

AG & NATURAL RESOURCES

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with Texas A&M AgriLife Extension



Protect Cattle From Exposure to Lepto and Other Feral Swine Disease Risks

Increasing biosecurity and practicing prevention minimizes disease transmission to cattle

Feral Swine aren't just a nuisance, they can transmit up to 34 known diseases. That's why it's crucial for beef producers to protect their cattle from exposure to feral-swine disease risks. "The biggest struggle we're having with feral hogs is that we're starting to see more of them, and in parts of the country we've never seen them before," said Jody Wade, DVM, Boehringer Ingelheim. "They're spreading disease to cattle that, unfortunately, can cause a lot of problems, including reproductive diseases." The greatest threat to cattle from feral swine is disease transmission. Transmission usually happens when swine contaminate feed and water sources. This can infect cattle with a handful of costly diseases such as brucellosis, pathogenic E. coli and leptospirosis, one of the most common reproductive diseases leading to production and financial losses. The following steps can help beef veterinarians and producers make strides to protect cattle from exposure to feral-swine disease risks.

Increase Biosecurity

Wade recommends making sure the operation has a good fence. It's hard to keep feral swine away from livestock, and barbed wire fences typically don't offer the best protection. Net wire fences provide a barrier that pigs can't go through or underneath. Not only can fences protect cattle from disease transmission, they can also protect farm equipment and crops from being damaged from feral swine. Another key component is to avoid feeding cattle on the ground. A lot of producers don't realize that by feeding cattle on the ground, they are increasing the risk of pathogen transmission. When feral swine have access to feed, it is easy for them to contaminate it with their saliva or urine, putting cattle at risk the next time they eat.

Practice Prevention

"When beef producers ask about prevention, I tell them vaccination is the No. 1 tool to protect cattle from exposure," said Wade. Killed vaccines that protect against leptospirosis are easy to add to any protocol as a first line of defense. More often than not, when producers purchase their cattle, they are given limited information on the animals' previous preventive health programs. Since killed vaccines only contain killed antigens, they offer safe and effective protection regardless of previous vaccination status. They can also be administered to cattle of all ages and at all stages of production. "If we vaccinate routinely for leptospirosis, we know we can control it," Wade concluded.

To learn more about vaccination plans and protocols to control diseases of feral swine, producers should work closely with their veterinarians.

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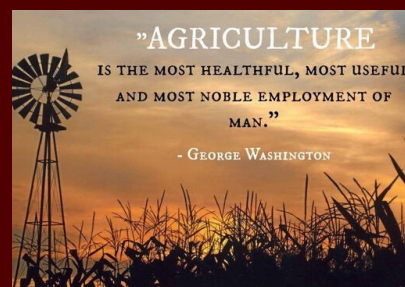
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Ultra-low Gossypol Cottonseed Approved to be Utilized as Human Food and In Animal Feed

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The U.S. Food and Drug Administration has given the green light to ultra-low gossypol cottonseed, ULGCS, to be utilized as human food and in animal feed, something Texas A&M AgriLife researchers have been working on for nearly 25 years. Keerti Rathore, Ph.D., a Texas A&M AgriLife Research plant bio-technologist in the Texas A&M Institute for Plant Genomics and Biotechnology and Department of Soil and Crop Sciences, College Station, and his team have developed, tested and obtained deregulation for the transgenic cotton plant – TAM66274. TAM66274 is a unique cotton plant with ultra-low gossypol levels in the seed, which makes the protein from the seeds safe to consume, Rathore said, but also maintains normal plant-protecting gossypol levels in the rest of the plant, making it ideal for the traditional cotton farmer. Patrick Stover, Ph.D., vice-chancellor and dean for the College of Agriculture and Life

Sciences and director of AgriLife Research, said this is research with a direct, positive impact on the world's food supply. "This demonstrates how we can make a difference in enhancing the nutritional quality of the food system for those in greatest need, while enhancing the profitability of agriculture production," Stover said. "Our goal is to advance sustainable agriculture in Texas and around the world, and this new protein source is yet another step in that direction."

COTTON SEED AS A FOOD SOURCE

If adopted by the cotton growers worldwide, ULGCS has the potential to make a significant impact on nutrition security, especially in the poor, cotton-growing countries, Rathore said. "The amount of protein locked up in the annual output of cottonseed worldwide is about 10.8 trillion grams," he said. "That is more than what is present in all the chicken eggs produced globally, and enough to meet the basic protein requirements of over 500 million people." This FDA approval is only the fifth for a university-developed, genetically engineered crop in the last 25-year history of genetically modified products in the U.S., and is the first for a Texas university, Rathore said. Except for a few countries, most cotton producing countries, particularly in Asia and Africa, suffer from hunger and malnutrition, Rathore said. Up to now, the ability to utilize protein-rich cottonseed for food or even as feed for the non-ruminants was not possible because of the presence of a toxic terpenoid, gossypol.



The idea of gossypol-free cottonseeds as a human food is not new. A project in 1980s developed these TAMUNUTs as a snack food, but the project failed at the time because the entire plant was devoid of gossypol, which is necessary for the rest of the plant's protection. The new TAM66274 has gossypol-free seeds, but the remainder of the plant retains the gossypol for its protection. (Texas A&M AgriLife photo by Keerti Rathore) With the development and approval of the ULGCS, gossypol is no longer a deterrent. The human food ingredients from TAM66274 cottonseed can be roasted cottonseed kernels, raw cottonseed kernels, cottonseed kernels, partially defatted cottonseed flour, defatted cottonseed flour and cottonseed oil

When used in animal food, the appropriate name for dehulled cottonseed derived from TAM66274 cotton is "low gossypol dehulled cottonseed," and the appropriate name for dehulled cottonseed meal derived from TAM66274 cotton is "low gossypol dehulled cottonseed meal." Rathore said initially low-gossypol cottonseed protein can be used by two of the most efficient systems to convert feed protein into edible animal protein: aquaculture and the poultry industry. "Both of these industries are experiencing high rates of growth and are likely to continue growing for the foreseeable future," he said.



Dr. Morgan Treadwell, Assistant Professor & Extension Range Specialist

My primary responsibility is to transfer new technology and the latest scientific advances in rangeland ecology and management to landowners, managers, youth, and other interested parties. While working in semi-arid climates of southern Utah, southeastern New Mexico, and eastern Montana I have gained an understanding and appreciation for challenges livestock producers and wildlife managers face. In years of drought and wildfire, it is important to maintain flexibility while implementing strategies and techniques to maximize forage production and efficiency. My doctorate research on bud bank contributions brings a new perspective to analyzing forage production following ecological processes that many semi-arid systems evolved with. These environmental situations have afforded me an uncommon perspective on how to adapt management to a tough environment and remain sustainable. My future extension goals are to focus on improving the productivity of rangelands while maintaining sustainable livestock grazing and wildlife management.

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Mark your Calendar for 2020 Sheep and Goat EXPO! August 14 - 15, 2020 San Angelo, TX

One of the most popular events of the year in the sheep and goat industry has set its date! The sixth annual Texas Sheep and Goat Expo will be August 14th and 15th this year. The event is held at the 1st Community Federal Credit Union Spur Arena on the San Angelo Fairgrounds with this year's theme being "Business and Technology".

"Agriculture is continuously changing through innovation in science and technology," said Robert Pritz, event coordinator and Agrilife Extension regional program leader in San Angelo. "Sheep and goat producers are not exempt from these changes, as they too are called upon to produce with more finite resources."

Pritz further explained that last year was the first time to have a dedicated session to focus on business management. He says the to be a profitable sheep and goat business aspects like marketing, stewardship, and animal care and production must be considered. All of these will be discussed in general sessions and breakout sessions.

The 47th Sheep and Goat Field day will also be held during the Expo. This event will be the morning of August 14th at the Texas A&M Agrilife Research Extension Center in San Angelo. According to Agrilife Today, the free field day allows participants to hear from experts and observe the center's sheep and goats, livestock guardian dog program and wool lab.

For more information about the Expo or field day you can contact Robert Pritz at (325) 653-4576 or visit the expo website .<https://agrillife.org/agrilifesheepandgoat/>

The New Standard for Prickly Pear Control

We all know Pricklypear is notoriously slow to die and melt away. Faster symptoms with MezaVue herbicide. MezaVue herbicide provides fast acting control which means native grasses are able to respond sooner to get rangeland back into production. The more cactus you have in that area the more you can open to grazing.

Benefits of MezaVue Herbicide

MezaVue herbicide provides faster visual activity so you can trust its working but also get a higher level of control with a quicker kill rate to help restore grass productivity sooner. Pricklypear treated with MezaVue shows significant yellowing in the Cactus so you know that it is starting to die within in three to four months the cactus will lead to a quick death. The sooner the cactus dies the sooner the desirable forage grasses can reclaim that space for livestock grazing. MezaVue has a faster visual activity such as the yellowing of the cactus so you can immediately tell that it is working, and you are not wondering. When you treat a pricklypear your aim is a high level of control. Depending on your goal but preserving oaks, forbs or other desirable plant is important. MezaVue supports ecosystem diversity through tolerance among many species and a quick recovery by species exhibiting signs of injury.

More Benefits

- Improved oak tolerance and quicker recovery
- Low use rate
- Favorable wildlife and livestock toxicity profile
- No grazing restrictions for non-lactating dairy animals or other livestock.

Application Methods

1. Ground Broadcast applications: spray volumes greater than 10 gallons per acre generally provide better coverage and better control, particularly in dense and/or tall foliage.
2. Aerial broadcast applications: Use four gallons or more per acre total spray volume, five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.
3. Individual treatment: Apply the spray mixture to individual plants until the pads and stems are wet, but not the point of runoff. Results will be faster and more consistent if you spray both sides of the pricklypear pads.
4. Application timing: Post emergence as broadcast spray or as an individual plant treatment.
5. Adjuvant recommendations:
 - Non-ionic surfactant: 0.25 to 0.5% volume per volume (1 to 2 quarts per 100 gallons of spray.)
 - Crop oil concentrate or methylated seed oil: Use manufacturer's specified rates of control of cactus and associated woody plants.

PricklyPear Control Recommendations

- Broadcast rate is 32 fluid ounces per acre
- Individual plant treatment rate is 1% V/V
- Apply at any time of the year
- Avoid applications in extremely cold weather
- For Aerial applications, early spring applications are preferred in areas with heavy tree foliage that may limit access of spray target species
- If live oak damage is a concern spray prior to leaf drop in the spring.
- Mechanical injury that punctures the surface of pricklypear pads or stems immediately before applications may improve control.

Untreated



Tordon 22K Herbicide @32oz/A



MezaVue herbicide @32 oz/A



Broadcast treatments of MexaVue herbicide for prickly pear control averaged across 9 sites in Texas during 2015 and 2016.

Percent at or above 40% yellowing a 4 MAT
Tordon 22K herbicide 32 oz - 22%
MexaVue 32 oz - 89%

Individual plant treatment of MexaVue herbicide for prickly pear control averaged across 9 sites in Texas during 2015 and 2016.

Percent at or above 50% yellowing a 4 MAT
Tordon 22K herbicide 1% - 44%
MexaVue 1% - 89%

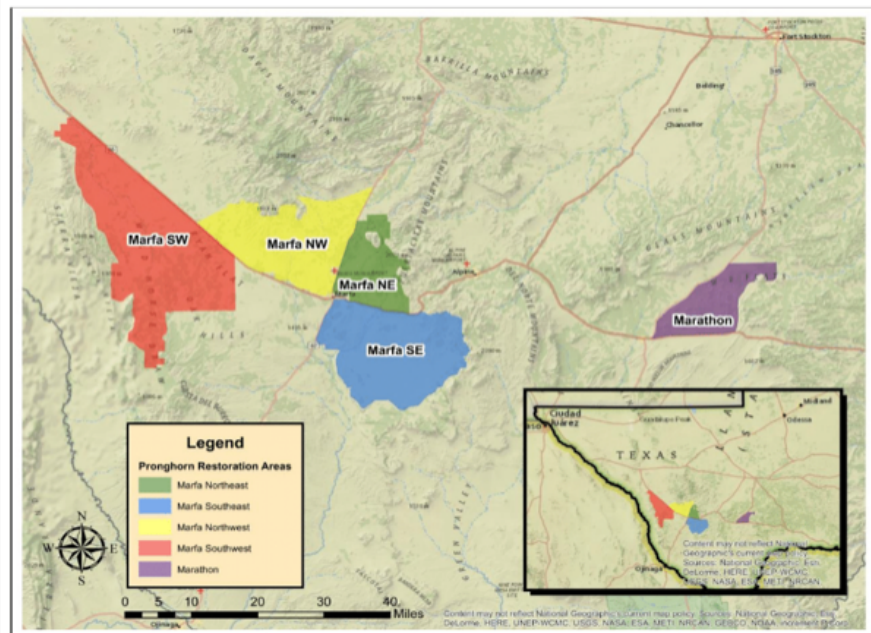


Pronghorn Translocation Efforts

JESSICA MCCRORY & SHAWN GRAY, TEXAS PARKS & WILDLIFE
DEPARTMENT MULE DEER & PRONGHORN PROGRAM LEADER

Historically, pronghorn roamed much of the Texas landscape. Their distribution used to stretch from the Trans-Pecos region and over as far east as I-35. But the pronghorn population has since seen severe declines and a shrinking range, since the early 1900s. With a previously estimation of over 1 million pronghorn prior to the European expansion, numbers drastically dropped down to 2,400 by the 1920s. Their range even diminished to just the western half of the state. By the mid-1980s, past restoration efforts helped to increase the number of pronghorn back up to around 17,000 just to drop again to below 2,500 in 2012. With the dramatic decline in numbers within the Trans-Pecos, the Trans-Pecos Pronghorn Working Group was formed. Members, which are “comprised of area ranchers, biologists, hunting guides, veterinarians and scientists”, have worked to restore the pronghorn population as well as initiating research projects to discover why the decreases were happening. Texas Parks & Wildlife Department, Borderlands Research Institute and the Trans-Pecos Pronghorn Working Group have worked together in restoration efforts and research projects. These projects include studies on the role of barriers and habitat fragmentation, such as fencing and highways which can leave them unable to find adequate food and water; the study of diseases and parasites effecting the populations; fawn survival rates and causes for mortality; translocation efforts to increase the populations and their survivability following a translocation. Translocation has been one of the efforts to assist the struggling population in the Trans-Pecos. According to the Borderlands Research Institute website, “translocating pronghorn has been a common management technique to improve and sustain pronghorn populations in Texas & North America.” The three organizations (TPWD, BRI & TPPWG), as well as other volunteers, have come together for the translocation project in the Panhandle, where TPWD determined that there was a healthy source population. These efforts have continued for 6 different translocations (2011, 2013, 2014, 2016, 2017, 2018). Specific procedures at the capture are set to make the process quick and as easy as possible for the pronghorn. During the translocation, pronghorn are captured via helicopter with a net-gun. They are transported to an area where personnel process each animal. They are evaluated and treated by veterinarians, data is recorded, blood and fecal samples taken. They are then ear-tagged with a color tag assigned for that year and a percentage (35% for 2018) are outfitted with radio collars which track multiple points of data, including their location every 15 minutes. The pronghorn are then loaded and transported to the designated release area for that year. The established release sites have been thoroughly evaluated for the pronghorn prior to the capture. In order to have the best chance of survival and productivity, activities, including predator management to help improve the translocated pronghorn survival and fawn production, habitat management, and the elimination of movement barriers through fence modifications or fence replacement, are conducted. In the past six translocations, a total of 748 pronghorn have been released to five different areas to help in boosting the population in the Trans-Pecos area. Biologists track the population growth through aerial fixed wing surveys of the locations each summer, as well as process data from the radio collars that have dropped after 510 days, among other methods. As a whole, pronghorn populations at each release site have seen increases in numbers due to these translocation efforts. A few of the sites have seen small decreases in the past few years, because of different factors, but are now seeing increases once again. Texas Parks & Wildlife has continued these same efforts into 2020.

Figure 3. Trans-Pecos pronghorn restoration areas.





Landonwers and Liability

TIFFANY DOWELL LASHMENT

A common concern for Texas landowners is how to protect themselves from liability if someone is injured on their property. There is no silver bullet that ensures that a landowner will not ever be liable for anything, and nothing they can do to make it impossible for another person to file a lawsuit against them. However, they can significantly limit their chances of being held liable or limit the financial burden of a judgment against them by taking the following steps before an injury occurs.

Carry Liability Insurance

Every landowner should have a liability insurance policy that covers every activity taking place on the property. If a landowner has a farm and ranch policy, but also conducts other activities such as a roadside fruit stand or guided hunts, he or she should confirm that the additional activities are covered by the provisions of the farm and ranch policy. An endorsement may be needed for the additional activities. How much insurance a landowner should carry depends on the amount of risk associated with the operation. For example, a farm in the middle of nowhere that does not host any sort of events or have any guests would likely need a lower coverage amount than a farm that has a pumpkin patch and corn maze every fall with thousands of guests. Talk through the details of your operation with your insurance agent to determine the right level of coverage and type of policy you need.

Identify Dangerous Conditions on the Land and Provide Warnings or Make Them Safe

When a person is injured due to a condition on a piece of property, a “premises liability claim” is often brought against the landowner. Texas law places injured parties into one of three categories (Trespasser, Licensee & Invitee) to determine whether the defendant is liable to the injured party in a premises liability case. A landowner owes a certain level of duty to each category. If the level of duty is met, the landowner is not liable. If the landowner fails to meet the required duty, he or she can be held liable for the injury.

Obtain Written Liability Releases from Anyone Entering the Property

Liability releases (also called liability waivers) are documents signed by guests agreeing that they will not hold a landowner liable for injuries that occur on the property. Releases usually identify the activity involved, list common dangers associated with that type of activity, state that the signer understands those risks, and agrees not to sue the landowner for negligence.

Ensure that All Limited Liability Statutes Apply to the Operation

Many states have limited liability statutes protecting landowners from liability if certain conditions are met. In Texas, three such statutes apply: the Texas Recreational Use Statute, the Texas Agritourism Act, and the Texas Farm Animal Liability Act. While the scope and requirements of each statute differ, they each offer essential, limited liability protections for Texas landowners.

- ◆ The Texas Recreational Use Statute provides that a landowner is not liable except for intentional acts or gross negligence if the person injured was there for a recreational purpose and the landowner either charged no fee, did not charge more than a certain amount, or carried a sufficient level of insurance. In other words, this statute results in the standard of duty owed to a trespasser being applied to recreational guests.
- ◆ The Texas Agritourism Act states that landowners are not liable for injuries that occur during activities on agricultural land for recreational or educational purposes, regardless of compensation, if the landowner either hung a required sign or obtained signed release language.
- ◆ The Texas Farm Animal Liability Act offers liability protection for a farm animal owner if an injury occurs to a farm animal activity participant and is a result of an inherent risk of that activity. Texas landowners should carefully review the details of these statutes and ensure they take the steps necessary for the statutes to apply to their operations.

For more information about Landowner Liability go to:

<https://agrilife.org/texasaglaw/files/2018/10/How-Landowners-Can-Protect-Themselves-from-Liability.pdf>

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HORTICULTURE HIGHLIGHT

Chilopsis linearis (Desert Willow)

The desert willow is a hardy tree that can withstand the varying climates in West Texas. Although commonly referred to as a large shrub, this small tree is considered an ornamental plant due to its blooms and leaves resembling a Willow Tree. Furthermore, the Desert Willow is quite unique in that the trunk is often characterized as twisted, while its branches are whimsical.

Furthermore, the Desert Willow is a deciduous tree; after the tree has reached its full growth at the end of the growing season, the leaves will fall off. This tree is also a perennial, which is a benefit if you plan to have this tree in your yard for a while. So, be sure that you want this tree hanging around in your yard! However, be sure not to over-water your tree! This plant is drought and heat tolerant, overwatering this tree could potentially cause the blooms to fall off and could prevent the tree from growing properly. Therefore, the water use is minimal and there is no need to use fertilizers unless absolutely necessary. Also, make sure your tree is planted in an area where it can have access to full sunlight. This tree is considered to be fairly short in length, records from the Ladybird Johnson Wildflower Center indicate that the length varies from 15 to 40 feet high.

There are quite a few benefits of having a desert willow tree during the spring months. Hummingbirds, butterflies, and some pollinators are attracted to the flowers of the desert willow, as the flowers provide a good source of nectar and pollen. Which makes this a great tree for viewing wildlife and insects from your backyard! In addition to this, the desert willow can provide shade for plants that do not require full sunlight, just make sure not to overwater your tree when watering other plants that are close by!



Source:

<https://tucsoncleanandbeautiful.org/product/desert-willow/>



Source: Loughmiller, Campbell and Lynn;

https://www.wildflower.org/gallery/result.php?id_image=3064



Source: Matthews, Ray;

https://www.wildflower.org/gallery/result.php?id_image=40908