

LUBBOCK COUNTY SMALL ACREAGE LANDOWNER NEWS

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The purpose of this newsletter is to assist and educate small acreage landowners to make the best decision for their production needs and keep them updated on educational opportunities. If there is a topic you would like me to address please email me at rj-scott@tamu.edu and I will try to address your request. If you would like to be on the newsletter email list let me know and I will be glad to add you to the list. The Lubbock county Extension website is <http://lubbock-tx.tamu.edu/>.

PIONEERS IN AGRICULTURE SERIES

New technologies, equipment, plant and animal genetics, and production strategies are emerging every day. Combine this with changes in markets both domestically and internationally and the challenges of today's agriculture are unlike anything we have faced. Like the first pioneers who began farming and ranching in this region, today's producers are venturing into new territory. The *Pioneers in Agriculture* series is designed to connect today's producers with the latest research information through a shared experience that draws on our knowledge-building traditions of field days and farm walks.

Event 1 Forages: Back to the Future Monday, June 9, 2008 9:00 am-Noon, Texas Tech University Research Farm in New Deal, TX.

For a program flyer visit our website (<http://lubbock-tx.tamu.edu/>) and click on Newsletters→Pioneers in Agriculture Series Flyer.

SOIL TESTING

Yield and economic return from fertilizer can be optimized, and potential soil and water pollution minimized, when nutrient application is geared to the needs of a particular crop grown on a specific field. Soil testing is the only way to determine the available nutrient status of a field and receive specific fertilizer recommendations.

Procedure for Taking Soil Samples

Take one composite sample for every 10 to 40 acres. A separate sample should be taken for: areas with different soil types, areas with different land uses or fertilizer uses, areas with different terrain, avoid sampling areas such as small gullies, slight field depressions, terrace waterways, or unusual areas.

Approximately 1 pint of the composite soil sample is required for routine analyses. Put samples in a clean plastic bucket or other non-metallic container, thoroughly mix and remove a pint as a composite sample representing the whole field or area. To improve the nitrate-nitrogen analysis, samples may be air-dried before sending to the laboratory. **Do not use heat** to dry samples. Completely fill soil sample bag or other suitable pint container. Do not use old vegetable cans, tobacco cans, match boxes, glass containers, etc. to submit samples.

For a Soil Sample order form and information where to ship you sample, visit our website (http://lubbock-tx.tamu.edu) and click on Small Acreage Landowners Info on the home page.

NITRATE POISONING

Sorghums, millets, corn, oats, wheat, rye, and pigweed.

Conditions: Drought (moisture stress) or cloudy (low-light) conditions prevents normal plant growth. Under this conditions, the plant accumulates nitrates mainly in stems and lower leaves instead of converting the nitrate to protein.

Causes: Consumption of plant parts with high levels of nitrates. Toxic levels usually exceed 1%. The term "nitrate toxicity" is commonly used but the toxic principle is actually nitrite. Nitrate is converted to nitrite in the rumen. Nitrite is absorbed from the rumen converting blood hemoglobin to methemoglobin. Methemoglobin cannot transport oxygen to body tissues, so animals die from oxygen insufficiency.

Educational programs of the Texas AgriLife Extension Service are open to all citizens without regard to race, color, sex, disability, religion, age or national origin. The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by the Texas AgriLife Extension Service is implied. We will seek to provide reasonable accommodations for all persons with disabilities for any of our meetings. We request that you contact Texas AgriLife Extension Service - (806) 775-1680, as soon as possible to advise us of the auxiliary aid or service that you will require.

Animal Symptoms: Labored breathing if detected early enough.

Treatment: Acute - treat with methylene blue, Chronic - treat with Vitamin A

Prevention:

1. Don't graze during stress periods, monitor nitrate levels to determine levels in forage are safe.
2. Don't graze too short nitrates accumulates mainly in stems and older leaves.
3. Don't feed high nitrate forage free choice.

Nitrate does not dissipate from hay like HCN (prussic acid). Once high nitrates levels are reached they stay high. (it must be diluted by feeding it mix with hay that is nitrate free and or discarded). Horses and hogs are less tolerant than ruminants. Plant samples can be sent to: Texas Veterinary Diagnostic Medical Laboratory or Texas Cooperative Extension, Soil, Water, and Forage Testing Laboratory.

PRUSSIC ACID

Primarily occurs in sorghums commonly less than 1½ foot. (johnsongrass, grain sorghum, sorghum-sudan), wild cherry, and occasionally on white clover and birdsfoot trefoil. Prussic Acid does not occur in pearl millet or corn.

Conditions: Poisoning is associated with consumption of plant parts with high levels of prussic acid, by a cyanogenic compound that is highly poisoning. Prussic acid is associated with rapidly growing plants. Occurs in young plant tissue that is damaged or stressed, (for example: after a frost or drought after heavy N fertilization) or mechanically injured (after 4 wheelers or ATVs are run over a field). Under these conditions the cells are ruptured mixing their exzynme content with that of Dhurrin, breaking down dhurria to prussic acid.

Causes: Plant HCN (Hydrogen cyanide) levels greater than 50 ppm dry mater basis or 200 ppm on wet basis.

Mode of Action: Cyanogenic glucosides are converted by enzymatic hydrolysis to HCN (Hydrogen cyanide). HCN causes acute respiratory inhibition by inhibiting the enzyme cytochrome oxidase.

Animal Symptoms: Labor breathing if detected early enough. May occur minutes (10-15 min) after consumption of feed.

Treatment: Treat with sodium thiosulfate or methylene blue to detoxify CN.

Prevention: If plants have been injured defer grazing until they are recovered from injury. After a hard freeze, or severe

drought, avoid grazing for approximately 1 week. After a rain or irrigation on drought stressed fields wait at least 2 weeks after plants begin to grow before grazing.

Due to volatilization of CN compounds, hay can be fed; however, you still need to monitor forage by taking samples and have them tested to confirm 'safety' in feeding the hay. Forage samples can be sent to: Texas Veterinary Diagnostic Medical Laboratory to determine toxic levels for a fee of \$15.00 in-state.

For more information on this topic visit our website (<http://lubbock-tx.tamu.edu>) and click on Small Acreage Landowners Info on the home page for a link to Forage Livestock Disorders.

HOW TO BEAT MESQUITE

The mesquite tree is one of the toughest, most invasive species of brush in the world. It thrives across the western two-thirds of Texas, both in rural pastures and on urban lots. Just keep in mind that



controlling mesquite is not a one-time job. Livestock and wildlife do an excellent job spreading seeds, so you'll need to go over your land regularly to get rid of unwanted seedlings. Professionals with the Texas AgriLife Research and Extension Service, both agencies of the Texas A&M University System, have developed and approved these methods of mesquite control. Your results may vary with weather and other conditions, but you should be able to knock out more than seven of ten mesquites treated. Brush Busters recommends two ways to control mesquite, depending upon tree shape. If most of your mesquites have a few well-defined stems or trunks coming out of the ground, you'll find the **Stem Spray Method** works best for you. If your mesquites are bushy, have many stems at ground level, and are less than 6 to 8 feet tall, try the **Leaf Spray Method**.

Stem Spray Method works best for controlling relatively young mesquite trees that have smooth bark and few basal stems. Apply any time during the year, although best results occur during the spring-summer growing season. Almost any type of pump-up hand sprayer can be used, but the most efficient way to apply the spray to several trees is with a backpack sprayer using a nozzle such as the Conejet® 5500-X1 to reduce the quantity of spray applied by 80 percent over standard nozzles.

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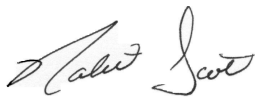
A mixture of the herbicide Remedy™ and diesel fuel oil is very effective for this method. Diesel acts as a coating to ensure good coverage and absorption. The recommended concentration of Remedy™ will vary depending on the size and age of the mesquite. A 1.5 in. diameter or less requires a 15% rate of Remedy™ mixed with diesel and a 1.5 to 4 in. diameter tree requires 25% rate of Remedy™ mixed with diesel.

Be sure to adjust the sprayer nozzle to deliver a narrow, cone-shaped mist. Holding the nozzle within 1 to 2 inches of the mesquite stem, spray the mixture on the plant's stem or trunk from the ground line to a height of 12 inches. Apply the mixture to all sides of the trunk, wetting almost to the point of runoff.

Mesquite Leaf Spray Method works best on mesquites that are bushy, have many stems at ground level, and are less than 8 feet tall. Apply in spring, after the soil temperature at 12 to 18 inches deep has reached 75 degrees and after the mesquite foliage has changed from a light pea green color to a uniform dark green color, and continue through September. Allow mesquite that has been top killed by hand cutting, fire, mechanical methods or herbicide treatment to grow for two full growing seasons before using the Brush Busters leaf spray.

Small pump-up garden sprayers, backpack sprayers, cattle sprayers, or sprayers mounted on a 4 wheeler work well. Make sure your spray gun has an adjustable cone nozzle, such as a Conejet® 5500-X6 or -X8 capable of delivering a coarse spray (large droplets) to the top of an 8-foot tree. You can achieve 76 to 100 percent root kill by spraying with a mixture of the herbicides Reclaim™ and Remdy™. To ensure a thorough coating of the foliage, add either liquid dishwashing detergent or a non-ionic surfactant to the spray mix. It may be helpful to add a dye, such as Hi-Light Blue Dye™, to mark plants that have been sprayed. If you have a 3 gallon sprayer the mixture would be Reclaim™ ½% or 2 oz. + Remedy™ ½% or 2 oz. + Surfactant ¼% or 1 oz. + Hi-Light Blue Dye ½ % or 2 oz fill the rest of the tank with water and mix well.

For more information visit Brush Busters Brush Control Program website. A link is available under Small Acreage Landowners Info. at <http://lubbock-tx.tamu.edu/>.



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