

Chute 'n the Bull by Tommy Neyland



Tommy Neyland

For the benefit of regional ranchers, the ultimate achievement would be to provide a year-round grazing system that could utilize a perennial cool-season grass. Cool-season grasses, such as tall fescue, can fill part of the forage gap by replacing annual winter pasture.

For me, what makes this grass so interesting is a fungus (Neotyphodium coenophialum) that grows into the plant cells and grows into the developing seed. This fungus is known as an endophyte, and it provides grasses like tall fescue with tolerance to stresses such as drought and resistance to insects. A similar fungus, Neotyphodium lolii, is found in perennial ryegrass, a grass that is predominantly used for forage in New Zealand and Australia. The grass and fungus live in a mutualistic symbiotic relationship where the endophyte is provided with shelter and nutrients, and is dispersed in the seed while the grass gains greater persistence and tolerance to stresses.

Unfortunately, this very fungus is what gave tall fescue a bad reputation. When tall fescue was first introduced in the late 1930s, it showed great promise as the next generation forage due to persistence during drought. However, it was noted that there was a negative side to this grass. The fungus that was beneficial to the grass was capable of producing compounds detrimental to grazing animals and resulted in poor animal performance. In this case, the grass was considered "hot" in that it contained an endophyte that was harmful to the livestock because of the production of ergot alkaloids that caused fescue toxicosis. If you cure the grass of the fungus, animal productivity goes up, but the grass persistence

declines. There are many management possibilities for fescue toxicosis (Roberts, C., and Andrae, J. [2004]. Tall fescue toxicosis and management. Online. Crop Management doi:10.1094/CM-2004-0427-01-MG), but one solution is to replace the "hot" endophyte with one that is considered animal friendly, but still able to provide many of the positive attributes. The animal-friendly endophytes are the same species as the toxic varieties, but are naturally occurring variants that have been identified in tall fescue from places such as the Mediterranean. Once an animal-friendly endophyte is reinfected into an endophyte-free seedling, it is able to establish in the plant and can be transmitted through the seed. This allows for seed production of a pure animal-friendly line.

So how does the endophyte help the grass and how are the toxic compounds

made? We actually don't understand all the biology behind this grass/fungal association, but we do know that the fungus is capable of making a range of compounds that help with persistence. Some of the compounds, the lolines and peramine, are considered beneficial to the host plant as they provide protection from many insects. However, ergovaline (an ergot alkaloid) and lolitrem B have been documented as compounds that are detrimental to the grazing animals. In the last 10 to 15 years, a lot of research has been accomplished to identify the fungal genes that are essential for the production of these compounds. Now that we know the regions of the genome that are required for these compounds, we can use this information to help us search for better endophytes that don't have the detrimental genes.

In my laboratory, we are using a series of molecular

biology tests that allow us to monitor the presence of the endophyte in the grass. Not only can we tell the endophyte is there, but we also have markers to help us distinguish them from each other and markers that tell us the likelihood that a newly identified endophyte can make certain compounds. For example, we can tell the "hot" endophytes apart from the animal-friendly types. We can also conduct analyses for ergot alkaloid levels. These tools are being used in quality assurance pipelines with our grass breeders to follow levels of endophyte infection and make sure the right endophyte is present. Through these extra levels of testing, farmers and ranchers can be assured that forages released by the Noble Foundation will not only be productive, they will also be safe for livestock. You can find this and past articles on the web at www.mycountrytractor.blogspot.com for your reference.

Texas crop, weather Fields wet and sloppy in many areas

By Robert Burns

COLLEGE STATION -- Whether it rained or not this past week, many areas remained too wet for field work, according to reports from Texas AgriLife Extension Service personnel.

Wet conditions persisted in the Coastal Bend, East, Southeast and North regions, in many instances putting a halt to field work and other farming operations.

Other parts of the state, including the Panhandle, Rolling Plains and West Central, had the opposite problem. Limited soil moisture was the common theme, though in most cases moisture levels were not yet at critical levels.

In contrast, the South and West Central areas reported adequate to excellent soil moisture.

Dr. Larry Stein, AgriLife Extension horticulturist based in Uvalde, said soil moisture levels and the general conditions for the region's growers of spinach, cabbage and other vegetables is better than he's seen in years.

"Things are looking up," Stein said. "After the severe cold, we were kind of concerned about the condition of the crop. We had a little bit of burn on the older spinach, but the younger stuff wasn't

hurt at all. So we're back to harvesting fresh-market spinach."

Stein said the cabbage was unharmed as well, and that it was still being harvested. Growers were also planting some more spinach to extend the season.

"Conditions were extremely wet. And now that we've had sunshine and things have dried out, we're back in the fields doing what we're supposed to do," he said. "Really, we're in excellent shape for planting later on in the spring. It's been a while — many years — since we had this good of moisture this early in the season."

Reports from Delta County, northeast of Dallas, and much of the rest of North

Texas, weren't quite so sunny.

"In Delta County, its primarily Houston black clay and a lot of other heavy soils, and that gets to be real messy," said Michael Berry, AgriLife Extension agent for agriculture and natural resources.

Berry said the wet conditions have persisted since late summer and the fall, and producers in his county have only gotten about a third of the wheat planted that they would normally.

"The sun will come out and start to dry things out, then it rains again," he said. "People are even having a hard time feeding hay. Even tractors are getting stuck now. It's that wet."

Buffalo ranchers join American Angus Association

Freddy & Brenda Starns, Buffalo, Texas, are new members of the American Angus Association®, reports Bryce Schumann, CEO of the national breed registry organization in Saint Joseph, Missouri.

The American Angus Association, with nearly

31,000 active adult and junior members, is the largest beef cattle registry Association in the world. Its computerized records include detailed information on more than 16 million registered Angus.

COWPOKES By Ace Reid



"Wul, wul, if it ain't ole Rudolf the Red Nose Cowpoke!"



Thanks to favorable conditions, onions and other vegetable crops are doing very well in South Texas, according to Texas AgriLife Extension Service horticulturists. (U.S. Department of Agriculture photo by Stephen Ausmus)

TDA Market Recap January 25, 2010

AUSTIN — (Jan. 25, 2010) For the week ending Jan. 23, feeder cattle prices at Texas auctions were steady to \$6 higher per hundredweight on offerings weighing less than 600 pounds and steady to \$2 higher on heavier weights. Lower grain prices and demand for cattle for winter grazing supported the market. Fed cattle prices were 50 cents to \$1 higher per hundredweight as sellers were able to capture some of the recent gains in beef prices. Cotton and grain prices were lower as markets continued to adjust to the most recent supply and demand reports. Lower crude oil and stock markets contributed to the declines. As for futures markets, lumber was higher, while feeder

and fed cattle, cotton, corn and wheat were lower. Parts of the Trans-Pecos, Edwards Plateau and East Texas recorded up to 1.5 inches of rain during the week while other areas reported little or no rainfall. Topsoil moisture was rated mostly short to adequate statewide, with some surplus conditions in East and Central Texas. Wheat on the High Plains suffered from dry conditions and high winds, but warmer temperatures and recent rains improved conditions in the Blacklands region and South Texas. Overall, the crop was rated in mostly fair to good condition. In many areas, field preparations are underway for spring planting. Pastures remain in mostly fair to poor condition.

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BUFFALO LIVESTOCK REPORT

Sale Date:	1-30-10	Choice Pairs.....	950-1050	600-700 lbs.....	93-100
Head Count:	661	Good Pairs.....	800-950	700-800 lbs.....	85-95
Last Week:	2309	Plain Pairs.....	550-750	Heifer Calves & Yearlings	
Sellers:	80	Bred Cows 3-6 Yr Old.....	580-850	<i>Some plainer, hard to place calves below these figures.</i>	
Buyers:	53	Steer/Bull Calves & Yearlings			
Cutter Cows.....	50-58	<i>Some plainer, hard to place calves below these figures.</i>			
Fat Cows.....	52-56.5	150-200 lbs.....	110-160	150-200 lbs.....	95-135
Canner Cows.....	34-52	200-300 lbs.....	110-145	200-300 lbs.....	95-130
Slaughter Bulls Steady/Down		300-400 lbs.....	112-125	300-400 lbs.....	92-117
Heavy Bulls.....	57-63.5	400-500 lbs.....	98-116	400-500 lbs.....	90-106
Light Bulls.....	52-54	500-600 lbs.....	95-105	500-600 lbs.....	88-100
Cow/Calf Pairs & Bred Cows		600-700 lbs..... 80-85			
		700-800 lbs..... 72-83			

GROESBECK LIVESTOCK REPORT

Date of Sale:	1-21-10	Young Bred Cows.....	700-900	500-600.....	104-115
Head Count:	893	Older Plain Cows.....	450-600	600-700.....	95-106
Cut/Boner.....	49-53	Good Choice Pairs.....	NA	700-800.....	90-96
Canner Cow.....	46-49	Common Medium Pair.....	750-950	<i>Heifers Good & Choice</i>	
Breaker Utility Com Cow.....	50-55	Stocker & Feeder Calves & Yearlings			
Thin Cows.....	38-42	<i>Steers Good & Choice</i>			
Bulls Yield Grade 1&2.....	59-64	Up to 200.....	125-145	Up to 200.....	-----
Bulls Yield Grade 3&4.....	57-59	300-400.....	115-133	300-400.....	102-112
		400-500.....	107-120	400-500.....	97-109
		500-600..... 86-103			
		600-700..... 87-95			

ANDERSON CO. LIVESTOCK REPORT

Date of Sale:	1-27-10	400-500.....	1.00-1.23	500-600.....	90-1.09
Head Count:	460	500-600.....	95-1.15	600-700.....	80-99
Buyers:	45	600-700.....	87-1.00	700-800.....	72-87
Sellers:	62	700-800.....	77-92	Slaughter Cows..... 32-54	
Steers/Bull Calves & Yearlings		Heifers Calves & Yearlings			
200-300.....	1.10-1.41	200-300.....	1.05-1.39	Slaughter Bulls..... 52-60	
300-400.....	1.05-1.29	300-400.....	98-1.16	Stocker Cows ... 375.00-850.00	
		400-500.....	90-1.12	Pairs..... 625.00-975.00	

EAST TEXAS LIVESTOCK REPORT

Date:	1-26-10	Slaughter Bulls	50-64.50	305-400.....	95-124
Volume:	1430	Bred Cows	520-820/hd	405-500.....	84-111
Tested:	293	Cow/Calf Pairs	670-440	505-600.....	80-103
Sellers:	214	Feeder Steers/Bulls Large Frame #1's			
Total Buyers:	68	150-200.....	110-140	Compared to last week:	
Packer Buyers:	5	205-300.....	111-130	All classes of feeder steers and heifers from 500 lbs and down ended uneven to \$3 lower while classes over 500 lbs ended firm to \$2 higher. Slaughter cows showed to be \$2.50 lower while the slaughter bulls ended mostly firm. Buyer trade was active with the demand strong on all feeder classes!	
Order Buyers:	12	305-400.....	105-133		
Cattle Companies:	26	405-500.....	90-119		
Feeder Orders:	247	505-600.....	83-114		
		605-800.....	80.50-100		
		Feeder Heifers - Large Frame #1			
Canners	29-40.00	150-200.....	110-130		
Boning/Utility	41-47.00	205-300.....	100-130		
Cutters	48-55.00				