoonotic-symposiums-(zoonoses)). Presentations from last year's Symposium are also available at the above web address.

Again this year, there is no registration fee for the Symposia, but registration is required for planning purposes. Webinar participation in the Symposium was very well received last year and is available again this year.

Brian Radke, Public Health Veterinarian, on behalf of the Symposium Planning Committee, including Erin Fraser, Eleni Galanis, Kirsten Mitchell, Mohammad Morshed, and Helen Schwantje.

This year's session will also be available by Online Webinar for participants who wish to view remotely. Registration for the Online Webinar is limited, so please register early to ensure a seat. If you are not able to attend after registering, kindly let us know so that your seat will be available for someone else.

Calendar of Events

17th ANNUAL BC ZOONOSES SYMPOSIUM November 15, 2018 from 8:30am-4:00pm at Langley Golf Centre

The Zoonotic Disease Symposium is a collaborative, interdisciplinary forum that provides an opportunity for professionals from across BC to gather, network, and learn about health issues affecting animals and humans. The Symposium program offers a broad range of topics that are relevant to professionals from a variety of disciplines.

For more information on this event, please visit: [http://www.bccdc.ca/health-professionals/education-development/zoonotic-symposiums\(zoonoses\)](http://www.bccdc.ca/health-professionals/education-development/zoonotic-symposiums(zoonoses))



21st ANNUAL PACIFIC AGRICULTURE SHOW January 24-26, 2019 from 9:00am-4:30pm at TRADEX Exhibition Centre in Abbotsford

The Pacific Agriculture Show is the largest and most important agriculture exhibition in the province. BC's agriculture industry is unique in its diversity and the Show attracts an attendance from all the livestock and horticulture sectors, including: dairy, cattle, poultry, equine, hogs, llamas, alpacas, to vegetable, berry, grape, bulb, ornamentals, hothouse, flower and shrub growing, and more.

For more information on this event, please visit: <http://www.agricultureshow.net/>



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