

Animal Health Monitor

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- ⇒ Starvation of Farm Animals in the Midst of Plenty
- ⇒ Highlights of the 14th Annual BC Zoonoses Symposium
- ⇒ 2015 SE Outbreak in Small Flocks
- ⇒ NEW—Calendar of Events

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New Fee Schedule at the Animal Health Centre

The BC Ministry of Agriculture's Animal Health Centre (AHC) in Abbotsford moved to a new fee schedule on February 1, 2016.

	Production Animals	All Other Animals
Routine post mortem examination	\$140.00	\$250.00
Complete fetus examination	\$80.00	\$250.00
Neurological and/or spinal cord examination (added to routine fee)		\$100.00
Commercial poultry (from flocks of poultry with 100 birds or less)		
1 st submission (per client on an annual basis)	\$25.00	
Subsequent submissions	\$140.00	
Age: Histopathology, Bacteriology, Molecular Diagnostics and Virology		\$110.00

Two priorities formed the basis for the changes coming in: the first is value to our clients and support the production of livestock and poultry in the province; and the second is balancing the tax payers of British Columbia's level of subsidy for our services.

The AHC introduced the previous fee schedule in 1999. Since then, the majority of laboratory expenses have increased requiring an adjustment in the fee schedule. The AHC will continue to spend carefully, using technology and products that offer the needed quality, while helping keep costs as reasonable as possible.

The full listing of current fees

and services is on our website at: <http://www.gov.bc.ca/animalhealthcentre>.

We have greatly expanded the information on our website with details on all tests offered, correct tissues to send for each test, and shipment information. The AHC is introducing some new services along with the fee change. The AHC now offers the possibility of having remains of companion animals less than 40kg prepared for release and sent directly to a pet crematorium service. If necessary, the pathologist may have to apply some biosafety restrictions to this service. The additional fee for this service will be \$250.00.

Most of the increases are in the range of \$10 to \$20 depending on the service. One fee that will change noticeably is for a routine necropsy on a production animal. This fee will be moving up from \$70.00 to \$140.00 and the fee for a companion animal necropsy will move from \$125.00 to \$250.00

A routine post mortem examination includes necropsy with gross (macroscopic) examination and up to five additional tests (e.g., histopathology,



bacteriology, virology, and molecular diagnostics). Tests will be selected at the discretion of the duty pathologist. Specific test requests may be subject to additional charges. For complete explanation, visit the pathology/necropsy section on our website.

A new ability to "package" testing on samples sent from a post mortem on a production animal done in the field will actually cost less within the new fee schedule. Previously these charges either were the same as a full post mortem or were charged per test. Under the new fee schedule, a package charge lower than the full post mortem fee will provide the submitter with the same full access to diagnostic tests as performed for the full post mortem fee. This fee is only available for production animals and will be \$110.00, as compared to the full post mortem fee of \$140.00.

I am more than happy to discuss any of these changes.

Starvation of Farm Animals in the Midst of Plenty by Dr. Ann Britton

Starvation of farm animals is a not an event that we would expect to encounter in an industrialized nation such as Canada. Unfortunately, it occasionally happens. When we hear about sensational animal starvation cases in the media, it involves all animals on a farm as a result of abuse, neglect, financial distress and/or mental illness. However, there is another less publicized side to farm animal starvation: feeding mismanagement by well-intentioned, responsible owners which leads to the preventable loss of a few vulnerable individuals.

On the surface, feeding farm animals seems entirely straight-forward: you provide the feed and they eat it. But the devil is in the details. First, the nutritional requirements must be worked out for each species of animal taking into account their age, sex, weight, time of year and stage of production. Once the diet is established, it must be fed in a manner which ensures that every single animal receives adequate nutrients at every single feeding. This is where the system so often breaks down. It is not enough to put adequate feed out and walk away. Animals must be monitored to ensure they are getting enough to eat. Monitoring involves watching animals eat to ensure they have adequate access to the nutrients they require and assessing body condition score at regular intervals to ensure they are getting enough. When a problem is found, simple solutions such as separating animals for feeding or supplementing with a higher nutrient density feed may be all that is necessary to avoid a case of starvation.

Problems most often arise when animals of different ages or different species are fed together and no one notices that one or two of the younger, growing animals are not getting enough. They are eating every day yes, but they are not getting enough nutrients. They are eating the lesser quality leftovers of the other animals and/or they are being pushed aside too often to get their fill before all the feed is gone. As a result, the more dominant animals are eating too much. Problems are also often encountered when pasture is relied upon for nutrients too late in the season and not enough supplemental feed is fed.

When an animal does not meet its energy and/or protein requirements day after day, it will start to use its reserves to meet its daily metabolic requirements. Owners don't notice any change in behavior because these animals are still eating. Many farm animals have hair/wool coats which are heavy in the fall/winter which can easily mask weight loss. However, owners can readily see that some are getting fat and it appears that all is well. So it comes as a complete surprise when an animal is found dead with no apparent warning. This most commonly occurs in the late fall or early winter during a cold snap, when the additional challenge of generating additional body heat quickly consumes the last available fat stores. Regular palpation of heavy coated or wooled animals to assess body condition score will identify those that are too thin early, when intervention will be most successful.

Good information on nutrition and feeding management is readily available on the internet. Websites maintained

by university extension groups and government agricultural or livestock producer agencies are excellent sources of information for owners.

As an example, I encourage owners to have a look at the information on diet and feeding management, including body condition scoring, at the following website:

<http://extension.oregonstate.edu/sorec/sites/default/files/GoatNutrition0107.pdf>

Other excellent websites include:

<http://www.ag.auburn.edu/~chibale/an16sheepfeeding.pdf>

http://hccmpw.org.uk/medialibrary/publications/Practical%20sheep%20nutrition_1.pdf

The National Farm Animal Care Council (NFACC) is the national lead for farm animal care and welfare in Canada. Bringing together farmers, government bodies, animal welfare organizations and animal scientists, the NFACC has drawn up comprehensive codes of practice for producer groups. The codes are easy to follow and cover all aspects of animal husbandry for most domestic species, including feeding management. The codes of practice can be found at the following website:

<http://www.nfacc.ca/codes-of-practice>

Armed with good dietary and feeding management skills, owners can ensure that every animal meets its full potential. The Animal Health Centre is here to assist livestock owners in producing and maintaining optimal health for their animals.

Anthrax Testing at the Animal Health Centre by Erin Zabek, Section Head—Microbiology

The Bacteriology Laboratory at the Animal Health Centre is now able to offer rapid field and lab-based testing for Anthrax using the U.S. Navy rapid test kit. Anthrax, caused by *Bacillus anthracis*, is typically a disease of ruminants and humans, however, all mammals and some avian species are susceptible. Animals usually acquire the bacterium through ingestion of contaminated materials such as feed, grass and water, but may also become infected through inhalation or cutaneous infection. Although Anthrax does occur in animals in Canada, it is not endemic in British Columbia. For any animal that dies suddenly and unexpectedly and there is a suspicion of Anthrax, do not open the carcass, cover the carcass with a tarp to prevent predation and contact your veterinarian immediately.

To obtain a U.S. Navy test kit to screen for Anthrax, please contact the Animal Health Centre and speak to one of our pathologists. As the kits are in very short supply, they must be used judiciously in the following situations:

- Where Anthrax is the primary differential diagnosis: sudden death of a ruminant on pasture, with non-clotting blood, lack of rigor, rapid bloating, AND;
- Animal has been dead no longer than 36-48 hours (false negative will occur after this time period).

Testing may be performed by sending an appropriate specimen to the Animal Health Centre or a test kit may be dispatched to your location for carcass side testing.

The following samples are suitable for testing:

Whole blood – taken from the jugular or tail vein using needle and syringe and placed in a sterile vial. This is the first choice and best sample to submit to the laboratory or for carcass side testing.

Blood soaked swab – taken carefully through a small incision into the jugular. Ensure the opening is covered afterwards to prevent leakage.

Swabs taken from blood-tinged fluids – exuding from anus, vulva, nostrils or mouth.

Swab soaked with fluid from the spleen – if the animal has been eaten by predators or if a necropsy was already performed. This specimen type should only be considered as a last resort.

Samples received in the Animal Health Centre are considered priority and will be tested immediately. If performing a carcass side test, please note that all the components for the test and instructions are included in the kit, and the test will take approximately 20 minutes to complete. All components of the test kit must be returned to the Animal Health Centre upon completion of the carcass side testing.

For further information on the U.S. Navy Anthrax test, please contact the Animal Health Centre.

18th Annual Pacific Agriculture Show, Abbotsford Tradex—January 28-30, 2016

The 3-day event was attended by over 9,100 visitors and there was a record turnout of 300 exhibitor booths.

The Ministry of Agriculture booth was represented by staff from the following branches:

- ⇒ Plant and Animal Health
- ⇒ Sector Development
- ⇒ Food Safety and Inspection
- ⇒ Innovation and Adaptation Services
- ⇒ Corporate Governance, Policy and Legislation



2015 SE Outbreak in Small Flocks by Dr. Brian Radke

Beginning in April 2015, human cases of Salmonella Enteritidis, associated with small flocks in Western Canada that received chicks and poults from an Alberta hatchery, were identified. The human cases were associated with poultry contact, not the consumption of poultry products. The BC Ministry of Agriculture participated in a collaborative and co-ordinated outbreak response that included public health and agricultural agencies from the affected provincial and federal governments. Specifically, the Ministry of Agriculture offered free environmental testing to BC's small flock owners who received poultry from the Alberta hatchery during the risk period of March 1 to May 15.

Sixty-one laboratory confirmed human cases were associated with the outbreak including 19 British Columbians. Nine human cases required hospitalization and no deaths were associated with the outbreak. The Animal Health Centre mailed 664 test kits for small flock environmental testing. Of those, 491 were returned for testing. Approximately 40% of the kits were positive for Salmonella Enteritidis, 55% were Salmonella species negative, and about 5% were positive for Salmonella species other than Enteritidis. The province of Alberta also conducted substantial small flock testing and generated results very similar to BC. Preliminary whole genome sequencing suggests the vast majority of Salmonella Enteritidis positive small flocks had the outbreak strain.

The BC Ministry of Agriculture has project work planned to better understand the distribution of Salmonella Enteritidis in our small flocks. The Ministry was taxed in responding to this number of small flock owners. The Ministry appreciates the assistance of private veterinary practitioners in responding to this outbreak and helping to protect the health of British Columbians and their animals.

14th BC Zoonoses Symposium by Dr. Brian Radke

The 14th BC Zoonoses Symposium was held November 10, 2015 in Langley, BC. This collaborative, interdisciplinary symposium provides an opportunity for professionals from across BC to gather, network and learn about disease issues affecting animals and humans. The symposium is a partnership of the BC Ministry of Agriculture and the BC Centre for Disease Control. The BCCDC Foundation for Population and Public Health was a gracious sponsor of the 14th symposium.

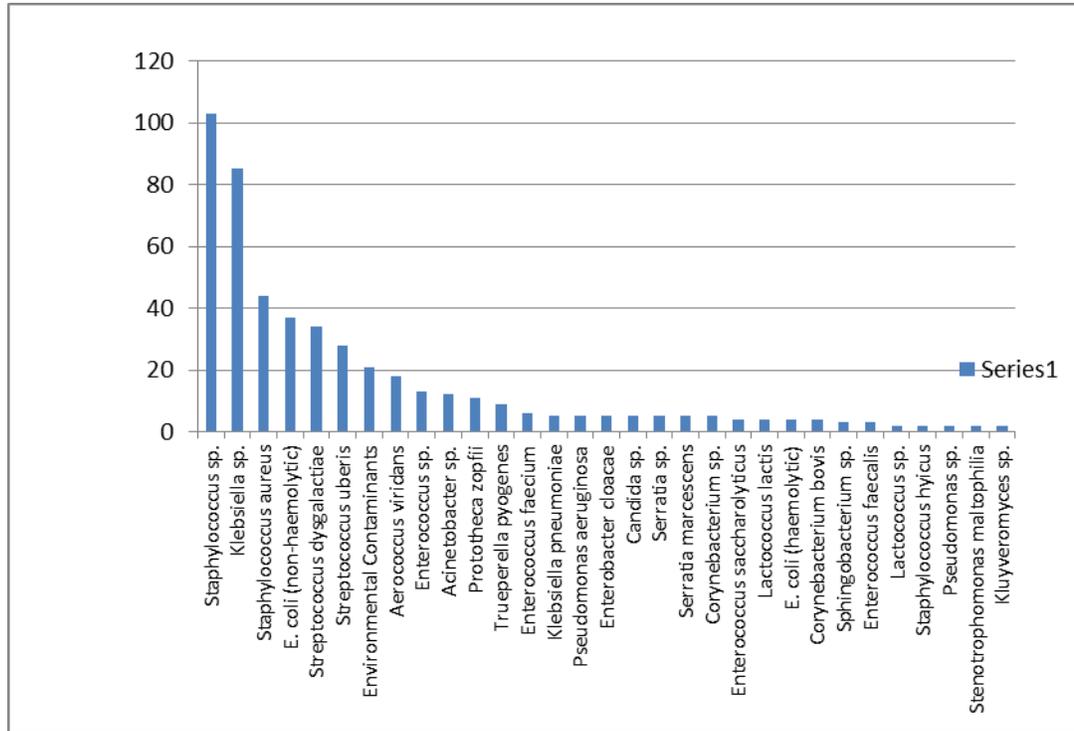
The symposia consist of short presentations on a wide variety of One Health Topics. The 14th symposium included information on BC's reportable animal zoonoses program (including rabies and avian influenza). Case presentations included blastomycosis in a dog and a panda, as well as a Vancouver Island dog with anaplasmosis. A zoonotic outbreak case study was well-received as a way to stay awake following the free lunch.

For the first time, a webinar option was offered for those unable to attend in person. The webinar was well received and reached its maximum of sixty participants. These participants were in BC, other provinces and at least one US state. One hundred people attended in person, maintaining the symposia's history of strong attendance. 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, including webinar attendance. Historically, the symposia have been held in November in the Lower Mainland. Given the success of this year's webinar, this option will likely be offered for the 15th Symposium in 2016. Details of the 15th BC Zoonoses Symposium will be included in a future edition of the Animal Health Monitor.

The agenda and webinar broadcasts of the presentations from the 14th Symposium are available at <http://www.bccdc.ca/health-professionals/education-development/zoonotic-symposiums>. (Agendas and presentations from previous symposia are also available at that website.)

Milk Culture Results by Dr. Jane Pritchard

January 1-December 31, 2015 – Results of milk cultures sorted by frequency of isolation.



* The following isolates were single occurrences during the period of January 1-December 31, 2015, and not included in the chart above: *Aeromonas* sp., *Aquaspirillum* sp., *Arcanobacterium* sp., *Brevundimonas* sp., *Candida albicans*, *Citrobacter freundii*, *Citrobacter* sp., *Empedobacter brevis*, *Helcococcus ovis*, *Klebsiella oxytoca*, *Leuconostoc* sp., *Lysinibacillus* sp., *Mannheimia varigena*, *Pasteurella multocida*, *Proteus* sp., *Raoultella terrigena*, *Rheinheimera* sp., *Rothia* sp., *Serratia liquefaciens*, *Streptococcus bovis*, *Streptococcus equinus*, and *Streptococcus* sp.

Between January 1 and December 31, 2015, 721 milk samples (209 submissions) were received for culture and sensitivity at the Plant and Animal Health Centre. Out of the 721 samples submitted, no bacteria was isolated in 276 samples.

Resistance by Isolate	amp	kf	ob	e	xnl	p10	pyr	sxt	tet	# of isolates tested
Staphylococcus sp.	13%	0%	8%	6%	2%	14%	15%	1%	4%	103
Klebsiella sp.	67%	14%	68%	68%	6%	68%	68%	2%	11%	85
Staphylococcus aureus	5%	0%	0%	7%	0%	5%	5%	0%	0%	44
E. coli (non-haemolytic)	70%	59%	84%	84%	8%	84%	84%	11%	38%	37
Streptococcus dysgalactiae	0%	0%	0%	3%	0%	0%	18%	12%	41%	34

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

Who are the Frontline Staff at the Animal Health Centre?



From left to right: Nonie Green, Barbara Brown, and Murdena Basok

Aside from the pathologists and laboratory staff, the Animal Health Centre (AHC) also employs a wonderful team of front line administrative staff. You may have seen their smiling faces when you have dropped off samples, or you may have spoken to them on the phone when inquiring about a case report or an invoice you received.

Murdena Basok, Office Manager and Accounts Payable; **Barbara Brown**, Case Reporting; **Melanie Morrison** and **Nonie Green**, Case Accessioning; and **Shawnee Landsiedel**, Accounts Receivable are the names to the faces and voices you may know or will meet. Combined, they have 97 years of experience in serving clients of the AHC! Working with the same clients for so many years and establishing an excellent rapport with them, one team member remarks “they almost seem like family”.

The team is the first point of contact for our clients at reception and on the phone. They enter volumes of data from submission forms every day into our laboratory information management system, report finalized laboratory results, invoice clients, process payments and pay our bills. This may not seem very exciting to some, but not one day is the same as the next. On any given day, we could expect anything from spotted frogs to bison. It’s often remarked that we received all of “Old MacDonald’s Farm” today.

Working closely with each other and covering off during breaks and vacation, as the phones continue to ring and samples continue to be dropped off, this team is able to accomplish so much by working together as one cohesive unit. Thanks for all your hard work!

Initial H1N1 Influenza A Virus Detection and Subsequent Identification of H3N2 in a BC Pig Farm by Drs. Stephen Raverty, Glenna McGregor, Tomy Joseph, Chris Byra

In mid-December 2015, 3-4 month old pigs developed coughing, lethargy and sustained initial acute losses of up to 2-3 pigs a day. Within 7-10 days of the initial onset of clinical disease, mortalities spiked to 8 animals daily. Four separate submissions were presented over a 1 week interval to the AHC for diagnostic evaluation. Gross findings were consistent in virtually all examined animals with cranioventral lung lobe consolidation, generalized reactive change within lymph nodes, occasional pleural adhesions, pericardial effusion and fibrinous peritonitis. Microscopic review of the tissues disclosed acute to chronic bronchopneumonia, lymphocytic interstitial nephritis, septicemia and an incidental finding of splenic torsion. Bacterial isolates included *Streptococcus suis* II, *Actinobacillus suis*, *Pasteurella multocida*, *Streptococcus porcinus* and *Escherichia coli*. No *Salmonella* spp or *Haemophilus parasuis* were recovered by selective media. Based on clinical assessment and gross pathology, molecular studies (polymerase chain reaction – PCR) were pursued and the

index case tested weak positive by influenza virus-consensus matrix PCR, but could not be subtyped further for H1N1 and H3N2 swine influenza virus. The animals were positive for porcine Circovirus II and *Mycoplasma hyopneumoniae* and negative for porcine reproductive and respiratory syndrome virus (PRRSV). Follow up submission of pigs 3 days later confirmed the presence of swine influenza A(H1N1)pdm09 virus and molecular screening of case material a week later detected swine influenza H3N2 virus. Although the cause of increased mortalities was considered multifactorial, detection of *S suis* II and swine influenza virus was significant. Swine influenza A virus is endemic in many intensive pig production facilities in the US and Canada with only sporadic detection of clinical disease and mortality in British Columbia. As these viruses pose a threat not only to production animals, but human public health, diligent biosecurity and biocontaminant with appropriate vaccination strategies to prevent intercurrent disease, should always be considered.



- ◆ ***BC Dairy Producers' Meeting with Round Table Discussion to Follow***
 Dr. Michael Grigg from the National Institute of Allergy and Infectious Diseases in Bethesda, Maryland will be presenting a talk on:
 "Abortion Storm....Is your Herd Next? Understanding Protozoal Abortion in BC Dairy Cows"
 Thursday, March 3, 2016–7:00 p.m.
 Best Western Rainbow Country Inn
 43971 Industrial Way, Chilliwack BC
 Refreshments and appies will be served
 Expected Attendance: 30-50
 Audience: Central and Upper Fraser Valley Dairy Producers, Vets and Industry Reps

- ◆ ***"Ask a Poultry Vet"–Vernon***
 Friday, March 4, 2016–6:00pm-8:00pm
 Fairfield Inn & Suites Marriott
 Informal meeting for local veterinarians

- ◆ ***"Keeping Your Flock Healthy Workshop"–Vernon***
 Saturday, March 5, 2016–8:30am-4:30pm
 Prestige Hotel & Conference Centre, O'Keefe/Ellison Salon
 Session will focus on health, disease, and biosecurity related to small lot poultry production

- ◆ ***"Keeping Your Flock Healthy Workshop"–Saanichton***
 Saturday, March 19, 2016–8:30am-4:30pm
 Saanich Fairgrounds, Poplar Room
 Session will focus on health, disease, and biosecurity related to small lot poultry production



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

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

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