Texas A&M AgriLife Extension

Fall 2020

KINNEY COUNTY AG/WILDLIFE NEWSLETTER

NOTES FROM THE OFFICE:

Hope this newsletter finds you and your family well. It has been an unusual, uncertain last several months. The AgriLife Extension Service has scrambled to find safe, new ways to keep delivering Extension's message and programming to communities across Texas. Social distancing and government requirements have necessitated most activities we normally enjoy in the spring and summer to be cancelled. While trying to stay safe at home, school, stock shows, meetings, workshops, events, festivals, contests, sports, family gatherings, camps, work for some of us and so much more stopped. We miss everyone!

We know friends, family, co-workers and others who have been sick and some who have died. We extend our sympathies and remind each of you that we are here to help and we are in this together. We continue to follow CDC guidelines in all the activities that we have here and strive to keep each of you safe as you visit our office or participate in the various things we are pushing on to take care of. We are gearing up for the new school year to plan projects and prepare for the fall 4-H season with every hope that things will get back to normal soon.

On a positive note, this time has been an opportunity for needed work to be done on the Extension Office. Improvements have been made to the Exterior and are being made on our meeting room. It will work so much better for us now.

With all that in mind, this year has been unusual to say the least for the cattle market! Fall calving and breeding season is quickly approaching, producers need to be mindful of their current herd health management and breeding practices. Current pasture conditions are in poor shape due to the lack of precipitation and hot, windy conditions. Livestock producers need to keep in mind a few helpful hints in order to optimize their returns in times like these.

Over the next few pages, there are a couple of helpful articles for taking care of your cattle herd : Beef Specialist Dr. Jason Banta discusses the importance of Vitamin A during a drought and winter time, and the Texas Animal Health Commission offers insight on Trichomoniasas Prevention in Beef Cattle.

Please remember we are here for you. If you have questions or concerns email or call us. We will get you the answers you need! Take care of yourselves and your loved ones….Be safe out there!

US Border Patrol Rancher Liaison

Planned in the upcoming weeks—Local ranch owners and ranch foremen are encouraged to attend.

For more information contact Brackettville Ranch Liaison at jesus.valdez@cbp.dhs.gov or call 830-734-0466 or 563-6081

4-H enrollment—begins August 15 for last year's members. New members can sign up after September 1 at:

https://www.4honline.com/

Call 563-2442 for more info.

KINNEY COUNTY WILDLIFE DAMAGE MANAGEMNT ASSOCIATION ANNUAL PREDATOR CONTEST

Four rifles will be given away in March 2021 for the following categories:

1. **Bobcats/Mountain Lions**
2. **Coyotes/Red Foxes**
3. **Feral Hogs**
4. **Open Class $5 donation**

Certifications take place at Kinney County Wool & Mohair

TEXAS A&M AGRILIFE EXTENSION

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Vitamin A Requirements and Considerations for Beef Cattle

Jason Banta, Extension Beef Cattle Specialist
Texas A&M AgriLife Extension

Vitamin A is a fat-soluble vitamin that is important for reproduction and several metabolic functions. Requirements for vitamin A are generally met from green growing forages. However, during extended periods with no green grass it is important to provide supplemental vitamin A to cattle.

A vitamin A deficiency can result in reduced feed intake, low conception rates, abortions, stillbirths, abnormal semen production, and blindness. The vitamin A requirement for cattle is approximately 27.2 international units (IU) per pound of body weight for dry pregnant heifers or cows and 38.1 IU per pound of body weight for lactating cows (NRC, 2016). Table 1 shows the requirements for cows ranging in weight from 1,000 to 1,600 pounds.

When supplies of vitamin A exceed requirements cattle can store excess vitamin A in the liver for later use. However, from a practical standpoint these stores are not likely to provide more than a 2 to 4 month supply.

If green grass is lacking for more than 45 – 60 days, it is important to provide supplemental vitamin A. This can be accomplished by feeding mineral supplements or feeds with high levels of vitamin A. Table 2 shows how much vitamin A can be provided from mineral supplements varying in vitamin A content. As shown in the table, if a mineral supplement contained 200,000 IU of vitamin A per pound and consumption was 0.25 pounds per day it would provide 50,000 IU of vitamin per day. This would be enough to meet the daily needs of a 1,300 pound dry or lactating cow.

Vitamin A can also be supplied through injectable products. Many of these products also contain vitamins D and E. Vitamin A concentration and dosages will vary, but at the highest labeled dose rate will result in providing either 1,000,000 or 2,000,000 IU of vitamin A per injection (Table 3). The products that supply 2,000,000 IU would provide about a 56 day supply of vitamin A for a 1,300 pound dry cow or 40 days if she is lactating.

Table 1. Daily vitamin A requirement for beef cows and heifers

Cow weight, lb	Dry pregnant cows or heifers, IU	Lactating Cows, IU
1,000	27,200	38,100
1,100	29,920	41,910
1,200	32,640	45,720
1,300	35,360	49,530
1,400	38,080	53,340
1,500	40,800	57,150
1,600	43,520	60,960

Table 2. The effect of vitamin A concentration in the mineral on vitamin A consumption

IU of vitamin A per lb of mineral supplement	Daily intake of mineral supplement, lb	IU of vitamin A consumed per cow each day
100,000	0.25	25,000
150,000	0.25	37,500
200,000	0.25	50,000
300,000	0.25	75,000

Table 3. The effect of vitamin A concentration in injectable products on the length of time the injection can meet the vitamin A requirements of a 1,300 pound cow

IU of vitamin A per mL	Dose rate per cow, mL*	IU of vitamin A supplied per injection	1,300 lb dry pregnant cow, days supplied per injection	1,300 lb lactating cow, days supplied per injection
100,000	10	1,000,000	28.3	20.2
200,000	10	2,000,000	56.6	40.4
500,000	4	2,000,000	56.6	40.4

*Labeled dose rates are based on the age of the animal and not the weight.

Literature Cited NRC. 2016. Nutrient Requirements of Beef Cattle. 8th rev. ed. The National Academies Press, Washington, DC.

What is Cattle Trichomoniasis?

Cattle Trichomoniasis or "trich" is a sexually transmitted disease of cattle caused by the organism *Tritrichomonas foetus*.

Transmission

The trich organism is found on the surface of an infected bull's penis and on the inside of the prepuce. An infected bull will not show symptoms but will physically transmit the organism to female cattle during the breeding process. In a 1976 study, 19 out of 20 (95%) heifers became infected with trich after a single breeding process with a 3 year-old naturally infected bull.[1]

How Trichomoniasis Affects Female Cattle

Clinical indications of the presence of trich in female cattle include reduced pregnancy rates, changes in pregnancy pattern (shift towards more late calving cows), pus in the uterus (pyometras)[2] and higher rates of abortion throughout the pregnancy.

While it is commonly stated that most cows and heifers can clear trich infections with 120 or more days of sexual rest, recent studies have shown trich infected female cattle can become pregnant and have abortions 120 days after conception.[3,4]

Female Immunity and Clearing the Disease

Unlike bulls, trich infected females will show an immune response to the presence of the trich organism in their reproductive tract. Antibodies are produced both within the reproductive tract and blood which helps in the clearance of the infection in many exposed females.[5] The immunity to trich is short-lived and cattle that have previously cleared the infection can become re-infected if exposed to trich during a following breeding.

It is important to note, infected female cattle can remain infected throughout their pregnancy, deliver a live calf[6] and be a potential threat in spreading the disease in the next breeding season.

Trichomoniasis Testing for Female Cattle

No blood test is commercially available for trich infected cattle, however female cattle can be sampled using similar collection materials as are used in bulls. Sampling of cervicovaginal mucus (clear) and purulent vaginal discharges (cloudy or white) are considered to be the samples of choice.[2] The diagnostic sensitivity of these samples is less than that found in testing preputial smegma samples from bulls.[7,8]

Herd Management

Since testing is not found to be the most accurate way of identifying trich in female cattle, reliance on clinical indications of the presence of trich is needed. The best method of surveillance is to know the disease status of the bulls in each breeding pasture group (trich test bulls before and immediately following the breeding season).

While there is no approved treatment for trich, there is currently one vaccine available that has been proven to reduce the shedding of *T. foetus*. Studies have shown that vaccinating cattle prior to breeding increases calf crop in trich infected herds.

Producers interested in vaccination consultation or testing their herd are encouraged to contact their private veterinarian or a veterinarian on the TAHC Bovine Trichomoniasis Certified Veterinarian list.

Herds that exhibit high levels of biosecurity, keep excellent pasture records, while monitoring reproduction rates are not as likely to be severely impacted by bovine trichomoniasis.

Additional Trich Resources

Texas A&M AgriLife Extension: www.beef.tamu.edu
TAHC Cattle Trichomoniasis Brochure: http://www.tahc.texas.gov/news/brochures/TAHCBrochure_Trichomoniasis.pdf
TrichConsult: http://www.trichconsult.org

Continued on next page.

What can I do to keep my herd trich-free?

- **Develop a preventative herd health plan with your veterinarian that includes testing of bulls, record keeping and a vaccination schedule.**
- **Educate yourself and others about the disease.**
- **Know the breeding and calving history of your purchases.**

References

1. Parsonson IM, Clark BL, Dufty J. Early pathogenesis and pathology of Tritrichomonas foetus infection in virgin heifers. J Comp Path 1976; 86:59-66.

2. BonDurant RH. Pathogenesis, diagnosis, and management of trichomoniasis. Vet Clin North Am 1997; 13: 345-361.

3. Rhyan JC, Stackhouse LL, Quinn WJ. Fetal and placental lesions in bovine abortions due to Tritrichomonas foetus. Vet Pathol 1988; 25:350-355.

4. Yao C. Tritrichomonas foetus infection in female beef cattle with abortions in Wyoming. JMM Case Reports 2015; 2:1-5.

5. Ikeda JS, BonDurant RH, Corbeil LB. Bovine vaginal antibody responses to immunoaffinity-purified surface antigen of Tritrichomonas foetus. J Clin Micro 1995; 33: 1158-1163.

6. Skirrow S. Identification of trichomonad-carrier cows. J Am Vet Med Assoc 1987; 191: 553-4.

7. Goodger WJ, Skirrow SZ. Epidemiologic and economic analysis of an unusually long epizootic of trichomoniasis in a large California dairy herd. J Am Vet Med Assoc 1986; 189:772-776.

8. Kittel DR, Campero C, Van Hoosten KA, et al. Comparison of diagnostic methods for detection of active infection with Tritrichomonas foetus in beef heifers. J Am Vet Med Assoc 1998; 213:519-522

Information provided by the
Texas Animal Health Commission & Texas A&M AgriLife Extension
TAHC - P.O. Box 12966 - Austin, TX 78711-2966
www.tahc.texas.gov
800-550-8242

AGGIE HORTICULTURE

Get Ready for a Fall Garden

Gardening can influence and benefit your mental health

Being around plants has shown higher levels of reduced stress and anxiety, according to a study by a Texas A&M AgriLife Extension Service horticulture specialist.

Charlie Hall, Ph.D., AgriLife Extension horticulture and economics specialist, College Station, has done research to uncover all the ways gardening and plants can help better your mental health.

Growing greater happiness by gardening

"Interacting with nature, especially with the presence of water, can increase self-esteem and mood, reduce anger, and improve general psychological well-being with positive effects on emotions or behavior," Hall said. "In fact, moving to homes with greener areas positively influences mental health even after three years." However, doing your own gardening can have the same effects on your mental health.

Interacting with nature around puts the mind more in touch with the community, Hall said. Exposure to natural settings helps improve the human perceptions of emotional, psychological, and social benefits. Plants are a symbol of life and can influence those around them. "The reason these social benefits of plants are so important is that when social bonds are severed, or simply absent, society suffers," he said."

At a time when the polarization and fragmentation of society is of growing concern; we need to actively seek ways to strengthen human connections among us and build stronger communities." "Many of these social benefits experienced during exposure to plants have been documented in both the built environment and the natural environment. We have the ability to build our environment and create gardens to help reach these social and mental benefits plants influence."

Decreased depression

Being immersed in nature and vegetation were used as active components in a therapeutic horticulture intervention for clinical depression in 2018, said Hall. "Garden walking and reflective journaling decreased depression scores in older adults." Outdoor gardening and plant care exposes people to sunshine and high amounts of vitamin D, a synthesizer of serotonin. Serotonin is the chemical in brains that induces happiness. Plant filled homes and areas also can boost memory and heighten your attention span, he said. Overall mood improves greatly after spending time in nature.

Reduced anxiety and stress

In high stress times and environments, gardening lends an outlet for keeping the hands and mind busy, Hall said. Hands-on activities like gardening allow the brain to focus on another task. "Consumers have historically shown an inclination to purchase plants that enhance their quality of life, meaning they will purchase items that positively influence their social, physical, psychological, cognitive, environmental and spiritual well-being," he said.

"Increased access to green spaces also reduces psychological distress, depression symptoms, clinical anxiety and mood disorders in adults," Hall said. "Stress reduction and mental restoration occur when individuals live near green areas, have a view of vegetation, or spend time in natural settings." Gardening and plant care provide physical activities for people to do, distracting the mind from the things that are stress inducing. Humans have an urge to be surrounded by nature and tend to be in a more relaxed state in a greener environment, Hall said.

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Sign up for CFAP by September 11, 2020

Are you a farmer or rancher whose operation has been directly impacted by the coronavirus pandemic? The Coronavirus Food Assistance Program provides direct relief to producers who faced price declines and additional marketing costs due to COVID-19.

Farmers and ranchers who have not yet signed up for the U.S. Department of Agriculture's Coronavirus Food Assistance Program should do so before the deadline of September 11. **You should also know that sheep are included in the program now.**

Producers self-certify when applying for CFAP, and documentation is not submitted with the application. You may be asked for additional documentation to support your certification of eligible commodities, so you should retain the documentation used to complete your application. Information on additional documents are provided at farmers.gov/cfap/apply.

Assistance with Applying

While most USDA Service Centers are open for business by phone appointment only, FSA is working with producers by phone and using email and online tools to process CFAP applications.

Please call the FSA office at your local USDA Service Center (830-278-9197) to schedule an appointment if you would like assistance or have questions.

You can find contact information for your local USDA Service Center at the bottom of the page, and check the status of your local USDA Service Center at farmers.gov/coronavirus/service-center-status.

A CFAP Call Center is available for producers who would like additional one-on-one support with the CFAP application process. Please call 877-508-8364 to speak directly with a USDA employee ready to offer assistance. The CFAP Call Center can provide service to non-English speaking customers. Customers will select 1 for English and 2 to speak with a Spanish speaking employee. For other languages, customers select 1 and indicate their language to the Call Center staff.

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