

OADDL E-News

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Ruminant Parasite Screening

Sample Collection

Samples should be as fresh as possible. Eggs develop and hatch, and free-living nematode larvae can invade the samples as soon as they are deposited on the ground; for large animals collection directly from the rectum is best. Refrigerate the sample as soon as possible and ship on ice via 24-48 hour service.

Recommended Testing Schedule and Clinical Signs

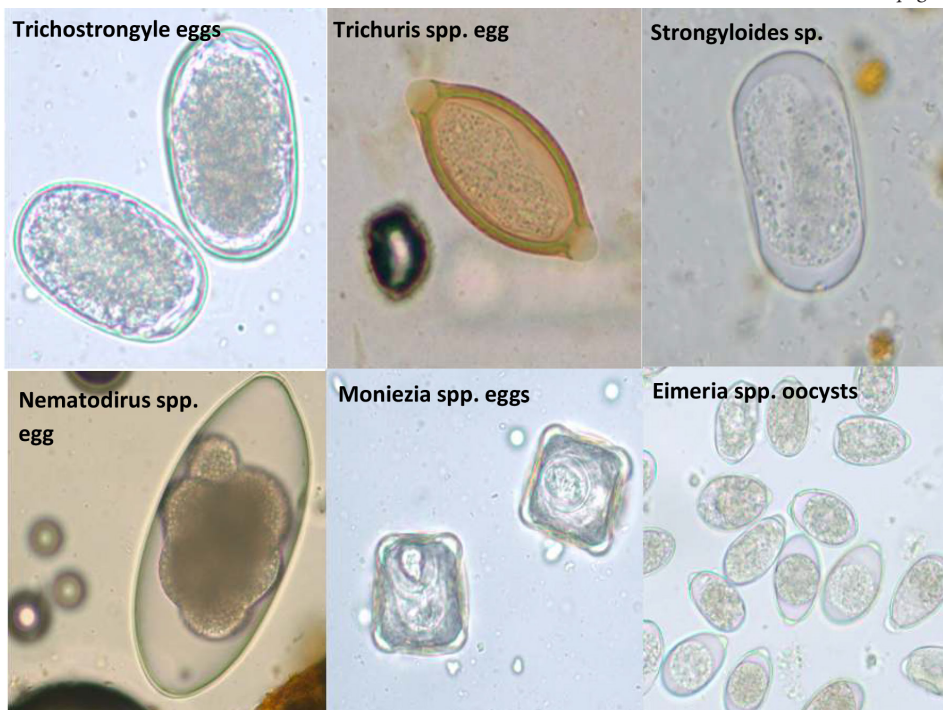
Parasite screening in ruminants should be a routine part of an integrated parasite management program. Pasture contamination peaks in the spring near the middle of the grazing season and again in the fall. The main source

of pasture contamination comes from young weaned grazing animals and adult females in late gestation and lactation. Animals at greatest risk should be examined frequently during these periods. Clinical signs include pale mucous membranes (anemia), weight loss, edema and diarrhea. Fecal egg counts can be conducted at 3-4 week intervals to detect high egg shedders in a herd or rising egg levels. Rising egg counts can also be used to determine when to deworm an entire herd.

Flotation

The most commonly practiced method for detecting parasites in ruminants. Eggs, oocysts and protozoan cysts are concentrated while remov-

continued on page 2



Feedback is always welcomed. Let us know how we can better meet your needs.

Call 405-744-6623 or email us at oaddl@okstate.edu.



CENTER FOR VETERINARY HEALTH SCIENCES
Healthy Animals — Healthy People

Ruminant Parasite Screening continued from page 1

ing debris. Most parasitic nematode larvae, eggs, and protozoan cysts are buoyant in flotation solutions and can be easily viewed microscopically. This method is best for identifying most helminths (trichostrongyles such as *Haemonchus* spp., *Ostertagia* spp. and *Moniezia* spp. and protozoans (*Eimeria* spp.). With prolonged, severe diarrhea, a diarrhea panel should be run to test for bacterial and viral pathogens and special stains or flotation solutions will be used to detect *Giardia* and *Cryptosporidium*.

Direct Smear

Not commonly used in ruminants unless motile protozoan flagellates (ie. *Giardia* spp. or trichomonad spp.) are suspected. The feces has to be less than 1 hour old in order to see motile organisms.

Fecal Egg Counts

Another commonly used test with ruminant samples. It is used to monitor pasture contamination, to determine the efficacy of treatment, and to screen animals for treatment in integrated parasite management programs. It has limited value for estimating parasite burden, especially in older cattle,

Test	Parasite(s) Detected	Sample Amount Needed	Cost/Sample
Flotation	<i>Giardia</i> spp. cysts, <i>Cryptosporidium</i> spp. oocysts, <i>Eimeria</i> spp. Trichostrongyles, <i>Nematodirus</i> spp., <i>Moniezia</i> spp., <i>Trichuris</i> spp., <i>Capillaria</i> spp., <i>Strongyloides</i> spp.	10g*	\$13.20
Direct Smear	Detection of motile protozoa such as <i>Giardia</i> and <i>Trichomonads</i>	10g	Combined with flotation
Baermann	<i>Dictyocaulus</i> spp., <i>Protostrongylus</i> spp., <i>Muellerius capillaris</i>	10g	\$13.20
Sedimentation	<i>Fasciola hepatica</i> , <i>Dicrocoelium dendriticum</i> , <i>Paramphistomum</i> spp.	10g	\$22.00
Fecal Egg Count (McMaster's)	Trichostrongyles, <i>Nematodirus</i> spp., <i>Trichuris</i> spp., <i>Eimeria</i> spp., <i>Capillaria</i> spp., <i>Strongyloides</i> spp.	10g	\$13.20
Direct Smear / Flotation	See Direct Smear & Flotation	10g	\$17.60
Flotation / Baermann	See Flotation & Baermann	20g	\$19.80
Flotation / Sedimentation	See Flotation & Sedimentation	20g	\$24.20
Flotation / Baermann / Sedimentation	See Flotation, Baermann, & Sedimentation	30g	\$27.50
Flotation / Fecal Egg Count	See Flotation & Fecal Egg Count	10g	\$19.80

* 10 grams of feces is approximately the size of a ping pong ball

because parasite species present, stage of infection, and host immunity can influence the results. Nematode eggs from an aliquot are counted and recorded. Counts are multiplied by a dilution factor and an estimated number of eggs are reported per gram of feces.

Sedimentation

This test is used for finding fluke eggs or heavier eggs that do not readily float, such as some cestode eggs. The dense eggs settle out of solution and can be found in the sediment.

Baermann Test

This method is used to detect lungworm larvae from a fecal sample. The larvae migrate out of feces suspended in water and settle out free of fecal debris. The concentrated larvae can be picked up for microscopic identification.

Rebecca Duncan-Decocq, BS, MS

Eileen M Johnson, DVM, PhD

Letter from the Interim Director

Fall season is quickly approaching. Stillwater is buzzing with the return of students and the kick-off of college football.

In this edition of our e-Newsletter, we have attempted to provide information of a seasonal nature. In addition to respiratory disease in cattle and swine, fall is when the incidence of West Nile virus infection peaks in horses, parasites continue their relentless pursuit of small and large ruminants, and livestock are at increased risk of exposure to certain toxic plants.

Fall is also when the next generations of livestock producers proudly show their prized animals at regional and state fairs. One change that occurred earlier this year at OADDL was retirement of the Accession Fee, allowing us to provide blood testing for show animals at a lower cost.

This and future e-Newsletter editions will include an article about our staff members. We hope to be more than just a voice on the other end of the telephone or someone entering data into a computer. As your diagnostic laboratory, we want to provide the best and highest quality service possible. To that end, we welcome comments and suggestions for improved service. One of the articles in this edition of the e-Newsletter (Ruminant Parasite Screening) is in response to a client request. We ask that you continue to assist us in identifying topics of interest for future editions.

We thank you again for your continued support of OADDL, CVHS and OSU!

Keith Bailey, OADDL Interim Director
keith.bailey@okstate.edu
 405-744-8808

AAVLD Travel Award Recipient



Kristin Lenoir, OADDL Serology Lab Manager was selected as a recipient of the AAVLD Staff Travel Award for her abstract submission entitled "Oklahoma Equine Cases Presenting with Clinical Signs of Central Nervous System Disease-2012-2013". Kristin received \$1,500 to defray costs to attend the AAVLD annual meeting in Kansas City, MO, October 17-22, 2014, and present her poster.

Vaccinate or Booster for West Nile Virus

Fall is West Nile virus (WNV) season for horses. It is important to remind your clients to vaccinate their horses for this disease. Oklahoma has experienced peak equine WNV cases during the fall during the last two years (table below).

There have been two positive cases in 2014 already. OADDL is now performing the IgM ELISA for WNV in house on equine samples. The test requires 48 hours to complete and is performed twice weekly. Stat testing is available at an additional charge.

Remember that some subsidized equine CNS testing is available through the cooperative OADDL: ODAFF program: http://www.cvhs.okstate.edu/images/stories/OADDL/equine_cns

Toxicology Spotlight

Two plants that are more palatable during fall blooming season include White Snakeroot and Perilla mint. Both tend to grow in the shade along creek beds and low-lying areas. Fall season is also associated with an increased incidence of Stagger Syndromes associated with the ingestion of tremorgenic mycotoxins.

White Snakeroot

(*Eupatorium rugosum*)

Toxic principle: trematol

Clinical signs: tremors, CNS depression, heart failure toxins pass in milk



White Snakeroot
(*Eupatorium rugosum*)

[announcement 2014v2.pdf](#)

For questions regarding this testing contact: Dr. Grant B. Rezabek, Serology Section Head or Ms. Kristin Lenoir, Serology Manager.

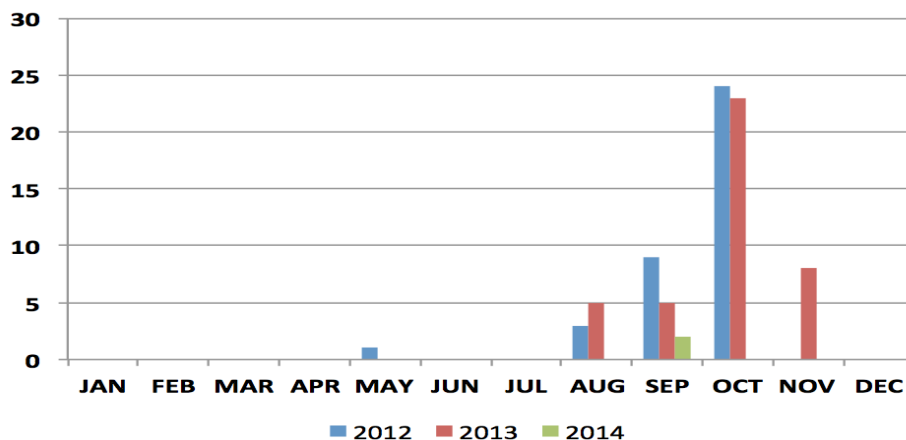


Photo courtesy of OSU Agricultural Communications Services

Perilla mint (*Perilla frutescens*)

Toxic principle: Perilla ketones

Clinical signs: acute interstitial pneumonia (AIP), loud expiratory grunt, sudden death



Perilla mint
(*Perilla frutescens*)

Stagger Syndromes

Cause:

Tremorgenic mycotoxins on mature Bermuda grass, crabgrass, Dallis grass, rye grass and corn.

Clinical signs:

Animals may appear normal at rest, but when stimulated exhibit mild tremors, ataxia, ear twitching, exaggerated blinking, hypermetria, hopping with back legs together, aggression, seizures and/or death. Blindness may be a feature of crabgrass staggers, while hepatogenous photosensitization and acute interstitial pneumonia (AIP) may

be seen with Bermuda grass staggers.

Diagnosis:

None of the tremorgenic mycotoxins can be seen with the exception of ergotized seed heads in Dallis grass or Bermuda grass. Tremorgenic mycotoxin analysis can be done at referral laboratories but is often unrewarding and expensive.

Treatment:

There is no effective antidote. Animals should be removed from the mycotoxin source. Absorbed toxins will be eliminated over a period of 2 weeks to 2 months.

Sandra Morgan, DVM, MS, DABVT

SAVE the DATE!

November 13-14

Come visit the OADDL booth at the Fall Conference for Veterinarians at the Wes Watkins Conference Center on the OSU campus.

For more information, visit www.cvhs.okstate.edu/conferences.

SEE YOU SOON!

Billing Changes

Your continued patience is appreciated as we continue migrating our billing to the Bursar's office.

Bursar payment methods were originally designed to serve students and their parents so some of the screens may seem confusing. To make an online payment, go to <http://bursar.okstate.edu> and select the "Payment Methods" link on the left hand side.

This link directs you to pay via web check or credit card. Whichever payment option you select, you will be directed to the following screen. You will be required to enter a Student ID and Birth date as indicated below. The Student ID will be your CWID number. Your CWID can be found on the bursar billing statement. Once you

OKLAHOMA STATE UNIVERSITY PARENT/GUEST PAYMENT SERVICES HELP | PRINT | EXIT

Parent or Guest Payment

To identify the student for whom you want to make a payment, please enter the student's identification number and birth date. Then select **Verify Student ID and Birth Date**.

Student ID: **CWID (Campus Wide ID)**

Birth Date as MMDDYY: **This may be your birthday or a default "010101"**

Remember to select buttons and menu links only once.

have logged in, verify that you have accessed the correct account.

Questions concerning payments or the payment process should be directed to the Bursar's Office at 405-744-5993 or email bursar@okstate.edu. However, questions regarding specific charges on

accessions should be directed to the OADDL Business Office at 405-744-6623. In an effort keep you informed of charges on individual accessions, you will receive a Summary of Charges with your OADDL Final Reports.

Getting to know us

Donna Denton began her career with Oklahoma State University 14 years ago working in the Medical Records Department at the Center for Veterinary Health Sciences. In 2005, she transferred to OADDL as a Senior Medical Records Technician. Donna was born in Stillwater and raised in Morrison, OK. Donna has always enjoyed spending time outdoors and with her son Wyatt and husband Jeff. Donna's favorite activities include Competitive Cowboy Action Shooting, photography, gardening,



and taking care of her many homeless, unadoptable, unwanted and rescue pets & animals.

Shannon Maloney has worked as the Medical Office Technician at OADDL since November 2013. She has more than 10 years of customer service experience. Shannon is a life-long resident of the Stillwater area and attended Oklahoma State University. In her spare time, Shannon enjoys spending time with her family, photography, boating, and recreational vehicles.



OADDL Holiday Closures

November 27-28

December 24-25

December 31-January 1

Emergency services available

Ideas/Suggestions for Future Content

We want to hear from you. Send us your ideas and suggestions to oaddl@okstate.edu.

Contact Us

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Diagnostic Laboratory

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www.cvhs.okstate.edu/oaddl

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