

Animal Health Monitor

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Articles of Interest:

- ⇒ African Swine Fever
- ⇒ AHC is Ready to Receive Electronic EIA Submissions Through GVL
- ⇒ Quality Assurance at the AHC

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African Swine Fever Update by Dr. Jane Pritchard

African Swine Fever (ASF) is a highly contagious viral haemorrhagic disease affecting domestic and wild pigs. It is responsible for serious production and economic losses and has become of high interest to BC and Canada because of the recent rapid spread (within the last year) into and throughout China, Hong Kong, Vietnam, Korea and Cambodia in Asia and Belgium, Hungary, Latvia, Moldova, Poland, Romania, Russia and the Ukraine in Europe.

This disease can be spread by live or dead domestic or wild pigs, and pork products. As well, it can be spread through imported contaminated feed and objects such as shoes, clothes, vehicles, knives, etc.

ASF is caused by a very resistant virus. This large DNA virus of the *Asfarviridae* family also infects ticks of the genus *Ornithodoros* and can be spread by infected ticks.

There is no approved vaccine against ASF, although China is working very diligently to develop one.

African Swine Fever poses no disease threat to people or animals other than wild or domestic pigs.

Infected pigs can display one of two syndromes—an acute form and a subacute or chronic form:

Acute forms of ASF are characterized by high fever, depression, anorexia and loss of appetite, haemorrhages in the skin (redness of skin on ears, abdomen and legs), abortion in pregnant sows, cyanosis, vomiting, diarrhea and death within 6-13 days (or up to 20 days). Mortality rates may be as high as 100%.

Subacute and chronic forms are caused by moderately or low virulent viruses, which produce less intense clinical signs that can be expressed for much longer periods. Mortality rates are lower, but can still range from 30-70%. Chronic disease symptoms include loss of weight, intermittent fever, respiratory signs, chronic skin ulcers and arthritis.

Prevention of this disease for Canada is relying on keeping it out of the country. Canada is closely aligned with the United States and Mexico in this endeavor with enhanced port of entry screening and testing.

In BC, we have adapted the Canadian Food Inspection Agency's (CFIA) PCR test for African Swine Fever at the Animal Health Centre and have initiated an enhanced passive surveillance program to make sure that if this disease does break the port of entry barrier that we will know about it as early as possible. We are also engaged in multiple planning sessions with CFIA, industry and the other western provinces to be fully prepared in the event that an emergency response to this disease is needed.

For further information on African Swine Fever, please visit the CFIA's website at www.inspection.gc.ca/asf





African swine fever (ASF) is one of the most severe viral diseases of pigs. It affects pigs of all ages but cannot infect humans. No cure or vaccine exists for this virus.

Although no cases of African swine fever have been reported in Canada, prudent action and quick detection will mitigate the spread and benefit the entire industry if the virus was to be introduced in Canada.

IF YOU SUSPECT YOUR HERD IS SICK

- **Contact your herd veterinarian immediately** if you see any clinical signs in pigs on your farm that could be associated with an ASF infection.
- **Stop all pig movements.** Never move, sell or send to livestock auctions/yards sick or compromised pigs from your farm. This will prevent further spread of infections.
- **Implement a self-quarantine** on all animals, feed and equipment until you know the cause of the illness.

SIGNS OF AFRICAN SWINE FEVER IN PIGS

- High fever ($>40^{\circ}\text{C}$)
- Weakness and difficulty standing
- Vomiting
- Diarrhea (may be bloody)
- Red or blue blotches on the skin (particularly around ears, snout and hindquarters)
- Coughing or labored breathing
- In sow barns: miscarriage, abortions, stillbirths, and weak litters can occur
- High proportions of the animals with the disease will die within 10 days.

April 2019



More information about African swine fever can be found at www.cpc-ccp.com/african-swine-fever



The AHC is Ready to Receive Equine Infectious Anemia (EIA) Submissions Electronically Through GlobalVetLINK (GVL) by Roberta Yemen

The Canadian Food Inspection Agency (CFIA) has approved an electronic Equine Infectious Anemia (EIA) certification system for sample submission information and result reporting for veterinarians that choose to use it. Global VetLINK (GVL) is the CFIA-approved electronic certification system. The Animal Health Centre is now ready to receive EIA submissions electronically through GVL. GVL has provided the following information with links to the GVL site to illustrate the benefits of digital EIA submissions for veterinarians and their clients.

Peace of mind software for Veterinarians

GVL provides animal health practitioners with unique, web-based software solutions that simplify processes and communication. The GVL platform enables users to quickly and accurately create Equine Infectious Anemia (EIA) tests and provide clients with online access to final certificates through a MyVetLink account.

GVL Referral Program

GVL has partnered with the Animal Health Centre to offer a special promotion for starting your EIA testing with GVL. Visit this link, <https://www.globalvetlink.com/lab-referral/> to sign up and receive 3 months free subscription. If you have any questions about getting started with GVL, contact GlobalVetLINK Territory Manager, Tyler Eagan at 515-817-5078 or teagan@globalvetlink.com

Please note that either the EIA electronic submissions or the standard CFIA 3937 forms are accepted for EIA submissions. If you have any questions for us, please call the Serology Lab directly at 604-556-3135.

Secondary Barbiturate Toxicity in Bald Eagles and a Red-Tailed Hawk Dr. Tony Redford

Secondary toxicity is a relatively common occurrence in free-ranging carnivores and scavengers, particularly in raptors. Secondary toxicity had been documented in a variety of wildlife in BC, including barbiturate toxicity in eagles (Hayes, 1988). In early 2019, seven bald eagles and a red-tailed hawk were submitted to the BC Ministry of Agriculture's Animal Health Centre in Abbotsford, after all being found dead within a small geographic area. They were suspected to have had access to a domestic sheep that had been recently euthanized.

On gross examination of the carcasses, all birds were in excellent body condition. There were no obvious signs of disease or trauma, and all birds had distension of the crop and stomach, which were filled with abundant material consistent with sheep muscle, bone and soft tissue. There were no significant findings on microscopic examination of the tissues. Samples of liver and stomach contents were sent to an external laboratory for toxicological testing; Gas Chromatography Mass Spectrometry revealed traces of pentobarbital in all submitted samples. Pentobarbital is a barbiturate that is commonly used as an animal euthanasia agent.

This case highlights some of the typical findings in cases of secondary toxicity in wildlife. A large number of animals that die in a small location and multiple species affected in one

incident are highly suspicious of a toxicity. In addition, animals dead from toxicity are often in good body condition and have abundant feed in the digestive tract, presumably with the feed material that contains the toxin.

It is unclear whether the sheep carcass was left out intentionally or not in this case, but the outcome still emphasizes some key points in prevention of secondary toxicity. When euthanizing any animal, the carcass should be disposed of appropriately and promptly, as it can be a source of toxicity for a wide range of species, often even after the carcass had been in the environment for an extended period of time and undergone decomposition. Veterinarians disposing of animals euthanized in the clinic should also inform landfills of disposal to allow for immediate covering of the carcasses with waste material. In addition, carcasses known to be laced with toxins should not be intentionally left out for pest animals (e.g., coyotes, raccoons, etc.) to consume, as other animals also have access and the main species affected are often not the target species.

References

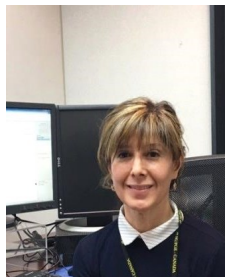
Hayes, B. British Columbia: Deaths caused by barbiturate poisoning in bald eagles and other wildlife. *Canadian Veterinary Journal* 1988; 29(2): 173-174.

Quality Assurance at the AHC

The Animal Health Centre (AHC) has the mandate to provide full diagnostic, monitoring, investigative, surveillance and regulatory services for livestock, poultry, finfish and agricultural production industries of British Columbia. The AHC is a full veterinary diagnostic laboratory accredited by three accreditation bodies: the American Association of Veterinary Laboratory Diagnosticians (AAVLD), the Standard Council of Canada (SCC) and the Canadian Food Inspection Agency (CFIA). The AHC operates under a Quality Management System to ensure the continued technical competence and compliance with these accreditation standards including the implementation and monitoring of document control, record keeping/traceability, as well as documentation of all equipment, test methods and procedures used in the AHC.

The Quality Management System is led by the Quality Manager, who oversees and manages all aspects of quality assurance and quality control within the AHC. This includes activities related to validation and document control of diagnostic testing; developing and evaluating the quality system to meet accreditation requirements and conducting internal audits, management reviews and preparing for external audits. The Quality Management System also employs a Quality Officer, who assists the Quality Manager in all tasks relating to maintaining our accreditation certifications.

Together, the Quality Manager and Quality Officer work to improve the Quality Management System to ensure the satisfaction of our customers, and to ensure that the results issued by the AHC are delivered with the highest amount of data integrity. Recently, the AHC hired the following staff as Quality Manager and Quality Officer for its Quality Management Section.



Liliana Camargo (Quality Manager)

Liliana brings a vast amount of experience to the AHC; she has worked in a Microbiology lab, conducted research with nutraceuticals and worked in the Floral industry with Safeway Canada as Quality Control Field Inspector for 10 years.

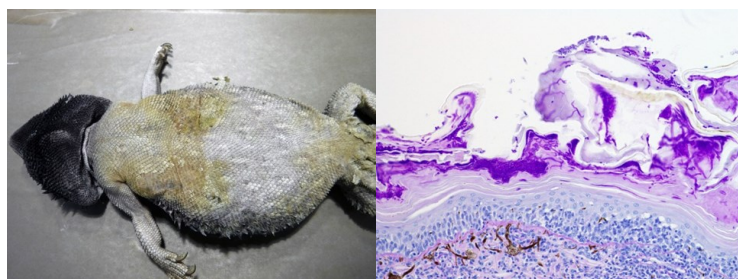
Angelica Tuck (Quality Officer)

Angelica comes to the AHC as a former chemist working in the quality laboratories of Maple Leaf Consumer Foods and Johnson & Johnson.



An Emerging Fungal Dermatitis in an Adult Female Bearded Dragon by Dr. Stephen Raverty

An adult female bearded dragon was presented to the Animal Health Center with a history of recent seizure from a collection with multiple malnourished animals. The animal was in poor nutritional condition and featured generalized yellow discoloration of the ventrum with multiple 1.0 to 1.5 cm diameter plaques along the mid-torso and inguinal regions. A clinical diagnosis of *Chrysosporium anamorpho* of *Nannizziaopsis vriesii* (CANV) was made and due to the poor response to supportive care, the animal was humanely euthanized. Malnutrition, dehydration, generalized yellow discoloration of the skin and numerous raised plaques of the ventral skin were the most significant gross findings and histopathology confirmed mycotic dermatitis. Routine microbiology recovered light mixed bacterial growth was isolated from the skin, small intestine and lungs and special culture yielded *Salmonella* Il:16:m,- from the intestines. The lack of associated inflammatory infiltrate within the bowel suggested an asymptomatic carrier. Special culture of the skin lesions isolated a few *Penicillium* spp and *Nannizziaopsis* sp by 18sDNA sequencing. This isolate appears to be the first recovered from case material presented to the lab and should be suspected in bearded dragons that present with focal to extensive thickening of the skin or gingiva. Successful treatments include debridement and administration of itraconazole.



Gross image of bearded dragon torso with irregular plaques throughout the ventral coelomic cavity and histopathology of the mycotic dermatitis.

Grey Whale Unusual Mortality Event Along the Western Seaboard of North America by Dr. Stephen Raverty, Paul Cottrell and Taylor Lehnhart

Since January 1, 2019, there has been a significant increase in grey whale strandings along the western seaboard of Mexico, the United States and Canada. Over the last 2 decades, annual stranding rates throughout the eastern grey whale population range between January and May have averaged 15 per year, however, currently in 2019, there have been 154 mortalities recorded between Mexico and Alaska.

Over the last decade, British Columbia has averaged 2 grey whale mortalities per year. As of June 1, 2019, 6 dead grey whales have been recovered along the BC coast in 2019. All 6 animals have been sampled with full necropsies conducted on 4 animals. Pathology and other results pending. It is important to note that only 5-10 percent of large whale carcasses are typically recovered and available for post mortem examination and tissue sampling and losses may be more significantly greater.

Grey whales have a seasonal distribution, foraging in the Arctic during the summer months and migrating to calving grounds in Mexico through the winter. Grey whales are considered to have the longest migration of any mammalian species. During the southern migration and even after calving, these animals tend not to actively forage, relying on nutritional stores to sustain them through birth, calving and the return migration north. In those years with low ice cover in the Bering and Chuckchi Seas, primary productivity is diminished with profound impacts on calving rates and mortality events. In 2017, there was an accelerated rate of ice retreat and loss. The Eastern Pacific grey whale population in Canada is listed as a species of concern under the *Species at Risk Act* (SARA). It should be noted that the Eastern Pacific grey whale population was re-examined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in November 2017 and has been assessed as two designatable units (DUs): the Pacific Coast Feeding population (endangered), and the Northern Pacific Migratory population (not at risk). These DUs are currently under consideration for listing under SARA. The Pacific Coast Feeding aggregation is a small proportion of the Eastern Pacific grey whale population which does not undertake the full migration to Arctic feeding areas, and instead spend the summer feeding in temperate waters between northern California and southeastern Alaska.



Photo courtesy of the Department of Fisheries and Oceans. Image from Sidney, BC with the first grey whale stranding in BC for 2019



Photo courtesy of the Department of Fisheries and Oceans. Image from Haida Gwaii

Between 1999 and 2000, there was a significant stranding event along the west coast with 650 grey whale mortalities. As with the current event, many of these animals present with profound emaciation and heavy ectoparasite burdens (cyamids) suggestive of generalized debility and possible immunosuppression. In California and Washington State, animals appear to have veered off traditional migratory routes in San Francisco Bay and the Salish Sea potentially seeking food sources, with a proportion of individuals presenting with ship strike and occasional entanglement with fishing gear.

In May 2019, an adult female and calf grey whale were observed in shallow waters of Crescent Beach and through efforts of the Department of Fisheries and Oceans, live strandings were averted and the animals directed back into deeper waters. In those cases of loss of body condition, buoyancy may be impacted and hamper efforts by the animals to refloat or release from the substrate.

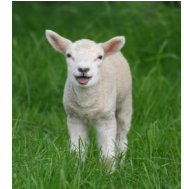
As a consequence of the recent increase in grey whale mortality along the coast and an Unusual Mortality Event has been declared by the United States Government in consultation with marine mammal experts. This declaration affords resources, funding and expertise to facilitate tracking, reporting, response, and data analysis of stranding events. Research scientists and veterinarians in Mexico, the United States, Russia and Canada will be collaborating to better define what may have contributed to and the potential impacts of these losses to the status of eastern Pacific grey whale stocks. Should strandings be observed along the BC coast, please contact the Marine Mammal Response Program at 1-800-465-4336 or visit <http://www.dfo-mpo.gc.ca/species-especes/mammals-mammiferes/program-programme/index-eng.html>

Calendar of Events

“KEEPING YOUR SHEEP AND GOAT FLOCKS HEALTHY”

Sessions will focus on basic nutrition, biosecurity, and disease and parasite management related to small flock sheep and goat production. Planned locations: Gibsons (June 8), Coombs (June 22), and Haida Gwaii (August).

For workshop details, please contact Dr. Glenna McGregor at Glenna.McGregor@gov.bc.ca



“SMALL FLOCK POULTRY HEALTH WORKSHOPS”

The Ministry of Agriculture’s poultry specialists will respond to local requests for a 1-day Small Flock Poultry Health Workshop, provided free of charge due to CAP funding. Sessions will focus on health, disease prevention and biosecurity in small lot laying hen production. If you are interested in being a local organizer for one of these workshops in your area, please contact Dr. Victoria Bowes at Victoria.Bowes@gov.bc.ca or Dr. Tony Redford at Tony.Redford@gov.bc.ca for further information.



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<http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/animal-health/animal-health-centre/newsletter>

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