Editorial

Without a doubt the past year has offered the Alberta livestock industry some very significant challenges. The importance and impact of animal health issues has never had a higher profile and Dr. Gerald Ollis, the Chief Provincial Veterinarian for Alberta, found himself at the forefront on many occasions.

The Alberta Veterinary Medical Association has recognized Gerald’s efforts on behalf of the livestock industry and the veterinary profession and he has been named the “Veterinarian of the Year” for 2003. This honor was awarded at the association’s Recognition Banquet in January 2004.

Please join us in extending our congratulations to Dr. Gerald Ollis.

Surveillance/Research Update

Alberta’s Transmissible Spongiform Encephalopathy (TSE) Rapid Test Laboratory – Detection of Prion Protein using the Bio-Rad TeSeE® ELISA

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Background

Since the initiation of Alberta’s chronic wasting disease (CWD) surveillance program in 1996, two game-farmed cervids, a ranched elk at slaughter and a white-tailed deer that died on the farm have been diagnosed with CWD. Both animals were diagnosed in 2002. The detection of scrapie in
an Alberta sheep, in the spring of 2003, was followed by the
diagnosis of Canada’s first indigenous case of bovine
spongiform encephalopathy (BSE) in an Alberta cow, in May
2003. The presumptive TSE positive diagnoses were made by
Alberta Agriculture’s Food Safety Division (FSD), using
prion-specific immunohistochemistry (IHC) staining.

In anticipation of increased BSE testing requirements in
Alberta and Canada following the positive BSE diagnosis,
and in order to reduce the turn-around-time of reporting
TSE test results, the FSD developed an enhanced
bio-containment level 2 TSE laboratory and selected the
Bio-Rad TeSeE® enzyme-linked immunosorbent assay
(ELISA) as the diagnostic test for rapid TSE screening.
Development of the TSE rapid test laboratory, located in
the O.S. Longman Laboratory, Edmonton, commenced in
May 2003 and was completed by December 2003. The
laboratory was audited and certified by the Canadian Food

The Bio-Rad TeSeE® ELISA was chosen for several reasons.
It has been validated and approved by the European Union
(EU) for the diagnosis of BSE and is currently used in the
United Kingdom (UK) and several European countries, as
well as Japan, as the diagnostic test for high-throughput BSE
screening programs. The BSE test results generated by
countries that use the Bio-Rad TeSeE® ELISA should thus
be readily accepted internationally by trading partners. In
addition, the United States Department of Agriculture has
validated and licensed the Bio-Rad TeSeE® ELISA for
diagnosing CWD in deer and elk and it has recently been
evaluated in the United Kingdom for diagnosing scrapie in
sheep. The Bio-Rad TeSeE® ELISA thus has the potential to
be used as the diagnostic test for BSE, CWD and scrapie
surveillance. It has demonstrated high sensitivity, specificity
and reliability for diagnosing TSEs and is readily automated
using robotic work stations, thus allowing it to be used for
low, medium or high-throughput testing. The cost of the test
itself is reasonable ($19.00 for test materials only) and the
time from sample preparation in the laboratory to when
results are ready is about 7.5 hours. In house and Bio-Rad
bar code recognition systems allow traceability of all samples
throughout the testing procedure.

Bio-Rad Training
Bio-Rad provides an intensive TeSeE® ELISA training
program for technical and scientific personnel at their
laboratory in Marnes, France, in order to quality assure the
reliability of the TeSeE® ELISA for diagnosing TSEs.
However, equivalent training was provided for Agri-Food
Laboratories Branch (AFLB) technical and scientific staff by
Bio-Rad scientists and engineers at the CFIA National BSE
and National CWD/Scrapie Reference Laboratories, as well
as on-site during the set up of the TSE rapid test laboratory
in Edmonton.

Evaluation of the Bio-Rad TeSeE® ELISA for Diagnosing
TSEs in Alberta
In order to satisfy CFIA quality assurance requirements and
ISO 17025 accreditation requirements when laboratories
plan to adopt a new diagnostic test, the FSD collaborated
with the CFIA CWD/Scrapie Reference Laboratory and the
Veterinary Diagnostic Laboratory at the University of
Colorado in conducting inter-laboratory analytical and field
studies to evaluate the sensitivity, specificity and reliability of
the Bio-Rad TeSeE® ELISA for diagnosing CWD in elk and
deer. The results of the evaluation studies were excellent.
Similar inter-laboratory field evaluation studies for
diagnosing BSE in cattle (FSD & CFIA BSE Reference
Laboratory) and scrapie in sheep (FSD & CFIA CWD/
Scrapie Reference Laboratory), using the Bio-Rad TeSeE®
ELISA, are in progress and will be completed in early 2004.
Manuscripts of the evaluation studies will be submitted for
publication in a peer-reviewed scientific journal in 2004.

Commencement of TSE Rapid Testing by Alberta
Agriculture, Food and Rural Development
Three additional laboratory technicians were hired in
January 2004 to staff the TSE rapid test laboratory and were
trained by the laboratory scientists of the Immunology/
Virology Work Unit, AFLB. Testing surveillance cervids for
CWD, using the Bio-Rad TeSeE® ELISA, began on
February 5, 2004. During the last 2 weeks of February,
800 cervid samples were screened for CWD. There have
been no ELISA positive reactors to date. Testing surveillance
cattle for BSE, using the Bio-Rad TeSeE® ELISA, began on
March 5, 2004.

Edmonton’s TSE rapid test laboratory is the first provincial
laboratory to be certified by the CFIA to use the Bio-Rad
TeSeE® ELISA as a diagnostic screening test for CWD and
BSE surveillance. The Bio-Rad TeSeE® ELISA is currently
the only rapid test approved by the CFIA for screening both
cervids for CWD and cattle for BSE. The Edmonton
laboratory currently has the highest testing capacity of any
TSE laboratory in Canada.

TSE Rapid Testing Capacity
Using the Bio-Rad TeSeE® ELISA, with automation, the
Edmonton TSE rapid test laboratory has a current capacity
of approximately 50,000 to 75,000 tests per year. With the
current laboratory staff, enhancements to the database and
further automation of the test procedure and specimen bar
code system will allow a higher testing capacity, if required.

Turn-Around-Time for Test Results
Based on a 7.5 hour testing time, and the time required for
thawing frozen samples, sampling, shipping samples from
FSD regional laboratories to the Edmonton laboratory and
reporting, the turn-around time for the rapid test results is estimated to be 5 working days, from the time the specimen arrives at the laboratory until test results are reported.

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Rapid pen-level surveillance of *E. coli* O157:H7 in finished feedlot cattle

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Background

*E. coli* O157:H7 and other food-borne pathogens are serious public health concerns and significant issues for the beef industry and cattle producers. Although Canadian beef is among the safest in the world, there are currently no verified control points or good management practices aimed at reducing *E. coli* O157:H7 or other bacterial contaminants in live cattle. However, several promising strategies for pre-harvest control of *E. coli* O157:H7 are currently being evaluated for use in North American feedlots.

Study Objectives

Using *E. coli* O157:H7 as a target organism, our goal is to provide the beef industry with a practical and valid method for identifying cattle which pose the greatest risk to food safety so that the risk can be managed and/or controlled. To be successful this approach requires that:

- the method is rapid, practical, and thereby applicable for commercial feedlots;
- the diagnostic testing scheme has an acceptable and quantifiable level of accuracy;
- the pens identified as ‘high prevalence’ pre-slaughter truly represent food safety risk;
- and ultimately, that mitigation/intervention strategies can control or reduce the impact of ‘high prevalence’ pens.

Materials/Methods

We are evaluating a pen-level test called ROPEs (Rapid On-Premise Evaluation devices) to identify *E. coli* O157:H7 in feedlot pens. In pre-slaughter pens of commercial feedlots, we placed seven ROPEs (manilla 30 inch lengths of rope; see Figure 1) on “fences” (over feed bunks and water tanks) at least one hour prior to sundown. The next morning ROPEs and fecal samples were collected from the pens. We also collected information on cattle type, pen conditions, date, weather, recent precipitation, days on feed and diet to assess potential risk factors for *E. coli* O157:H7.

Figure 1. (courtesy of Dr. David Smith, University of Nebraska)

Rapid test methods were performed in addition to traditional culture on ROPEs samples to validate the use of the rapid diagnostic tests. In the future, we will compare ROPEs results to the prevalence of *E. coli* O157:H7 on cattle hides as they enter the abattoir.

Preliminary Results

ROPEs were the preferred method of sampling pens because they are so easy to collect. We have identified and are validating a laboratory method that would assess *E. coli* O157:H7 status within 24 hours of slaughter, but the testing protocol needs to be further simplified for on-farm use. Rapid testing of ROPEs appears to agree well with traditional culture methods that can take five days.

Preliminary field results indicate that *E. coli* O157:H7 was present in all pens and that ROPEs results appear to correspond well with fecal prevalence. Both ROPEs and fecal prevalence were higher in the summer than in the fall. The final analyses will be completed using results from both ‘low’ and ‘high’ prevalence sampling periods.

Implications

Rapid and valid assessment of the *E. coli* O157:H7 status of cattle on-farm has been hindered by diagnostic test limitations. We will provide the beef industry with a valid and practical method for identifying cattle pens which pose the greatest risk to food safety. Industry leaders can make informed decisions as risk managers only when risk can be accurately assessed. The method also can be used to focus pre-harvest intervention strategies, verify effectiveness of interventions, and identify risk factors (potential control points). By including verified strategies for pre-harvest control and managing risk, the industry could further improve the safety of beef and further demonstrate their commitment to providing safe food products to consumers.

Special recognition and acknowledgement to Arlene Otto, Carol Goertz and staff of the Agri-Food Laboratories Branch, Food Safety Division.

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Surveillance of Selected Antimicrobial Residues in Swine Slaughtered in Provincially Inspected Abattoirs in Alberta

Joe Kendall, Food Safety Division, Edmonton AB

A baseline study to determine the prevalence of selected antimicrobial residues in sows, market and BBQ hogs slaughtered in provincially inspected abattoirs was conducted in 2001.

Of 804 kidneys analyzed, 777 (96.6%) had no detectable levels of sulfonamides. Of the 27 with detectable levels, 15 (1.9%) were above the MRL of 0.1 ppm, while 12 (1.5%) were below the MRL. A number of kidneys contained detectable levels of tetracyclines 24 (3.0%) for tetracycline, 44 (5.5%) for oxytetracycline, and 133 (16.5%) for chlortetracycline, however, none (0%) of the tetracyclines were present at levels above their MRL. Four kidneys (0.5%) were suspect positive for beta-lactams based on the CHARM test procedure.

A repetition of this study is scheduled to begin this spring. The study will be expanded to include several macrolide and lincosamide class antibiotics. Collection of kidneys will begin in March and a final report of the data analysis is scheduled for December 2004.

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Disease Impact

Avian Influenza Information

Gerald Ollis, Chief Provincial Veterinarian, Edmonton AB

Avian Influenza (AI) is a highly contagious viral disease that affects many species of birds. The clinical signs vary from subclinical infection to severe illness and death in domestic chickens and turkey populations. Wild birds, especially waterfowl, are the primary reservoirs of the virus, but seldom exhibit signs of illness. Various strains of the virus have recently been reported in ten countries in Southeast Asia, the United States, and Canada.

About the AI Virus

There are 15 subtypes of AI virus, designated H1 through H15. There are also many strains of virus within each subtype. Strains of the virus that cause severe disease and death in domestic poultry are known as Highly Pathogenic Avian Influenza (HPAI). Only H5 and H7 subtypes have ever been shown to be highly pathogenic, however, not all H5 or H7 strains are.

Clinical signs of AI can vary depending on the pathogenicity of the strain involved. Typical signs in poultry may include:

- depression and droopiness, and/or loss of appetite
- a sudden drop in egg production, many of which are soft-shelled
- purplish-blue coloring of wattles and combs, with blisters on the combs
- swelling of the skin under the eyes
- coughing, sneezing and nervous signs
- diarrhea
- a lack of co-ordination and the inability to walk and stand
- a few deaths over several days, followed by an epidemic that kills hundreds or thousands of birds each day

AI virus seldom causes disease in humans, regardless of the pathogenicity of the strain for poultry. However, occasionally, human disease results from contact with diseased birds. In many of these situations, the virus is not spread from one human to another. Public health officials are concerned about AI outbreaks because of the fear of co-infection in humans with a human influenza virus. Co-infections increase the risk of the exchange of genes resulting in the development of a strain of influenza virus that is highly pathogenic for humans and capable of spreading among humans resulting in a Pandemic Influenza outbreak.

International Situation

Since December 2003, HPAI (H5N1) has been responsible for the deaths or destruction of approximately 100 million birds in 10 countries in Southeast Asia. At least 33 humans in Vietnam and Thailand, all of whom were in close contact with sick poultry, infected bird carcasses or bird droppings, have also been infected with the virus. As of March 4, 2004, 22 people had died.

In February 2004, an outbreak of HPAI (H5N2) was detected in Texas. Although highly pathogenic, this strain is less severe than the H5N1 strain affecting Southeast Asia.

Low pathogenic strains of AI (H7 and H2) were also detected in Delaware, New Jersey, Pennsylvania, and British Columbia (H7N3). Birds on all farms have been destroyed and surveillance is ongoing to detect outbreaks in surrounding farms. Low pathogenic AI rarely affects humans, unless they have had intense contact with infected birds. If illness does occur, it is usually very mild.
What Advice Can Veterinarians Give to Producers to Protect Their Flocks?

Commercial poultry flocks are often infected through direct or indirect contact with migratory waterfowl. It is important that producers prevent contact between domestic poultry and wild birds. Discourage the presence of wild birds in dugouts and ponds used as a source of drinking water or very close to barns or pens of domestic poultry. AI virus is not likely to spread via wind. Water in dugouts should be chlorinated, if used as a source of drinking water. Implement a strict biosecurity plan limiting access to poultry houses by people and equipment.

Early detection of AI is the best way to minimize damage to the commercial poultry industry. Producers and veterinarians must be familiar with clinical signs associated with AI in order to recognize the disease quickly. At this time, HPAI is a reportable disease in Canada, but the Canadian Food Inspection Agency (CFIA) is considering changes to reflect moves being planned by the Office International des Epizooties (OIE). If HPAI is detected, the CFIA will implement their control policy, which includes stamping out, implementing quarantines and establishing control zones to limit the spread of disease.

Please see the following web sites for more information about AI:
Avian Influenza Fact Sheet on the Chief Provincial Veterinarian web site:
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex8136?opendocument
Canadian Food Inspection Agency (CFIA):
International AI update on the Chief Provincial Veterinarian web site:
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv8028?opendocument
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Food Safety Division Highlights

Livestock Pathology Consultation Program (LPCP) Supports the Alberta Livestock Industry

The Livestock Pathology Consultation Program, a new program offered to Alberta veterinarians by the Agri-Food Systems Branch, is a service primarily aimed at providing assistance with disease diagnostics. There is no intent to compete with private laboratories or service presently provided by practitioners. The program is accessible only to private practitioners on behalf of clients. All communication with producer clients is the responsibility of the referring veterinarian.

Eligibility of cases to be accepted under the LPCP will be based on established engagement criteria. Though these criteria will evolve with time, service demand and feedback from practitioners, the criteria currently in place include:

- Cases involving a significant herd problem where private practitioners require assistance after they have conducted preliminary investigations; generally when they have performed necropsies and the samples they have submitted to private laboratories have not resolved the problem.
- The definition of a significant herd problem will vary, but would normally include severe or ongoing production loss, instances of sudden or unusually high morbidity or mortality, suspicion of provincially or federally reportable diseases and potential zoonoses.

The intent initially was to provide service on a partial cost recovery basis, but out of respect for a highly stressed agri-food market situation through the early months of 2004 provision was made to defer fees. The cost of all ancillary services contracted through private laboratories in the diagnostic effort will be borne by the referring practitioner with no direct billing to clients by Alberta Agriculture.

The package of services being offered to practitioners includes:

- gross necropsy and histology services,
- telephone consultation varying from simple moral support to coordination of a complete multidisciplinary investigation including, but not necessarily limited to, pathology support,
- assistance in sourcing diagnostic services through private laboratories, and
- continuing education opportunities including seminars, wet labs, and quality assurance postmortem service.

Current staffing means service will be offered predominantly out of Edmonton and Airdrie. With the laboratory in Edmonton presently under major renovation, all carcass work will be done elsewhere until the postmortem room at O. S. Longman Building becomes functional through the summer of 2004.
To access the service, please call:
Dr. Ron Clarke (780) 427-8236
Dr. Jan Bystrom (780) 427-8285
Dr. Al Perry (780) 415-9791

We look forward to working with livestock practitioners and the industry. We also welcome your comments and suggestions.

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**Alberta Veterinary Surveillance Network (AVSN): a fresh look at disease surveillance in food animal agriculture**

*Ron Clarke, Livestock Health for Market Access, Food Safety Division, Edmonton AB*

Participation in world export markets for meat, breeding stock and germ plasm (semen, embryos) is predicated on a country’s capability to provide technically sound information about animal diseases and their prevalence in livestock populations. As signatory to the World Trade Organization and the Office International des Epizooties (OIE), Canada is obliged to uphold technical standards OIE has applied to international trade.

Sophisticated animal health management systems in food animal practice are also reliant on information about the prevalence and dynamics of disease within livestock populations.

The concept of animal health surveillance has existed for years in Alberta, elsewhere in Canada and around the world. The crisis around BSE in 2003 and 2004 underlined the critical importance of sound surveillance systems and the importance of the information they generate as international negotiation tools.

The principle aim of surveillance is creation of useful information about disease that can be disseminated to decision-makers. For practitioners, this often means enhanced knowledge of new and emerging syndromes or a fresh perspective on familiar syndromes that can be applied to health management protocols. Within the context of AAFRD priorities, “disease” includes threats to food safety and market access for livestock and food.

Why countries/provinces/states conduct surveillance:

- **Rapidly detect the occurrence of foreign animal diseases** through a well-trained veterinary infrastructure.
- **Estimate the status and importance of endemic diseases and whether their importance changes over time.** These activities require accurate identification of diseased animals and a valid estimate of animal numbers under surveillance.
- **Assess the effectiveness of disease control programs,** which also requires accurate identification of diseased animals and valid estimation of animal numbers under surveillance.
- **Document freedom from disease** through identification and testing of animals exhibiting disease syndromes consistent with the disease under surveillance combined with a valid estimation of animal numbers potentially involved.

The Food Safety Division of Alberta Agriculture, Food and Rural Development (AAFRD), working with a group of veterinary practitioners, is developing the prototype of an electronic surveillance network designed to collect animal health information at a herd level across Alberta. The Alberta Veterinary Surveillance Network will collect data and disseminate animal health information on an ongoing and timely basis for the mutual benefit of veterinarians, industry and government.

Through Phase 1, AVSN will provide cattle health information specific to the surveillance needs of the provincial industry including rapid detection of emerging and foreign animal diseases. Information gathered through AVSN will also be used to establish freedom of diseases deemed important to international trade. A functional surveillance network of Alberta practices interacting with staff epidemiologists within AAFRD can take selected pieces of individual practice information and collate them into a product of value to veterinarians and their clients. Through AVSN, individual practitioners will have access to epidemiological tools, geospatial information, diagnostic support and communication opportunities with other participating veterinarians and their own clients.

The guiding principle for data collection is collection of sufficient data to meet AAFRD surveillance needs and information needs of veterinarians while minimizing the burden placed on veterinarians. Confidentiality of individual client records is paramount. Data collection and reporting is to be geared specifically to information needs identified by veterinarians and a practitioner-based advisory board.

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Regulatory Services Branch

Cliff Munroe, Regulatory Services Branch, Edmonton AB

The branch head, Cliff Munroe, leads the Regulatory Services Branch (RSB) of the Food Safety Division. The branch consists of three sections: the Branch Veterinarian, Prevention and Investigation Unit and Meat Inspection Services, and also four food safety specialists. RSB strives to achieve the Ministry goal of “continued excellence in food safety.” This goal recognizes that a reputation for excellence in food safety is essential to maintain consumer confidence and expand markets, both domestic and international. RSB activities include routine inspection services, public education, special investigations and enforcement procedures as required.

The four food safety specialists are responsible for the development and implementation of programs for effective food safety systems in provincial abattoirs. These individuals support the implementation of Food Safety Process Control Systems in meat facilities. These individuals also serve to provide information and support to Alberta’s meat industry through initiatives such as Hazard Analysis Critical Control Point (HACCP) programs.

Branch Veterinarian

The Branch Veterinarian, Dr. Jim Henderson, provides veterinary expertise to the RSB and other staff members. This position assists with the development of RSB policies and directives. He is responsible for the RSB’s meat inspection training program and other special projects as assigned.

Prevention/Investigation Unit

Floyd Mullaney is the Unit Manager for the Prevention/Investigation Unit. The Unit is responsible for the prevention, education, investigation and enforcement of legislation. The unit serves in a prevention and investigation capacity to address alleged contraventions of the following Acts and associated Regulations: Dairy Industry Act, Meat Inspection Act, Livestock Diseases Act, and the Livestock and Livestock Products Act.

Meat Inspection Services

Meat Inspection Services is divided into four regions. The regional managers are Archie Clark (Airdrie), Tom Ivins (Lethbridge), Michael Bouma (Vermilion) and Daniel Morris (Edmonton). This RSB unit plays an important role in the facilitation of commerce and the support of food safety through meat inspection. The safety and security of meat processed in provincial plants rests in the hands of well-trained and diligent inspectors who work with many facility operators and have an understanding of the applicable regulations. All meat facilities must comply with the Meat Facility Standards that are referenced in the Meat Inspection Act and Regulation. The unit is responsible for the inspection of meat at 51 red meat plants, 72 Hutterite poultry facilities and 3 private poultry operations. RSB also licenses 89 mobile butcher slaughter operators. In 2003, the meat inspection system inspected: 3,284,985 broiler chickens, 36,666 cattle, 155,739 hogs and 19,976 sheep. Various exotic and diversified livestock were also inspected including: 3,674 elk, 459 deer, 4,423 bison, 53 emu, 162 ostrich and 68 llamas.

In addition to routine inspection procedures, Alberta’s meat inspectors participate in the collection of samples to support various surveillance programs and food safety projects. Examples of the samples and specimens collected include: elk heads for chronic wasting disease testing, beef heads for bovine spongiform encephalopathy testing, elk lungs to monitor for Echinococcus granulosus, and fresh water samples. Inspectors also currently collect pork kidneys for antimicrobial residues and will be involved in a microbiological baseline study of carcasses. As well, they participate in the Sulfa on Site (SOS) surveillance for sulfa drug residues in barbeque hogs that are slaughtered.

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Chief Provincial Veterinarian Update

From the desk of Dr. Gerald Ollis

Staying Informed about Global Animal Disease Issues

Due to the efficiency and affordability of modern transportation, the world is a much smaller place than ever before. Spreading livestock disease through international trade and travel is a reality; the outbreak of highly pathogenic avian influenza (HPAI) in Southeast Asia is a current example. Staying informed of the various animal disease incidents around the globe is the first step veterinary practitioners can take to minimize the impact of an incursion of a new disease into a client’s herd or flock.

The Canadian Food Inspection Agency (CFIA) and Canada Customs and Revenue Agency (CCRA) are the first lines of defense against foreign animal disease (FAD) incursions into Canada. It is more than good fortune that many diseases common in other countries have not been detected in Canada for a number of years, if ever. However, the negative
aspect of Canada’s high livestock health status is that producers and most veterinarians have never seen diseases, such as HPAI or Foot and Mouth Disease (FMD). Veterinarians are an integral part of protecting Canada’s livestock industry against FAD incursions. Early recognition and timely notification to the CFIA if a FAD is suspected are crucial to minimizing its spread and impact on the entire livestock industry. Practitioners require training and support in order to recognize the symptoms associated with these ‘emerging’ disease issues.

Livestock producers are being encouraged to implement effective biosecurity as a means of minimizing the risk associated with livestock diseases to their operations. Veterinarians must be in a position to advise producers on the development of these biosecurity plans by maintaining an awareness of global disease outbreaks and being current on legitimate and practical mitigation strategies. International Animal Health Concerns is a site on the Chief Provincial Veterinarian web page designed to increase the awareness of veterinarians and producers of current global disease issues. It contains weekly summaries of animal disease outbreaks occurring around the world with links to more information. Check the site weekly and keep yourself informed.

The URL for the CPV web page is: (http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ cpv4264)

Suggestions for improving the site are always welcome.

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Who’s Who in the Division

Dr. Jan Bystrom

Dr. Jan Bystrom began work with the Food Safety Division, Livestock Health for Market Access Section on December 1, 2003. She was born in Red Deer and raised on a mixed farm south of Sylvan Lake. She attended Red Deer College and the University of Alberta, receiving a BSc before obtaining her DVM in 1979 from the WCVM.

Jan spent several years in Alberta in mixed animal practice and as an educator in Animal Health Technology (AHT) programs before returning to the WCVM to complete an MSc in pathology from 1986 to 1989. She completed a cooperative research project at the Alberta Environmental Centre in Vegreville, AB with her thesis entitled “Acute Toxicity of Crude Oil to Cattle”.

Jan worked as a diagnostic pathologist for a short time in Abbotsford, B.C., for one year at the WCVM and for 13 years in Winnipeg, MB. Her duties with Alberta Agriculture, Food and Rural Development include assisting in the implementation of the Livestock Pathology Consultation Program (LPCP) and providing ongoing diagnostic expertise to Alberta practitioners. She is thrilled to be “home” and looks forward to renewing old friendships and making new ones as she applies her passion for diagnostic pathology in support of the livestock industry.

Jan is also involved in a small commercial apiary and enjoys downhill skiing, hiking, camping, and many other outdoor pursuits. She is an avid rodeo and horse fan and enjoys the rural lifestyle.

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The Latest Info

A Bootstrapping Method for Diagnostic Test Evaluation and Prevalence Estimation

John Berezowski, Dave Renter, Richard Evans

Drs. Berezowski, Renter and Evans submitted an abstract to the Society for Veterinary Epidemiology and Preventative Medicine conference in Switzerland in March 2004. The abstract was selected for publication as a full paper in the conference proceedings and Dr. Berezowski will be providing an oral presentation to the conference assembly.

Bootstrapping is a method that is used to make inferences about a population, from the data contained in a sample that was drawn from that population. Thousands of hypothetical, “bootstrapped” samples are created by randomly selecting values from the original sample. A statistic of interest, such as the mean is calculated for each hypothetical sample. From the distribution of thousands of these statistics, inferences are made about the population. Bootstrapping can be used to estimate the population distribution of almost any statistic.

In order to estimate the accuracy of a newly developed diagnostic test, it is customary for test developers to conduct a validation study in which subsets of truly positive and truly negative animals are defined and then tested with the new test. Berezowski and Renter developed a technique that uses test values from truly infected and un-infected animals to produce hypothetical bootstrapped samples with varying true
prevalence. For each hypothetical sample the test positive prevalence is measured. The distribution of the test positive prevalence from thousands of hypothetical samples is used to make inferences about the accuracy of the diagnostic test and to make unbiased estimates of the true prevalence in samples.

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New Manuals
Available on Ropin’ the Web entitled:


http://www1.agric.gov.ab.ca/$department/newslett.nsf/all/agnw4515?opendocument

These two new manuals complement existing manuals for feedlot and hog producers in Alberta, also available through Ropin’ the Web.

These manuals are also available from the Publications Office, phone 1-800-292-5697.

Notice Board

Veterinary Work Experience Program

Program Overview
The Veterinary Work Experience Program is administered by Alberta Agriculture, Food and Rural Development. Funding is renewed on a yearly basis. Employees and employers must apply together for the program; Alberta Agriculture, Food and Rural Development does not do any matching. Employees may approach potential employers and advise them of the program but cannot apply for the program without an employer. The program’s primary objective is to provide summer job opportunities for unemployed Albertans. Veterinarians who hire a student for the summer will note the following changes to the funding structure. Employers are reimbursed for 30% of the employee’s monthly wage to a maximum of $500 per month for AHT students or 50% of monthly wage to a maximum of $1200 for students qualified to enter their 2nd year of study; 40% of monthly wage to a maximum of $1000 for students qualified to enter their 3rd year of study and 30% to a maximum of $750 for students qualified to enter their final year of study. Applications are mailed out to potential employers in the first week of March and are accepted on a first-come, first-served basis. The application deadline is April 21. The program runs from May 1 to August 31.

For further information:
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/aet6255
Food Safety – Events Team

The Food Safety Division Events Team participates in various tradeshows across Alberta every year. The team strives to promote the work of the Food Safety Division by providing current and accurate information on a wide range of topics, including but not limited to:

- On-Farm Food Safety programs
- HACCP
- Surveillance and research projects
- Meat inspection

Currently, the Events Team is organized by two staff members from the Agri-Food Systems Branch, Karen Mann and Tunde Vari.

During 2004, the Events Team will be participating at the following shows:

- Calgary Exhibition and Stampede, July 8-18
- Edmonton Klondike Days, July 22-31
- Agri-trade, Red Deer, November 2004
- Farmfair International, Edmonton, November 2004

For more information on the Events Team and the work they do, please contact either Events Team organizer.

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