RUMINANT, EQUINE, WILDLIFE, AND EXOTIC PRACTICE

Anthrax Confirmed in Crockett County; Ranchers Urged to Vaccinate Livestock

The Texas drought has added insult to injury, as anthrax has been confirmed in a cow that died in Crockett County. Anthrax bacterial spores can lie dormant in the soil for years, until hot, dry weather increases the exposure of livestock and wildlife as they graze grass close to bare soil. Once they ingest these bacteria, cattle, sheep, goats, horses, deer, and other grazing animals can become ill and die within hours.

“Anthrax occurs worldwide, and in Texas we typically see cases in a triangle bounded by Uvalde, Ozona, and Eagle Pass,” said Bob Hillman, executive director, Texas Animal Health Commission (TAHC).

“We have heard concerns about anthrax in other counties this summer, but the only confirmed case is in Crockett County,” Hillman said. “There is no cause for alarm, but we urge ranchers in the area to vaccinate their grazing livestock to prevent losses to this naturally occurring disease. The injectable vaccine can be obtained from feed stores or through veterinarians or livestock supply representatives. Unfortunately, there is no approved medication or prevention for free-ranging wildlife. When cooler temperatures occur, the outbreak will end.”

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In areas experiencing anthrax outbreaks, Hillman said, ranchers should wear long sleeves and gloves when handling or vaccinating livestock. Afterward, follow good sanitation practices, including washing hands and laundering clothing. This helps prevent contact with anthrax bacteria that may have been picked up on the hides of animals. Skin exposure to the bacteria can cause a nasty sore that requires medical treatment.

Hillman cautioned against picking up bones, horns, or shed antlers. Pets and children should be kept away from dead animals. Healthy animals also should be removed from a contaminated pasture after an outbreak.

“Anthrax ‘hot spots’ in pasture are usually limited to very small areas,” Hillman said. To prevent additional soil contamination, TAHC regulations require animals that have died from anthrax to be burned, along with their bedding and manure. This prevents wild hogs, coyotes, dogs, or other predators from dragging carcasses (and the accompanying anthrax bacteria) from one pasture to another. In severe droughts, burning is not always possible, and a waiver of the regulations and alternative disposal may be requested from the TAHC.

Hillman said TAHC regulations also require animals where anthrax has been diagnosed to be quarantined for at least 10 days after all the livestock have been vaccinated against the disease. During this period, anthrax-exposed animals will die from the disease without contaminating new areas, and healthy, vaccinated animals will develop immunity.

All anthrax cases—suspected or laboratory confirmed—must be reported to the TAHC. The TAHC regulatory agency operates a 24-hour hotline at 800.550.8242, with state or federal regulatory veterinarians available to take calls and work with producers and private veterinarians.

“Hunters often ask us about the risks associated with harvesting animals in an area that has been experiencing an anthrax outbreak,” Hillman said. “We do caution against harvesting wild hogs in an affected area during an outbreak. The hogs consume the meat of dead animals and could be carrying the anthrax bacteria. Fortunately, by the time deer hunting season starts, cool weather usually puts an end to a season’s outbreak. Harvest only healthy-looking deer and other hoof stock. If a deer has ingested anthrax organisms, within hours, it will stagger, tremble or exhibit convulsions, and death is inevitable.”

Links to more information on anthrax are available at www.tahc.state.tx.us and a fact sheet on anthrax is posted at http://agrilifebookstore.org.

Adapted from August 18, 2009, news release, “Anthrax Confirmed in Crockett County: Ranchers Urged to Vaccinate Livestock,” by Carla Everett, information officer, Texas Animal Health Commission, Box 12966, Austin, Texas 78771. For more information, contact Everett at 800.550.8242, ext. 710, or ceverett@tahc.state.tx.us.

Texas Has More Farms, Fewer Acres; Online Trend Visualizer Helps Depict State’s Land Use

The loss and fragmentation of Texas farms, ranches, and forests is part of a continued trend that highlights the importance of rural lands in maintaining the state’s natural resources and economic base, according to a newly released study.

The study shows that lands classified as farms, ranches, and forests declined in 156 of Texas’s 254 counties between 1997 and 2006. In all, 2.1 million acres of agricultural lands have been lost since 1997, the report notes.

“When you talk about the infrastructure of the economy and life in Texas, land is it,” said Neal Wilkins, one of the study’s authors and director of the Texas A&M Institute of Renewable Natural Resources. The study, commissioned by American Farmland Trust, indicated that about 50 percent of the land converted from agriculture to other uses was concentrated in the state’s 50 highest-growth counties. These counties lost 1,084,566 acres while increasing in population by 4,017,765 residents.”

In some regions, including South Texas and the Edwards Plateau, rural lands continue to be divided into smaller acreages, which may affect future profitability, Wilkins said. “According to the data, only 50 percent of farms and ranches below 500 acres showed a net profit during 2007. In addition, these fragmented ownerships are more likely to be converted to nonnative pastures and become a challenge for managing wildlife and other natural resources.”

While the report showed an increase of about 1,900 new farms and ranches in Texas, their average size dropped to 527 acres in 2007 from 585 acres 10 years earlier. “Where traditional agriculture has declined in profitability, landowners have faced a hard decision of having to sell parcels of land,” Wilkins said. “When that happens, the open land becomes fragmented, and the consequence is the loss of rural lands to support our natural resources.”

American Farmland Trust’s Texas advisor Blair Fitzsimmons agreed. “Agricultural lands provide significant public benefits such as clean, abundant water, carbon sequestration, and clean air,” she said. “This study is a wake-up call that those public benefits are disappearing.”

The study features a new tool to help policymakers and local officials make land-use decisions. The
Veterinary Quarterly 3

wards Plateau, and South Texas

tation were in the Trans Pecos, Ed

with the fastest losses to fragmen

Wilkins said some of the regions

trends:

The study found other overall

the Web site easy to navigate.

Computer programmers and poten

example. That data was combined

for over 1,000 school districts, for

counts—to access the land use data

Texas Comptroller of Public Ac

Department of Agriculture, and the

including the U.S. Census, U.S.

9 months gathering information

Wilkins and his team spent about

information and visualize what it means,”

Wilkins said. “It makes the informa

ether local and personal.”

The trend visualizer provides data

not only on totals but also specifically

on irrigated cropland, dry cropland,

non-native pasture, native rangeland,

wildlife management, forests and

other uses. Each of these also can be
determined by county, area, river ba-
sin or ecoregion. The largest overall

land-use category is native rangeland

at 92.6 million acres.

Another trend is that more land

is being used to manage wildlife. In

1996, state legislation provided tax

benefits for that activity. Wildlife

management land use now accounts

for 2.37 million acres statewide. “We

hope this tool will be useful in help-
ing people understand the trends in

Texas land use and how it will im-

pact society,” Wilkins added.

The study was funded in part by

The Brown Foundation, Houston

Endowment Inc., Shield-Ayers Found-
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fences at Texas A&M University.

From the AgNMore news story, “Texas has more

farms, fewer acres, new study shows,” by Kathleen

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brush Busters: How to Beat Mesquite Recently Updated and Available

An updated version of Brush

Busters: How to Beat Mesquite,

L-5144, is now available. This publi-
cation presents a three-step way to

control mesquite using herbicide ap-
plied by the leaf spray method or the
stem spray method. Both methods

are easy, effective, inexpensive, and

environmentally responsible.

What is new in this revision is

that research has found excellent re-

sults using much less herbicide than

in previous recommendations, mak-
ing it much more economical. The

publication was written by Allen

McGinty, Professor and Extension

Range Scientist, and Darrell Ueck-
ert, Professor of Rangeland Ecology

and Management at Texas A&M

University. It can be downloaded or

ordered online at http://agrilifebook

store.org.

GENERAL PRACTICE

New Food Safety Consumer

Web Site Launched

A new consumer Web site has

been created to offer at one site the

latest information on food safety

and food recalls from the top sci-
cific experts on food safety across

the government. The site, located at

www.foodsafety.gov, features infor-
mation from all agencies across the

federal government that deal with
critical food and food safety informa-
tion. It includes:

• Preventive tips about handling

food safely

• Alerts on food recalls

• Latest news from key agencies

The Web site allows consumers to

sign up to receive e-mails and alerts

on recalls or potentially unsafe food.
The site’s launch was announced by

Agriculture Secretary Tom Vilsack

and Health and Human Services

Secretary Kathleen Sebelius.

From ASI Weekly, News for Sheep Industry Lead-
org and www.sheepusa.org
Sheep and Goat Practice

Sheep Flock Improvement Using Wool Fiber Diameter Testing

As textile manufacturers develop new products and look for high-quality wool in the world market, sheep producers can capitalize on wool production by decreasing average fiber diameter (AFD). A solid emphasis on wool genetics in the ewe flock and the use of terminal sires for market lambs have always been a recipe for profit in the U.S. sheep industry. Rams used to generate replacement females should be tested for AFD to ensure that only those with desirable wool quality are being used. The best time to test animals for AFD for use in genetic selection programs is at 16 to 18 months of age. This age corresponds well with summer and fall ram sales for growers wanting to sell or buy rams for their flocks. Seed-stock growers will often begin testing rams at 11 to 12 months of age or have them sampled at ram tests while they are still growing. Although this preliminary information is useful, use it with caution because fiber diameter is influenced by the diet and age of the animal. These animals should be re-tested when they are being offered for sale. Samples and test results should be taken no more than 30 days before the sale date.

By 16 to 18 months of age, rams are generally grown out and physically mature, so their fiber diameter has stabilized. A ram that has been generously fed and is 1 to 2 microns coarser than the ewe flock will probably not make the wool in the flock coarse. Rams in thin or “thrifty” condition tend to have finer-testing wool than their well-fed counterparts; however, when these thin animals are fed well, expect the AFD to increase.

Because wool traits are highly heritable, most growers test only once during a ewe’s lifetime. Research has shown that the relative rankings of sheep within a flock or contemporary group for AFD are fairly consistent over the years, and growers can use the AFD test with confidence. Because shearing generally occurs in the spring when most growers are thinking about wool, samples are often taken at or near shearing time. Testing before 1 year of age can be misleading because the animals are still growing and their fleece growth is inconsistent.

Replacement ewe lambs sheared (and tested) at about 1 year of age will be finer than the mature ewe flock. However, the ewe lambs that are finer than their peers at 1 year of age tend to be finer throughout their lifetime compared to their coarser wool peers. If ewe lamb replacements are tested at 11 to 12 months of age, do not expect them to have the same fiber diameter later in life, especially if tested with the OFDA2000.

The OFDA2000 measures the fiber diameter along the entire fiber length to determine the AFD. This is especially important to remember on young animals, because sheep wool gets coarser as the sheep age. Many growers find that staple pro-
Late summer/fall is a better time for sampling and testing their 16 to 18 month old replacement ewes for AFD. Growers can immediately use the information by sorting and designing fall breeding groups based on AFD test results. By this age, ewes are more likely to have reached mature body size. Also, the plane of nutrition is stabilized because replacement ewes are not yet pregnant nor are they under the stress of recouping body reserves from lactation.

The hectic pace, unreliable weather, and general stress and mood that often accompany spring shearing and lambing season are not present in fall, making the task of sampling wool and working sheep more enjoyable then. If animals are sorted and identified in the fall, growers can simply use this information at shearing time in the spring, avoiding the need to schedule sampling and testing during the spring rush.

Each producer needs to determine his or her own emphasis and goals for wool. Wool-selection goals do not need to be complex. The first step for every flock is to determine the present status of the wool and set goals for the wool. The size of the flock and the amount of effort the grower wants to make will affect further steps and action plans.

Determining the AFD of individual animals in a flock for the first time is time consuming. However, once the ewe flock is tested, only the replacement ewes need to be tested in subsequent years. Using previous year core-test data helps determine a “flock average,” and a starting point for developing wool programs is recommended. For growers who do not want to test all of their mature ewes, simply testing the 16- to 18-month-old female replacements is a good option because within a few years, all the sheep will be tested and can be put into the appropriate AFD groups.

When AFD of individual sheep are plotted and graphed, most flocks will have a bell-shaped curve, with most of the sheep being close to the mean, or average. A good goal for growers is to maintain most sheep within +/- 2.0 microns around the mean. In other words, if the flock average is 22 microns, the majority or sheep will be between 20 and 24 microns. Those more than 24 microns would be considered coarse and should be bred to terminal sires. Growers may want to consider selective breeding programs from ewes that are 2 microns finer than the average to produce replacements within the flock, or consider generating replacements for other producers out of these ewes.

An easy way to identify sheep by wool groups is for the grower to use colored ear tags or ear notches for “outliers.” For example, red ear tags could be used to identify “coarse wool” ewes. Ewes without a tag would be considered the “main group,” and ear tags are not necessary for all sheep in a flock. A second colored ear tag or mark could separate “fine wool” sheep from the “main” and “coarse wool” groups. Spray markers or branding fluid should not be used because they de-value the wool.

All test results must be used as a guide and not an absolute value because AFD does change depending on management and nutrition. However, any objective measurement test for AFD conducted by a laboratory is more accurate and beneficial than parting the fleece and “eye-balling it” or no test at all.


### CANINE PRACTICE

**APHIS Issues Conditional License for Canine Influenza Virus Vaccine**

A conditional license has been issued for a canine influenza virus (CIV) vaccine. The USDA Animal and Plant Health Inspection Service (APHIS) announced on June 23, 2009, that it had issued the conditional license for the vaccine to Intervet/Schering-Plough Animal Health.

The vaccine, made from a killed virus, is intended to help control disease associated with canine influenza virus infection, type A, subtype H3N8. Canine influenza was first identified as a disease in U.S. dogs in 2004 after an outbreak of respiratory disease in racing greyhounds in Florida. Since then, it has spread to dogs in 30 states and the District of Columbia.

APHIS, through its Center for Biologics (CVB), granted the conditional license after accepting data supporting product purity, safety, and a reasonable expectation of efficacy. The safety data included the results of studies that evaluated the product under normal conditions, including field safety trials of the size and scope required for full licensure.

Studies indicate that the vaccine can reduce the incidence and severity of lung lesions as well as the duration of coughing and viral shedding. The product is administered by injection and is recommended for use in healthy dogs at 6 weeks or older to help control the disease associated with canine influenza virus infection.

Under the conditional license, the product may be distributed as authorized by each state, and used by or under the supervision of veterinarians. During the 1-year conditional license period, the CVB
will continue to monitor the product’s performance and will evaluate the company’s progress toward full licensure.

APHIS issues conditional licenses in emergency situations, limited markets, or other special circumstances. In this case, the special circumstance was the emergence of a new virus for which no existing licensed veterinary vaccines existed.

For more information on the CIV vaccine, see the Background on Canine Influenza by the American Veterinary Medical Association at www.avma.org/public_health/influenza/canine_bgd.asp.


FELINE PRACTICE

Chamber Induction of Anesthesia in Cats Using Conventional Isoflurane Vapor Versus a Novel Liquid Technique

A recent study compared the quality of induction in cats by using isoflurane in an anesthetic chamber with conventional vapor (26 cats) to a novel liquid injection technique (25 cats). The authors found that the liquid injection technique induced anesthesia in cats significantly faster and of better quality than did the conventional vapor. The article included the formula for calculating the 4.94 ml volume of isoflurane to be injected into the chamber.


SWINE PRACTICE

Vilsack Tries to Encourage Media Use of ‘H1N1’

Secretary of Agriculture Tom Vilsack called a news conference in mid September to remind media outlets that the continued use of the misnomer “swine flu” to describe the H1N1 virus is inaccurate and contributes to continued economic harm to the swine industry.

Vilsack told reporters that they should accurately inform the public and not contribute to misleading and inaccurate characterizations simply because it is convenient. He also told them that hard-working farmers and their families are harmed by the misleading information promulgated by the media outlets.

Vilsack’s message appeared to be ineffective, however. Multiple prominent media outlets have continued using the “swine flu” misnomer, some citing the fact that the government agencies such as Centers for Disease Control and Prevention (CDC) continue to use the same terminology on their Web sites. When asked about the continued use of this terminology, CDC officials said that the public recognizes the virus by that name and that changing to the more appropriate nomenclature would be confusing.

In other H1N1-related activities, the USDA indicated that it will probably buy additional pork products after October 1, the beginning of the 2010 fiscal year. This is in addition to the $30 million of pork the agency bought for food and nutrition in early September. Agency officials also noted that they fully expect H1N1 to be discovered in the U.S. swine herd but stressed that it should be a non-event and that pork products would remain safe to eat.

The USDA has released a master seed virus to five influenza vaccine manufacturers to speed vaccine development for use in swine herds should it become necessary.


EQUINE PRACTICE

Include Rabies Vaccine in All Equine Vaccination Schedules

The American Association of Equine Practitioners (AAEP) included rabies vaccination for all equids as a core vaccine in summer 2008. The AAEP’s core vaccination recommendations are rabies, tetanus, West Nile virus, and eastern/western encephalomyelitis.

The American Veterinary Medical Association defines core vaccinations as those “that protect from diseases that are endemic to a region, those with a potential public health significance, required by law, virulent/highly infectious, and/or those posing a risk of severe disease.” Core vaccines have clearly demonstrated efficacy and safety, and they exhibit a high enough level of benefit to the animal and low enough risk to justify their use in most animals.

Three vaccines are licensed for rabies prophylaxis in horses; all are derived from inactivated tissue culture. The vaccines are given by IM injection and appear to be safe. Rabies is an excellent immunogen, and these vaccines induce a strong serologic response after a single dose.

Challenge studies demonstrating efficacy are required for licensing of all rabies vaccines, including those labeled for use in equids in the United States. However, published results are not available. The challenge studies are conducted by the
vaccine manufacturers as outlined in the Code of Federal Regulations (CFR) from the U.S. Department of Agriculture.

Although veterinarians should read and follow the specific label instructions for each product, basic rabies vaccinations guidelines (updated as of April 2009) for equids are:

- Adult horses previously vaccinated against rabies: Annual revaccination.
- Adult horses previously unvaccinated against rabies or having unknown vaccine history: Administer a single dose. Revaccinate annually.
- Pregnant mares, previously vaccinated against rabies: Vaccinate 4 to 6 weeks before foaling. Or, veterinarians may recommend that mares be vaccinated with rabies vaccine before breeding. Duration of immunity is such that antibodies to rabies virus are maintained at sufficient levels in mares vaccinated before breeding as to provide passive immunity through the colostrums to the foal. Administration of rabies vaccine before breeding of the mare reduces the number and type of vaccines given in the period before foaling.
- Pregnant mares, previously unvaccinated or of unknown vaccination history: Vaccinate 4 to 6 weeks before foaling.
- Foals of mares vaccinated against rabies: Administer a primary series. The first dose of vaccine should be administered no earlier than 6 months of age. The second dose should be given 4 to 6 weeks later. Revaccinate annually thereafter. This schedule avoids maternally derived antibody interference with induction of a serologic response in the foal.
- Foals of mares of unknown vaccinal history—follow one of two options:
  1. Assume the mare to be antibody positive and follow the above recommendations for foals from mares known to be vaccinated against rabies—the first dose starting at 6 months of age followed by a second dose 4 to 6 weeks later. Revaccinate annually thereafter.
  2. Document the rabies antibody status of the foal by testing serum collected from the foal at 24 hours or older, or from the dam during the pre-parturient period. Testing for rabies antibody using the rapid fluorescent focus inhibition test (RFFIT) is available through Kansas State Veterinary Diagnostic laboratory, Mosier Hall O-245, 1800 Denison Avenue, Manhattan, Kansas 66506-5601. For more information, see www.vet.k-state.edu/depts/dmp/service/rabies/guideline.htm.
- Horses exposed* to a confirmed rabid animal
  - Horse currently vaccinated against rabies with one of the USDA-approved rabies vaccines: Immediate revaccination by a licensed veterinarian and observation (as directed by public health officials) for 45 days for development of clinical signs of rabies.
  - Unvaccinated horse: Euthanatize immediately. If the owner is unwilling to have this done then the horse should be closely monitored under veterinary supervision for 6 months. Public health officials may establish requirements and conditions for monitoring exposed, unvaccinated animals.

*Rabies exposure and transmission occur only when the virus is introduced into bite wounds, into open cuts in skin, or onto mucous membranes from saliva or other potentially infectious material such as neural tissue.
