

Veterinary Quarterly

REVIEW

Extension Veterinary Medicine
 College of Veterinary Medicine
 & Biomedical Sciences



Volume 23, Number 3

Fall 2007

Department of Large Animal Clinical Sciences, CVM,
 TAMU, College Station, Texas 77843

This is number ninety of a continuing series of multi-species quarterly reviews and practice tips for veterinarians in Texas. Information in the Veterinary Quarterly Review is intended to be timely, concise and of practical value. Ideas and input from practicing veterinarians are encouraged. Sources of abstracts, articles or practice tips will be credited. Questions/comments may be directed to blawhorn@cvm.tamu.edu.

Bruce Lawhorn

Bruce Lawhorn
 Visiting Professor, Swine Practice

F.C. Faries, Jr.

F.C. Faries, Jr.
 Extension Program Leader
 for Veterinary Medicine

Steve Wikse

Steve Wikse
 Professor and Extension
 Veterinarian — Beef Cattle

BEEF CATTLE PRACTICE



Tick Fever Threat

Texas is being invaded from the south by fever ticks! Abundant rain-fall last spring and summer weather favorable for tick reproduction have resulted in large numbers of ticks in areas of Mexico bordering Texas. Fever ticks have recently been found in Texas and portions of five counties (Maverick, Dimmit, Webb, Starr and Zapata) are now under quarantine. The ticks may have been carried into Texas by wildlife such as white-tailed deer, nilgai, elk or red deer, which can act as a host for the tick but do not appear to develop disease. Luckily, no cases of tick fever (babesiosis) have been reported in Texas cattle. In August, however, I investigated an outbreak of babesiosis on a Mexican ranch just 60 miles south of the border.

The disease spread by fever ticks has many names, including cattle tick fever, Texas fever and babesiosis. Tick fever destroys the red blood cells of cattle. It is caused by the protozoans *Babesia bovis* or *Babesia bigemina*, which are carried by ticks of the genus *Boophilus*. Infected ticks either had a blood meal from an infected animal or are offspring of an infected tick. The protozoans can persist through several generations of ticks.

Not all fever ticks are infected with *Babesia*.

Two to 3 weeks after being bitten by an infected tick, cattle develop fever, depression, anemia and red urine. Affected cattle gasp for air as anemia causes a lack of oxygen. Many die within 24 hours. In the outbreak I investigated, cattle were extremely deficient in selenium, which is important for red blood cell stability. That is probably why we observed fatali-

In this issue

1. Tick Fever Threat
2. Grass-Fed Marketing Claim Established by USDA
3. 14 Tips for Preventing Livestock and Equipment Thefts
4. Consider Inoculating Show Swine With Porcine Circovirus Type 2 Vaccine
5. Camelid Drug Formulary Now Available
6. Selecting a Bird Brochure Now Available from AVMA
7. Canine Obesity and a New Approach to Controlling It with Slentrol
8. AVMA Releases Euthanasia Guidelines
9. Two Cases of Screwworms Recently Diagnosed in Imported Dogs
10. Veterinary Continuing Education Seminars, 2007-2008, Texas A&M University
11. Acute Pulmonary Hemorrhage in Two Cats Associated with Toxic Black Mold Exposure

ties in long-yearling stocker calves. The disease is mild in calves less than 9 months old and becomes progressively more severe in animals 1 year old and older. Up to 90 percent of affected cattle will die.

Diagnosis in ill animals can be made by examining a blood smear and confirming the presence of babesia organisms in red blood cells. Recent infection in exposed cattle can be established by positive serologic tests. In the Mexico outbreak, seven of 13 calves sampled had antibody titers to *Babesia bigemina*. **Cattle that recover from tick fever have red blood cells infected with the Babesia protozoans for 6 months or more.**

Necropsy findings in babesiosis include jaundice; an enlarged and pulpy spleen; enlarged, dark kidneys; and red-brown urine. A huge, very juicy spleen and black kidneys were the lesions that impressed me most in the animal I necropsied in Mexico. Diseases characterized by a hemolytic anemia must be considered as differential diagnoses. The most common are bacillary hemoglobinuria (redwater), leptospirosis, and ingestion of onions or *Brassic spp.* such as purple top turnips. Redwater is easily recognized by its typical large liver infarct and leptospirosis (usually *L. pomona*) is differentiated by multifocal small, black spots on the surface of and throughout the kidney ("turkey egg kidney"). A diagnosis of *Brassic spp.* or onion toxicity can be made from the history.

The Texas Animal Health commission (TAHC) was created in 1893 to eradicate tick fever from Texas. It succeeded by eliminating fever ticks from Texas. **The disease tick fever will not occur in Texas as long as there are no fever ticks in Texas.** Fever ticks are still present in Mexico, however, and the USDA has an ongoing program, carried out by its Tick Force, to keep fever ticks from becoming established on our side of the border.

The program has two parts. The first consists of constantly checking cattle for ticks in herds that border Mexico along a narrow 852-square mile permanent quarantine zone from Del Rio to Brownsville. Fever ticks are found periodically by the "tick riders." Then, herds are quarantined until ticks are eradicated by dipping the cattle every 14 days in a vat containing the organic phosphate Co-Ral, or by treating them every 28 days with doramectin for 6 to 9 months. The second part of the tick program is to prevent ticks from being carried into the U.S. on the many thousands of Mexican calves imported annually. Four USDA inspectors very thoroughly inspect ("scratch") each imported calf for ticks. If only one tick is found on one calf in a shipment of any size, that group of calves must stay at the border and be dipped, then "scratched" again 14 days later.

Because the Texas cattle industry is at constant risk of devastating economic losses from tick fever, fever ticks must be kept out of Texas. Cattle that recover from tick fever remain carriers for 6 months or more. An unknown percentage of imported Mexican cattle fit that category: Their red blood cells contain *Babesia spp.* protozoa. If they enter Texas and are bitten by fever ticks, the offspring of those ticks could then feed on Texas cattle and start an epidemic. If fever ticks spread unchecked, they could distribute the disease across the eastern two-thirds of the state. Dr. David Anderson, an agricultural economist at Texas A&M University, recently estimated that an epidemic of tick fever would cost the Texas cattle industry \$1.3 billion of its \$6.5 billion annual gross income.

The USDA has estimated that it will take at least \$13 million and up to 2 years to push the fever ticks out of the quarantined counties. Support our tick control program in every way possible. Lobby for continued government funding of USDA's Tick Force. *Boophilus spp.*, the fever tick, is definitely not welcome in Texas!

From Steven E. Wikse, DVM, DACVP, Professor and Extension Veterinarian, Food Animal Section, Department of Large Animal Clinical Sciences, Texas Cooperative Extension, College of Veterinary Medicine and Biomedical Sciences, The Texas A&M University System, College Station, Texas, 77843-4475.

Grass-Fed Marketing Claim Established by USDA

USDA's Agricultural Marketing Service (AMS) has finalized a grass-fed marketing claim that will apply to ruminant animals fed only grass (forage) during their lifetimes, with the exception of milk consumed prior to weaning. Animals with this claim cannot be fed grain or grain by-products; the diet must be solely from forage. The grass-fed standard will take effect November 15, 2007. More information on this standard is available at www.ams.usda.gov/lsg/stand/grassclaim.htm; or by calling (202) 720-4486; or by writing Martin E. O'Connor, AMS Livestock and Seed Programs, Room 2007 – S, 1400 Independence Avenue, Washington D.C., 20250-0254.

From *AMS News Release Number 178-07*, "USDA Establishes Grass (Forage) Fed Marketing Claim Standard," October 15, 2007, as reported in *Beef Cow-Calf Weekly*, October 2007.

14 Tips for Preventing Livestock and Equipment Thefts

The Texas and Southwestern Cattle Raisers Association (TSCRA) suggests these tactics for preventing theft on your property:

- Display your TSCRA member sign (or the member sign from your state cattlemen's association) on gates and entrances. It's an excellent deterrent.
- Lock gates.
- Brand cattle and horses and make sure your brand is recorded.
- Put your driver's license number on all saddles, tack and equipment.

- Video horses and tack. Keep a complete and accurate description on file. Establish an organized, easy-to-find, proof-of-ownership file to save valuable time in a recovery process.
- Count cattle regularly.
- Don't establish a routine when feeding. Vary the time when you feed.
- Be cautious of about giving keys and combinations to others.
- If possible, park trailers and equipment out of view of the road.
- Keep the tack room and saddle compartments on trailers locked.
- Don't feed in pens.
- Participate in neighborhood Crime Watch programs.
- Don't build pens too close to the roadway.
- Never leave keys in tractors or other equipment.

From Texas and Southwestern Cattle Raisers Association (TSCRA), 2007.

SWINE PRACTICE



Consider Inoculating Show Swine With Porcine Circovirus Type 2 Vaccine

Porcine circovirus type 2 associated disease (PCVAD) causes major economic losses in the U.S. commercial swine industry. The clinical presentation of PCVAD is reviewed in the article, "Porcine Circovirus-Associated Disease (PCVAD) Is the New Name for Postweaning Multi-Systemic Wasting Syndrome (PMWS)," *Veterinary Quarterly Review*, Volume 22, Number 2, Summer 2006, p. 4. It appears that PCVAD is becoming an important disease in Texas show swine. A particularly severe form of PCVAD is porcine dermatitis and nephropathy syndrome, which causes skin lesions over the entire body and is fatal. Vaccines that have recently become available are efficacious in preventing or minimizing the effects of PCVAD.

Two single-shot vaccines are currently on the market—Suvaxyn® PCV2 One Dose by Ft. Dodge (single-dose for pigs at least 4 weeks old), and Ingelvac® CircoFLEX™ by Boehringer Ingelheim Vetmedica (single-dose for pigs at least 3 weeks old). With either vaccine immunity lasts about 4 months or until the end of the grower-finishing period (or at final market weight when show swine are exhibited). Practitioners should consider vaccinating healthy young swine against PCVAD. Other routine vaccinations for show swine are discussed in the Extension publication E-418, *Keeping Show Pigs Healthy*, at <http://tcebookstore.org>.

From Ft. Dodge Animal Health, Inc., "Suvaxyn® PCV2 One Dose" advertisement, July 15, 2006, *National Hog Farmer*, p.9; Boehringer Ingelheim Vetmedica, Inc., "Ingelvac® CircoFLEX™" advertisement, September 15, 2007, *National Hog Farmer*, p. 9; and Bruce Lawhorn, DVM, MS, Visiting Professor, Swine Practice, Food Animal Section, Department of Large Animal Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, The Texas A&M University System, College Station, Texas, 77843-4475.

EXOTIC AND WILDLIFE PRACTICE



Camelid Drug Formulary Now Available

Game Ranch Health, Inc. has announced the recent publication of the **Camelid Drug Formulary** by James M. Jensen, DVM, Dipl., ACZM.

This book is a compilation of referenced drug doses for South American camelids (alpacas, llamas, guanacos, vicunas) and Asiatic (Bactrian) and Arabian (dromedary) camels. It has an abundance of information for veterinarians, technicians and raisers. The text contains approximately 1,500 drug dosages derived from more than 360 scientific references. For quick reference, the content of this book is divided between South American and Old World camelids. It also has sections on nomenclature, drug classification, unique physiology, weight es-

timation, and metabolic drug scaling. This 400-page book is spiral bound for easy use.

The cost is \$64.00 (USD) plus shipping and handling; Texas residents will be charged 8.25 percent sales tax. Please allow 1 to 2 weeks shipping time for orders within the U.S. and 3 to 4 weeks for all international orders. Payment should be by cashier's check or money order made out to Game Ranch Health, Inc. E-mail gameranchhealth@yahoo.com to get the mailing address.

From James M. Jensen, DVM, Dipl., ACZM, (210) 437-2686 (phone and fax), gameranchhealth@yahoo.com.

Selecting a Bird Brochure Now Available from AVMA

AVMA has released a new brochure, "What You Should Know about Selecting a Bird" (June 2007). The following topics are covered:

- What's special about birds?
- What are you looking for in a pet bird? (how many? training a bird to talk, life spans, personalities)
- What are the special needs of birds?
- Does a bird fit your lifestyle?
- Who will care for your bird?
- Can you afford a bird?
- Where can you get a bird?
- What should you look for in a healthy bird?
- How do you prepare for your bird?

AVMA educational brochures can be purchased in packages of 50 or downloaded from the AVMA Web site at no charge. Spanish versions are also available online, with select titles available in print. For more information or to place an order, visit www.avma.org/products (and click on "client information" in the left margin) or contact Lori Goszczyński in the AVMA communications Division at (800) 248-2862, ext 6655, or lgoszczyński@avma.org.

Adapted from *AVMA News Bulletin*, August 7, 2007.



Canine Obesity and a New Approach to Controlling It with Slentrol

Pet obesity is a serious problem in the U.S. In 2006, the largest and oldest provider of pet insurance, Veterinary Pet Insurance (VPI), paid more than \$14 million in claims linked to obesity, which was 7 percent of all medical claims submitted to VPI. Studies suggest that 25 to 40 percent of all pets in the U.S. are overweight.

Veterinarians have long known that obesity is harmful to pets and is associated with diseases such as pancreatitis, hypertension, diabetes, asthma, hepatitis, lipomas and others. **However, new knowledge is shedding light on how fat cells in obese pets overstimulate the appetite and make the affected animal miserable.**

A dog is obese when it weighs 20 percent more than its estimated normal body weight or has a body condition score of 8/9 or 9/9. A recent study showed that neutered pets require 25 percent fewer calories than non-neutered animals after reaching mature body size. Since most pets are neutered, it is much easier for pets to become obese. At birth, mammals have all the fat cells they will ever have with one major exception: When an animal's fat cells are already full and the animal continues to consume more energy than required, these fat cells will divide. The animal then has extra fat cells that never go away unless surgically removed. Since the discovery in 1994 that fat cells secrete leptin, which causes appetite satiation (among other things), it is now known that fat cells are even more endocrine-like because they secrete many other substances such as cortisol (which increases appetite) and cytokines such as prostaglandins, IL-6, and TNF alpha.

Obesity causes a vicious cycle of potentially harmful events: In obese

animals, the normal actions of leptin to decrease appetite and increase energy rate are blocked, resulting in a state of leptin resistance (or leptin inactivity). The appetite stays the same or increases. At the same time, pro-inflammatory cytokines from fat cells cause long-term damage to organ systems and tissue, such as in joints. The overall effect is that the life span and quality of life in obese pets tend to be reduced.

Slentrol (diriloptamide) is a recently approved drug for weight management. It is an oral solution given once a day directly into the mouth with a small amount of food, or on a healthy treat. Slentrol decreases the dog's appetite and food intake, making it easier for the owner to develop new, more appropriate feeding behaviors for the dog while it is losing weight.

A reasonable strategy for veterinarians is to prescribe Slentrol for a 3- to 4-month period (or longer if needed in severely obese dogs). Weekly revisits and weigh-ins are a good way to keep the client on track and motivated to continue the program. The dog should not regain the weight if the owner is diligent; however, if the dog gains its weight back later, the protocol can be restarted.

Safe weight loss for a dog on Slentrol should be no more than 1 percent of body weight per week. More rapid weight loss will result in loss of muscle mass. On the appropriate daily dose of Slentrol, about 0.1 percent per day weight loss occurs over a 3- to 6-month period. Slentrol must be gradually discontinued because appetite comes back very quickly if abruptly stopped.

Slentrol is generally well tolerated but the most common side effects are vomiting, diarrhea, lethargy and anorexia. No serious reactions or mortalities were reported when Slentrol was used at the label dose for 12 months or at elevated doses. Slentrol has been safely used with most com-

mon veterinary medications, including NSAIDs, antibiotics, parasiticides and vaccines. It seems that short-term, oral corticosteroid therapy may be safely used in dogs on Slentrol. Veterinarians should follow all label instructions and be aware of all precautions and warnings listed for this drug.

Do not use Slentrol in cats; they will develop lipidosis if given this drug. Do not use in humans; Slentrol will cause multiple side effects such as diarrhea, headache and others if used in people.

From "Obese pets cost \$14M," *Feed Stuffs*, September 13, 2007; Canine Obesity CE Seminar, Deborah L. Zoran, DVM, PhD, DACVIM-SAIM, September 4, 2007; and Slentrol-The Basics information sheet, Pfizer, Inc., 2007.

GENERAL PRACTICE

AVMA Releases Euthanasia Guidelines

The AVMA recently updated its *2000 Report of the Panel on Euthanasia*, now called the *AVMA Guidelines on Euthanasia*. The guidelines are available at www.avma.org by clicking on the dark blue Issues bar.

In July 2006, the executive board approved a recommendation that the AVMA convene a panel of scientists at least once every 10 years to review all literature that scientifically evaluates methods and potential methods of euthanasia for the purpose of revising the guidelines. During interim years, requests for inclusion of new or altered euthanasia procedures or agents in the guidelines are evaluated by the Animal Welfare Committee. Revisions are based on a thorough evaluation of available science and require executive board approval. The first interim revision, also approved in July 2006, is the addition of a physical method (maceration) for euthanasia of chicks, poults and piped eggs. Substantive interim additions to the guidelines are indicated by underlined text.

References cited in these guidelines do not represent a comprehensive bibliography on all methods of euthanasia. Persons interested in additional information on a particular aspect of animal euthanasia are encouraged to contact the Animal Welfare Information Center, National Agricultural Library, 10301 Baltimore Blvd., Beltsville, Maryland, 20705.

Adapted from *AVMA News Bulletin*, August 7, 2007.

Two Cases of Screwworms Recently Diagnosed in Imported Dogs

A 16-year-old dog imported into Mississippi from Trinidad on September 13, 2007 and examined by private veterinarians was confirmed by the USDA National Veterinary Diagnostic Laboratory (NVSL) to have New World screwworms.

In late October, 2007, a 9-month-old Labrador retriever imported into Massachusetts from Singapore was

examined at a private veterinary clinic; several larva were removed from a wound in the tail area and submitted to USDA NVSL. On November 1, 2007, the larvae were confirmed to be Old Worm screwworm maggots.

These two cases were unrelated and not thought to pose a significant risk of introducing screwworm infestation into the U.S. However, the trace back investigation is currently in progress for the later case.

These recent cases of screwworms in pet dogs are a stark reminder that practicing veterinarians are an important front line of defense against the introduction of foreign and emerging animal diseases (FEAD) in our highly mobile society. These cases also remind us that practitioners need to remain vigilant against such possible threats. Never hesitate to contact your state and/or federal veterinarian if a FEAD is suspected. (The TAHC/USDA APHIS 24/7 hotline is 800-550-8242).

Information on screwworms is

available at www.cfsph.iastate.edu (click on Animal Disease Information, then Factsheets).

Adapted from, "Dog with Screwworms Brought to Mississippi," *JAVMA News* November 7, 2007 (<http://www.avma.org/onlnews/javma/nov07/0711011.asp>); and "Screwworm Detected in Massachusetts Dog Imported from Singapore," *USDA APHIS*, November 2, 2007.

FELINE PRACTICE



Acute Pulmonary Hemorrhage in Two Cats Associated with Toxic Black Mold Exposure

During routine dental procedures in two apparently healthy cats under isoflurane anesthesia, acute pulmonary hemorrhage occurred. Procedures were stopped and supportive treatment was administered. It was discovered that the cats' home had become contaminated with toxic black mold following hurricane flood damage 7 months earlier. Both cats were treated with high doses of corticosteroids, similar to the treatment for humans suffering from toxic black mold exposure. Both cats died. Assay of sera from these cats was positive for saratoxin G, a biomarker for *Stachybotrys chartarum*, commonly called "toxic black mold."

This is the first published case of acute pulmonary hemorrhage during a routine veterinary procedure in apparently healthy cats housed in an environment contaminated with toxic black mold. Since flood damage and toxic black mold may be very common in households in some areas of the U.S., practitioners in these areas should be aware of this potential risk and ask questions about toxic mold exposure when discussing a cat's history with the owner.

From "Acute Pulmonary Hemorrhage in Two Cats Exposed to Toxic Black Mold," D.R. Mader, Y. Iwona, A.M. Distler, et al., *Journal of the American Veterinary Medical Association*, Volume 231, Number 5, September 1, 2007, 731-735.

Veterinary Continuing Education Seminars 2007-2008 College of Veterinary Medicine and Biomedical Sciences Texas A&M University

- *December 1-2, 2007 Annual Exotic Pets Conference (Dr. Sharman Hoppes)
- *December 7-9, 2007 Clinical Neurology Conference (Dr. Jonathan Levine)
- *February 1-3, 2008..... 15th Annual Veterinary Technician Conference (Lori Atkins and Candise McKay)
- *February 28-March 1, 2008 Texas Veterinary Medical Association Winter Conference
- *April 12-13, 2008 Canine Conference (Dr. Mike Willard)
- *April 25-27, 2008 Annual Feline Conference (Dr. John August)
- *June 7-9, 2008..... Annual Food Animal Conference (chair to be determined)

*Confirmed

Calendar is subject to revision.

For more information on these programs of self-study and personalized continuing education opportunities, please call (979) 845-9102, fax (979) 862-2832, or e-mail ceoffice@cvm.tamu.edu. Visit our web site at <http://www.cvm.tamu.edu/vtce>.

From the Office of Veterinary Continuing Education, Texas Veterinary Medical Center, College Station, Texas.

