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Animal Health MATTERS Newsletter

Veterinary and Biomedical Sciences

11-15-2009

Animal Health MATTERS

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South Dakota State University

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Animal Health MATTERS



Director's Message

Education...Discovery...Service: Dedicated people required

David H. Zeman, DVM, PhD



One of the secrets to the Veterinary Science Department's success is that we have a mission that our employees can readily believe in.

Mission: To protect and improve the health of animals, the viability of the SD agricultural industry, and the welfare of society through high quality diagnostic, analytical, research, Extension and teaching activities.

I try to remind our employees regularly that we are not just dissecting dead animals, not just jiggling test tubes and beakers, and not just giving another lecture or running another experiment. True, we *are* doing those things on a daily basis, but the big picture of what we are doing goes back to our mission statement. In a nutshell we educate and serve the public, alleviate animal suffering, and help feed the nation and the world. Fulfilling an organization's mission requires dedicated people, and this department has been blessed with many dedicated people.

In early October, we had the privilege of listening to Dr. Larry Firkins from the University of Illinois as he led our Department's mini-retreat. Larry's expertise is on the people side of running an or-

ganization, as well as being a business expert. It was a day to step back from our daily busy routines, and think about the people side of our business, teamwork, and how we interact and communicate with one another.

The final question Dr. Firkins left us to ponder was... What gets you out of bed in the morning? I am sure if we polled our 100 employees we'd get a variety of answers to that question. However, I sleep well at night knowing that our people believe in our mission and are thoroughly dedicated to providing excellent service to our diverse customers. And for that, I am sincerely thankful to every one of our valuable *people!* Thank you people of the Veterinary Science Department, because to fulfill our mission... dedicated people are required.

Dr. Firkins Motivates Faculty, Staff, Students



Dr. Larry Firkins, Assistant Dean for Public Engagement at the University of Illinois College of Veterinary Medicine, observes a small group at work during the Veterinary Science Department Mini-Retreat, October 8, at the Swiftel Center in Brookings. (L-R): Drs. Tanya Graham, Firkins, Duane Mathees, Jane Christopher-Hennings, and Dale Miskimins. Firkins facilitated interactive sessions with ADRDL faculty in the morning, and all faculty and staff in the afternoon. Management-employee interactions and interpersonal skills were messages of the workshop.

In addition, Dr. Firkins addressed pre-veterinary students in a joint meeting of the SDSU Pre-Veterinary Club and the Introduction to Veterinary Medicine course. Students took part in interactive mock interview sessions, and got tips on veterinary school applications and advice on maximizing the undergraduate experience for success in getting into veterinary school.

AVMA Survey Indicates Most Starting Salaries Are Up for New Veterinarians

SCHAUMBURG, Ill. (PRNewswire-USNewswire) -- The results of an annual survey conducted by the American Veterinary Medical Association (AVMA) reveal an economic mixed bag when it comes to what new veterinary graduates encountered in 2009.

The survey results appear in the Journal of the American Veterinary Medical Association in a Sept. 1, 2009, article entitled, "Employment, starting salaries, and educational indebtedness of year-2009 graduates of US veterinary colleges."

"There's good news, and there's not-so-good news in the survey," said Dr. W. Ron DeHaven, AVMA chief executive officer. "While most starting salaries are up, there are some areas that saw declines. And while the vast majority of these new veterinarians are getting jobs, we saw a drop this year in the number of graduates who received job offers by the time they graduated. That is a serious concern, considering that educational debt continues to climb."

According to the survey, 79.5 percent of respondents received an offer of employment or advanced education by their graduation date, down about 11.5 percent from the class of 2008, most likely due to the economy. Of those who received an offer, nearly half received more than one. Eighty-four percent of those seeking employment accepted an offer. When it comes to salaries for these new hires, the average starting salary among all employer types combined increased 0.7 percent, from \$48,328 in 2008 to \$48,684 in 2009. Excluding those who continued their education through advanced study, the average starting salary increased 5.2 percent, from \$61,633 in 2008 to \$64,826 in 2009.

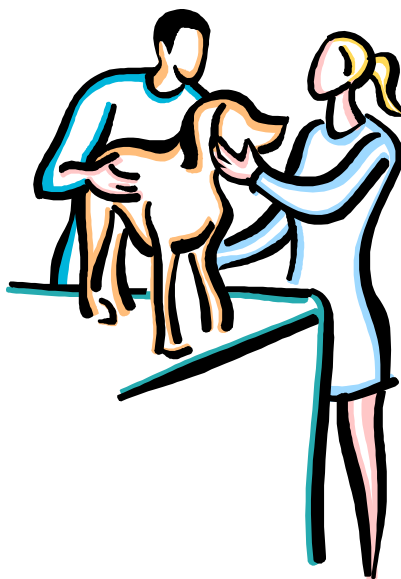
The average starting salary in the public-corporate sector decreased 7.3 percent in 2009, while the average starting salary in all types of private practice

increased 6 percent. Average starting salaries in the private sector, excluding those for equine practices, ranged from a low of \$63,172 for food animal predominant positions to a high of \$72,318 for food animal exclusive positions.

Graduates entering equine practice, according to the survey, continued to earn less than their counterparts in other types of private practice, with equine practices offering an average starting salary of \$37,854 in 2009. That's a decrease of 9.1 percent from last year's starting salaries in the equine field. In contrast, the average starting salary in companion animal exclusive practices was \$69,154, which was second highest only to food animal exclusive starting salaries.

While more than half of veterinary graduates sought employment immediately following graduation, many others decided to continue their education through internships, residencies or the pursuit of other degrees, such as a master's or Ph.D. The proportion of graduates seeking advanced education increased by 9 percent from 2008.

Other graduates sought postgraduate education or training in an AVMA-recognized, board-certified specialty.



Over a third of graduates, or 38.1 percent, indicated in the survey that they were planning on seeking diplomate status with such entities as the American College of Internal Medicine, the American College of Veterinary Surgeons, the American College of Emergency and Critical Care and the American Board of Veterinary Practitioners, among others.

Most of the news coming out of the 2009 senior survey paints a positive picture for those entering the profession, but the AVMA remains concerned about student debt upon graduation.

According to the survey results, 88.6 percent of students had debt at the time of their graduation from veterinary school, and all but 9.6 percent of that debt was incurred while the students were in veterinary school. Average debt increased 8.5 percent between 2008 and 2009, with student debt averaging \$129,976 in 2009, compared with \$119,803 in 2008. Nearly a third of the students had an average debt above \$150,000.

"Student debt continues to rise each year," DeHaven said, "and the AVMA, along with the Association of American Veterinary Medical Colleges and other veterinary groups, are working hard to find ways to alleviate some of the financial burden these new graduates carry with them out of veterinary school."

"Most students graduate college with debt," DeHaven continued. "That's a reality of life. But we need to focus on ways to help students minimize and manage that debt while also working to increase their starting salaries. This is especially true for new veterinarians who commit to working in some of the nation's most underserved areas."

The AVMA and its more than 78,000 member veterinarians are engaged in wide variety of activities dedicated to advancing the science and art of animal, human and public health.

Pieces and Parts

Ability of PCR to detect PRRSV 3-4-2 RFLP cut pattern strain

Analysis of a Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) with a 3-4-2 RFLP cut pattern, confirmed that the Tetracore PRRSV PCR test used at the SDSU ADRDL consistently de-
tects this strain. An initial report that this new strain was ‘hit and missed’ by the Tetracore test was re-
tracted by the University of Minnesota when proven incorrect by additional testing in our laboratory
and the University of Minnesota Veterinary Diagnostic Laboratory.

Conserved areas of the PRRSV genome are used for designing PCR protocols, however new and vari-
ous strains of PRRSV can emerge and PCR may not always be able to detect every strain 100% of the time.
Even though this may be an uncommon event, it may be important to monitor periodically with serology and
communicate with the laboratory if clinical signs or other indications are suspect for PRRSV. Additional testing can be performed to
verify any results.

If you have any comment or questions, please contact Dr. Jane Christopher-Hennings (Molecular Diagnostics Section,
Jane.Christopher-Hennings@sdstate.edu)



Chase named Veterinarian of the Year by SDVMA



Dr. Chris Chase, Professor of Veterinary Science at South Dakota State University, was hon-
ored as Veterinarian of the Year at the 2009 Annual Meeting of the South Dakota Veterinary
Medical Association. Dr. Chase served as SDVMA president in 2001-2002, chaired the search
committee for the SDVMA Executive Director, is currently chair of the SDVMA legislative com-
mittee, and has served on multiple SDVMA committees over the past 15 years. A past president
of the American Association of Veterinary Immunologists, Dr. Chase has served the profession
nationally through membership on numerous American Veterinary Medical Association councils.

A faculty member in the Department of Veterinary Science at SDSU since 1992, his research at
SDSU involves developing better methods of preventing viral infections in animals by understand-
ing the initial events involved with those infections. In addition, he is the president of Rural Tech-
nologies, Incorporated, works as a cattle and swine consultant, and continues veterinary practice
by working part time for Dr. Tom Jueschke in Flandreau, SD.

Dr. Chase graduated from Sisseton High School in 1974, attended South Dakota State Univer-
sity for his undergraduate studies, and received his Doctor of Veterinary Medicine degree from Iowa State University in 1980. After
practicing in a large animal practice in Viborg, SD for five years, he returned to school at the University of Wisconsin – Madison, and
completed a PhD degree in virology and immunology in 1990, followed by post-doctoral work at the University of Wyoming and the
USDA Agricultural Research Service in Laramie, Wyoming. Dr. Chase and his wife, Mary (pictured), live in Brookings, SD. They
have four children – Christopher, 26; Stephanie, 24; Erin, 22, and Jennifer, 20.

Subscribe to CVM Updates

Veterinarians can have the latest news regarding regulations of animal drugs and feed additives sent directly to their e-mail ac-
counts. **CVM Updates** are brief news releases issued on developments of interest by the Center for Veterinary Medicine, the arm of the
Food and Drug Administration that regulates the manufacture and distribution of food additives and drugs for animals.

CVM Updates are only sent out when new information is available, usually once every 1-2 weeks. Recent CVM Updates have
included: rulemaking regarding the extralabel use of cephalosporins in food animals, approvals of drugs to treat feline hyperthyroid-
ism, canine cancer, and Cushing’s Disease, final guidance for renderers on substances prohibited from use
in animal food or feed, and guidance revisions for Veterinary Feed Directives, among many others.

CVM Updates are distributed through an automated e-mail list, and are available to anyone. Subscrip-
tion information may be found at this link: [http://www.fda.gov/AboutFDA/ContactFDA/StayInformed/
GetEmailUpdates/default.htm](http://www.fda.gov/AboutFDA/ContactFDA/StayInformed/GetEmailUpdates/default.htm) (click on CVM Updates). Previously distributed CVM Updates can be
found at: <http://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/default.htm>.



The Bacteriology Section at SDSU ADRDL

Bacteriology has been a hallmark of veterinary diagnostics since the early years of the discipline. Tuberculosis, brucellosis, and anthrax are all examples of diseases caused by bacteria that played a large role in creating the need for veterinary diagnostic labs in the first place. The ability to culture and identify bacteria causing livestock disease was among the tools that made it possible to initiate eradication and control programs for many economically important diseases.

Despite the onset of new technologies in veterinary diagnostics, bacteriologic techniques remain important in the characterization of many existing and emerging livestock diseases. Bovine respiratory disease complex, mastitis, Johne's Disease and mycoplasmosis are bacterial diseases that continue to plague livestock producers and veterinarians. In South Dakota, the bacterial disease anthrax is an almost annual event, resulting in cattle losses. Emerging issues such as antimicrobial resistance, clostridial diseases of calves, *E. coli* O157:H7, and tularemia illustrate that bacteriologic techniques employed at SDSU's ADRDL will remain critical tools in veterinary diagnostics and research. The section has continually updated tests whenever possible, with recent changes resulting in significantly shorter turnaround times for procedures such as bovine Johne's cultures and *Listeria* cultures.

Needed along with the tools, though,

are the people with the knowledge and expertise to use them. The bacteriology section at the South Dakota State University Animal Disease Research and Diagnostic Laboratory is comprised of a staff of nine individuals, each with their own areas of expertise. Among them, they performed nearly 18,000 aerobic and anaerobic cultures in FY 2008, along with 1,600 antimicrobial susceptibility panels, in addition to a battery of other bacterial cultures and diagnostic tests.

The SDSU ADRDL bacteriology section is made up of these individuals:

Section Leader: Larry Holler
DVM, PhD has served as Section Leader for the Bacteriology section for the past five years. Dr. Holler has a Bachelor's degree in microbiology and DVM from

Kansas State University preceding his PhD from Washington State University. His bacteriology experience includes work in the K-State bacteriology laboratory during school years, in addition to work as a Research Associate in bacteriology at the University of Wyoming, and as a consultant to the bacteriology lab at Washington State University.

Along with his section leader responsibilities, Dr. Holler coordinates reproductive and mastitis cases in his role as a pathologist within the ADRDL. He has served as University Veterinarian for SDSU and currently serves on the SDSU Academic Senate. Dr. Holler also assists veterinarians and producers with questions on sheep and goat medicine and has presented programs nationally on those topics.



Bacteriology Staff at SDSU: Back Row: Larry Holler, Professor and Section Leader. Middle Row (L-R): Holly Kroschel, Senior Microbiologist and Bench Leader; Cindy Troelstrup, Laboratory Technician; Rachel Reimers, Student Help. Front Row (L-R): Seema Das, Senior Microbiologist; Mariecil Aguiar, Temporary Emergency Technician; Deb Murray, Microbiologist; Tracy Irion, Laboratory Aide. Not Pictured: Cindy Watt, Microbiologist. (Photo: Russ Daly)

Senior Microbiologists:

Holly Kroschel BS serves as Bench Leader for the SDSU ADRDL's bacteriology section. She has degrees from SDSU in microbiology and chemistry, and has been part of the section for over six years. As bench leader, she has responsibilities for training and serving as a resource for new employees within the section.

In addition to those duties and diagnostic bacteriology, Holly has responsibilities for mycology and Johne's Disease culturing within the section, along with developing and validating new test methods.

Seema Das B.Tech., MS, with a B.Tech degree in dairy technology and an MS degree in biological sciences/dairy manufacturing specialization, handles the mastitis and bulk tank milk samples for the bacteriology lab. She has worked at SDSU for a total of seven years, two in the Dairy Science department, and the past five years at the ADRDL.

In addition to those duties, and regular diagnostic bacteriology, Seema is the quality control coordinator for the section, and assistant quality manager for the ADRDL. She is responsible for mycoplasma and anaerobic cultures and assists in new test development and validation.

Microbiologists: Cindy Watt BS has a Bachelor's degree in microbiology from SDSU. She has 12 years of experience in the SDSU ADRDL bacteriology section and has responsibilities for diagnostic bacteriology and management of routine cultures.

Deb Murray CLT is responsible for antimicrobial sensitivity testing of bacterial isolates within the section. She

Beyond Blood Agar Plates: Other procedures performed by the SDSU ADRDL Bacteriology Section

- Antimicrobial susceptibility panels
- Campylobacter cultures
- C. difficile toxin characterization
- Clostridium direct FA
- E. coli K99 IFA
- Giemsa anthrax screen
- Johne's culture
- Leptospira FA
- Listeria culture
- Bulk tank milk cultures
- Milk sample cultures
- Mycology culture
- Mycoplasma culture
- Mycoplasma milk screen
- Non-specific fluorescence test
- Salmonella serotyping

has a degree in laboratory technology and has been with the ADRDL for 15 years. Deb also is the coordinator for hazardous materials shipping and *Brucella* isolation and identification, in addition to her responsibilities for general diagnostic pathology.

Laboratory Technician: Cindy Troelstrup has been with the ADRDL bacteriology section since July 2009. Her role as a laboratory technician involves preparation of media not only for the bacteriology section, but also for the research component of the ADRDL.

Tracy Irion has responsibilities within the kitchen in cleaning and autoclaving equipment and materials used within the section, including glassware, tubes and other materials. He assists this section and others by filling tip boxes and dilution plates. Tracy has 16 years of service in

the bacteriology section at the SDSU ADRDL.

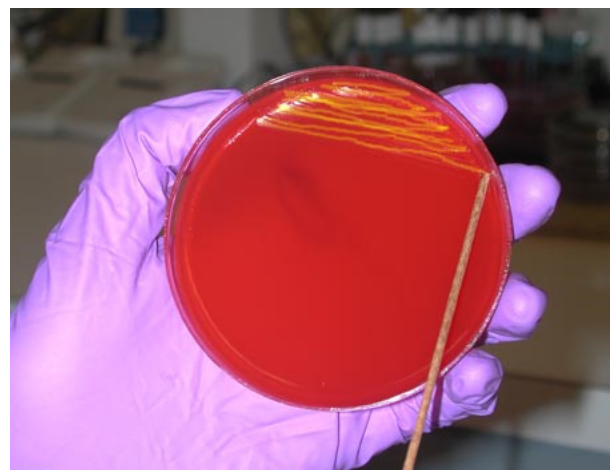
Temporary/Emergency Help:

Mariecil Aguiar BS holds a Bachelor's degree from SDSU in Microbiology with an infectious disease specialization. She serves a valuable role as a backup technician for both the bacteriology and food safety sections within the ADRDL, performing diagnostic bacteriology functions and other duties when needed.

Student help: Rachel Reimers

is a native of Denison, IA pursuing a degree in agricultural business. She is involved in the Sigma Alpha professional agricultural sorority, Block and Bridle, and Little International at SDSU. She has worked within the bacteriology section for the past three years performing media preparation duties.

Questions about bacteriology techniques, cultures, and sampling can be directed to the bacteriology section at (605) 688-5171. ■



Picture source: madsci.org

Disposal of Veterinary Sharps in South Dakota

For many veterinary practices, fall is a time of year that generates a lot of medical waste in the forms of used needles, syringes, and scalpel blades. Questions arise periodically about lawful proper disposal of these items.

In South Dakota, these items fall under the definition of “regulated medical waste.” South Dakota’s administrative rules for the disposal of regulated medical waste (ARSD Chapter 74:35:01) can be found at <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:35:01>. In essence, it is legal to dispose of such regulated medical waste in a permitted municipal solid waste landfill, provided that:

- The sharps are placed in a puncture-resistant container, and
- The container is sealed, and
- The contents of the container have been rendered non-infectious. One

method to accomplish this would be to soak the contents in bleach for not less than 15 minutes.

After meeting these conditions, the puncture-resistant container can be legally disposed of in a municipal solid waste landfill. There is no limit on the amount of medical waste sharps that can be accepted by such a landfill.

While state law allows such landfill operators to accept such material, they are not obligated to do so. Landfill operators may choose not to accept certain wastes, or restrict the amounts of such waste. Prior to disposal, veterinarians should contact landfill operators to ask about special disposal requirements.

It is also important to realize that while many small towns have their own permitted disposal sites, these are not permitted to accept medical waste. Cur-

rently there are only 15 regional municipal solid waste landfills within the state that are permitted to accept such material. They include: Brown County (Aberdeen), Roberts County (Sisseton), Watertown, Brookings, Mitchell, Sioux Falls, Vermillion, Southern Missouri (Lake Andes), Tri-County (Pukwana), Pierre, Walworth County (Mobridge), Northwest SD Regional (Bison), Belle Fourche, Rapid City, and Custer-Fall River (Edgemont). A list and information on these landfills is available at: <http://denr.sd.gov/des/wm/landfillmaps/lfstate.aspx>.

Veterinarians with questions about disposal of medical waste may contact Jim Wendte with the South Dakota DENR Waste Management Program at 605-773-3153 or jim.wendte@state.sd.us.

Incoming Freshmen with Pre-Vet Majors at SDSU

The following is a list of the incoming freshmen who have declared a pre-vet major for Fall semester 2009 at SDSU:

South Dakota

Bridgewater – Jessica Stoltz
Britton – Samantha Kronbach
Brookings – Michael DeBough
Brookings – Kaira Dempsey
Brookings – Cassandra Steinle
Brookings – Jacalyn Seas
Carpenter – Megan Madsen
Dell Rapids – Kyle Hoffman
Elk Point – Kirstin Hanson
Elk Point – Kyle Limoges
Elk Point – Robyn McLaury
Elkton – Marie Jane Ziebarth
Fairview – Kenzie Blankespoor
Faith – Jerylin Reed
Gregory – Lakin Stenson
Harrisburg – Caitlin Peterson
Hazel – Larame Zimprich
Highmore – Breelyn Cowan
Iona – Kayla Talsma
Iroquois – Christopher Schortzmann
Jefferson – Lanian Florke

Kennebec – Wyatt DeJong
Langford – Evan Ogren
Leola – Samantha Jung
Miller – Casey Kaltenbach
Mina – Alex Jung
Pierre – Shantel Anderson
Platte – Sarah Sample
Presho – Brandi Herman
Ramona – Meagan Abraham
Rapid City – Katie Dale
Rapid City – Anna Gagliano
Rapid City – Hillery Baysinger
Redfield – Katrina Esser
Sioux Falls – Trevor Davis
Sioux Falls – Tomislav Ivica
Sioux Falls – Jessica Luke
Sioux Falls – Alexandra Meyer
Sioux Falls – Amber Ryswyk
Sioux Falls – Kelsey Vanderwerf
Watertown – Whitney Chambers
Watertown – Amber Ross
Wood – Lisabeth Massingale
Woonsocket – Athena Turner

Connecticut

Woodbury – Kelly Eversole

Iowa

Akron – Rachel Black
Larchwood – Carrie Dieters
Merrill – Bethany Fischer

Minnesota

Cottage Grove – Emily Lomax
Currie – Karly Ruppert
Dundee – Tara Salentiny
Edgerton – Lacy Bobb
Hartland – Heather Malakowsky
Hector – Jared Swanson
Medford – Kimberly Arnold
Montrose – Jennifer Fasching
Verdi – Misti Nelson
Wells – Stephanie Herman
Worthington – Kayla Schelhaas

Missouri

Union – Elizabeth Oberlies

Nebraska

Ashland – Serena Riecken
Blair – Stacia McIntosh

Wisconsin

Twin Lakes – Randi Gresenz

2009—2010 Veterinary Science Scholarship Awards

J. Michael Robbie Scholarship in Pre-Veterinary Medicine:

Recipients: Briana Sandanger and Amy Mandelke

Dr. J. B. Taylor Memorial Scholarship:

Recipient: Victoria Pecak

RTI Veterinary Science Scholarship:

Recipient: Katherine Purcell

Freeman J. Lewis Memorial Scholarship:

Recipients: Alexandra Meyer, Heather Malakowski, Lanian Florke, Randi Gresenz, Lacy Bobb, Stacia McIntosh, and Jerylin Reed.

Dr. Harry Halverson Memorial Scholarship:

Recipient: Danielle Schubert

Richard and Carol Dierks Scholarship in Pre-Veterinary Medicine:

Recipient: Cami Bauer

Harbarth Scholarship in Veterinary Science:

Recipient: Brandon Boswell

Calendar of Events

November 5-6

Swine Disease Conference for Swine Practitioners
Scheman Building, Iowa State University, Ames, IA
<http://www.ucs.iastate.edu/online.htm>

November 12-13

Dairy Cattle Reproduction Council – Regional Meeting
Crowne Plaza Riverfront, St. Paul, MN
www.dcrcouncil.org

December 3-5

Academy of Veterinary Consultants Winter Meeting
Renaissance Denver Hotel, Denver, CO
<http://www.avc-beef.org>

December 6-10

American Association of Equine Practitioners.
Mandalay Bay Convention Center, Las Vegas, NV
www.aaep.org

SDSU Students Accepted to Veterinary Schools , Fall 2009

Editor's Note: A similar list was included in our June 2009 issue, but did not include students who were admitted later in the summer. Here's the complete list:

Iowa State University

Samantha (Berg) Brace
Amber (Van Hout) DeClercq
Theresa Henrickson
Timothy Kruse
Gina Neu

Kimberly Schultz

Charles Stangohr

Joel Teachout

University of Washington

Kristin Braaksma

University of Minnesota

Molly Beckfield

University of Missouri

Carrie VanEssen

Jennifer Anselm

Four additional South Dakota residents, completing pre-veterinary work at other colleges, have entered vet school as well, three at Iowa State, and one at Kansas State.

December 11-12

Wyoming Veterinary Medical Association Winter Meeting
Casper, WY
<http://www.wyvma.org/>

January 29-30, 2010

Montana VMA Winter Meeting
Bozeman, MT
www.mtvma.org

February 14-18, 2010

Western Veterinary Conference
Mandalay Bay Convention Center, Las Vegas, NV
www.wvc.org

SOUTH DAKOTA STATE UNIVERSITY
SDSU Veterinary Science Department
Animal Disease Research & Diagnostic Laboratory
Box 2175- North Campus Drive
 Brookings, SD 57007-1396
 Phone: (605) 688-5171
 Fax: (605) 688-6003
 Website: <http://vetsci.sdstate.edu>

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Animal Health MATTERS

The SDSU Veterinary Science Department conducts research, teaching, professional service, and extension service to South Dakota and the surrounding region. Entities within the department include the South Dakota Animal Disease Research and Diagnostic Laboratory, the Olson Biochemistry Laboratory, and the Center for Infectious Disease Research and Vaccinology.

The South Dakota Animal Disease Research and Diagnostic Laboratory is a full-service, all-species diagnostic laboratory accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD). The AAVLD accreditation program complies with international expectations for quality diagnostic services under the guidance of the World Organization for Animal Health (the OIE). The ADRDL collaborates with the USDA National Veterinary Services Laboratory on many federal disease monitor and eradication programs and is a member of the National Animal Health Laboratory Network. For information regarding the laboratory's Quality System, contact Rajesh Parmar – ADRDL Quality Manager, at 605 688 4309.

Editor: Russ Daly, DVM

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