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# Agriculture Newsletter: Special Drought Edition

## Unusual Feedstuffs – Managing Cattle Herds in Drought

By Corrie Bowen

Anyone who's been in agriculture has been through droughts before, but really, many of us here today haven't seen anything quite like the current drought. According to the Texas Climatologist, John Nielsen-Gammon, the month of June 2011 was the driest June we've had, and the month of July 2011 was the hottest month in Texas records. The current drought is so much different from the 1950s drought because our temperatures are so much warmer. To date, the National Weather Service reports from the Angleton Airport only 10.67 inches of rainfall received for the entire year. Based on that number, we're 24.35 inches behind on normal rainfall to date. Normally, Brazoria County should have seen 35 inches by now. In comparison, Hobby Airport reports 11.33 inches of rainfall received, and 24.53 inches behind on rainfall.

So what do we do? Do we sell out? Do we cull down? Do we wean early? Do we try to feed our way through this dry period, only to have the drought continue into next year? These are very difficult decisions. Ultimately, many cattle producers will make one of these management decisions.

### Pastures and Ranges

Have you noticed driving to the pasture that the grass is growing between the road and the fence, but the inside of the fence looks worse? If given a chance, the grass will grow. In response to any rainfall, the sod forming grasses will grow rapidly up and out. If you're rotating pastures continue to do so, but slow down the rotation by keeping cattle in a pasture longer – thus giving the ungrazed pastures a rest and giving the grass a chance to grow. If you have very little or no grass, and have decided to feed your cattle, pen them up in a trap or one pasture or place and feed them there in troughs and hay them in rings (or unroll the bales completely). The same principle applies here – keeping

traffic off the pastures and allowing the grass to respond to any moisture. Feeding in troughs and rings reduces feed waste and loss due to trampling and defecating by up to 20%. Make cattle clean up unrolled hay and move rings between hay feedings.

I've received many phone calls from landowners wanting to know if it's okay to spray weeds with herbicides or even mow the weeds. Sure, the weeds have been plentiful. Under normal temperatures and normal rainfall, weed spraying pays, usually yielding a pound to two pounds of grass for every pound of weeds controlled. However, the wheel traffic from the equipment alone will be detrimental to the grass and the grasses ability to rebound. As for

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spraying herbicides, the weeds aren't systemically taking up the herbicide like they should, thus limiting control. Also, the herbicide alone can stress the grass even more under the extreme heat and lack of rainfall. Spot spraying broadleaf weeds, sennabeans, and tallow trees with handheld, or backpack equipment would be advisable because the amount of stress from foot traffic on pastures is minimal. Spot spraying difficult to control brush species like Dewberry and Macartney Rose would not be effective as these plants are generally difficult to control under normal conditions and the plants just aren't translocating nutrients enough to take up the herbicides to yield desirable control results.

### Grain Sorghum and Rice Stubble

Thanks to our custom hay balers, rice and row crop farmers that they're salvaging this forage. It's a blessing. It's magnificent the accomplishments our farmers and custom hay balers have made in the past month with the thousands, upon thousands of rolls of salvaged forage that have been baled. Again, there's been many, many questions thrown out there on these alternative forages. I say alternative, because we only bale the leftover stubble and chaff from corn, grain sorghum and rice in tough times like this. Are these forages safe? What is the nutritional content of these forages? Yes, these forages can be safe. But there's a few things to know. Grain Sorghum and corn stubble can tie up nitrates. Basically what happens here is that the plant normally takes up nitrogen from the nitrate form, converts it to ammonium, and then utilizes that ammonium to assimilate amino acids into plant protein. When the plant is under stress, the conversion does not take place and the nitrates accumulate in the stalk. Sorghum grasses like Grain sorghum, Johnsongrass, Sudangrass, Haygrazers, and Sorghum Alum also produce prussic acid when the plant is under stress ( a freeze, saturated soils, or drought can all induce stress in sorghum plants). I have not seen any corn or grain sorghum testing high for nitrates in Brazoria County, but the Texas Veterinary Diagnostic Lab in College Station has seen some high nitrates from other area across the state this summer. Prussic Acid, when present in sorghum plants,

and when ingested can form hydrocyanic acid in the rumen of a cow. This can be extremely lethal to cattle. The basic message here is not to avoid the forages, but to respect them. When buying corn stubble and or grain sorghum stubble, purchase baled forage from a producer who has had it tested for nitrates. Corn stubble is safe to feed to cattle with a nitrate test that is less than 1.0%. Also be certain to have a negative test from the seller for prussic acid for sorghum grass hays.

Rice hay is extremely plentiful in our Gulf Coast rice producing counties. Many fields are producing four round bales per acre. It's safe to feed. When feeding any non-traditional forage, we're first curious of the nutritional content of forage. Therefore, your Texas AgriLife Extension Office took some samples and had it tested. There's two types of rice hay: rice chaff hay, which is the chaff that is baled behind the combine, and rice stubble hay, which is what is baled after a hay cutter comes in after the combine, and lays down all of the stubble. Basically, the rice hays are running on average 8.3% crude protein, 17.98% Ash, and 43% TDN/energy. If rice hay is to be used, for dry cows in good condition, probably need .4 lbs of CP (2 lbs of cubes or 1.5 lbs of a block or tub or 1 lb of cottonseed meal or cake). A lactating cow will probably need double that. If TDN is low, less than 50%, some grain or other energy source may be needed (realizing that the cubes, molasses and meal all will supply about 3/4 lb of TDN per lb of protein supplement). Watch for changes in cow body condition and fecal pads to see if they are getting close to supplying the nutrient needs. Most grass hays have very little ash or mineral matter (<5%). Most stemmy or straw-like forages often contain 10% or more ash. So, with rice hays testing over 17% Ash, digestibility is affected, which means extra supplementation will be necessary.

The Brazoria County Extension Office also tested what one would consider the average grain sorghum stubble that was cut after the grain was harvested, and we tested some extremely lush regrowth. Here are the results:

The nutrient content that is representative of most sorghum stubble baled following grain harvest in Bra-

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zoria County is: 4.8% CP, 60.5 TDN, and 29.4 ADF. A 1,000 lb dry cow consuming this quality stubble would need 21.7 lbs of sorghum stubble and 1.5 lbs/day of cottonseed meal. A 1,000 lb lactating cow would require 23.3 and 4.9 lbs/day cottonseed meal.

Some grain sorghum will regrow following harvest and the first baling of stubble. This regrowth can be very lush, and very high in quality. A sample was submitted from a field where the sorghum grain was harvested, and stalks were flail-mowed. Lush regrowth was cut for hay and the results from the forage tests were: 11.7%CP, 35.4 ADF, 58.3 TDN. Now this type of quality will meet the nutritional needs of a lactating cow consuming 26.9 lbs of sorghum stubble/day, and a dry cow consuming 21.9 lbs/day of this quality sorghum stubble.

### Cattle

Selling nursing calves, very old or very young commercial cows can stretch your feeding resources and dollar by 1/3 or more. In a drought cattle will be deficient in all nutrients (energy, protein, vitamins, minerals and water). Water is the first limiting nutrient in many pastures. Mature cows will require 25 gallons per head per day of good quality water. Water from ponds and dirt tanks will have significantly reduced quality (increased salt or mineral content) as they dry up. In addition there could be toxic algae blooms or poisonous plants growing near them. If possible these should be fenced off. Check water daily. The next two nutrients of importance are protein and energy. Cattle eat to satisfy gut fill and this is associated with their energy intake. Cattle can eat about 2-2.5% of their body weight (24 – 30 lbs) for a 1200 lb cow. When forages are dry, this limits their intake to less than 2% causing them to lose condition (weight). Supplementing these dry forages with .4 lb protein (from any source) can improve the digestibility of these forages and improve intake. Cattle usually require about 2 lbs of crude protein per day. Most dry grass is averaging 5% so only about 1/2 of their protein is being supplied by grazing. The rest will need to be supplemented. Grain can be fed in small amounts daily to stretch or substitute for low hay supply or quality (1 lb grain = 2.5 lb hay). Cattle should be supplied vitamins (either

injectable or fed) and a good mineral mix, especially phosphorous (8-12%) and salt. Some feeds have minerals and vitamins in them and these can be good sources if consumption is at the recommended level. Cattle should be monitored for dust pneumonia, external parasites, consumption of toxic plants and other nonfeed items (bones, plastic bags, etc).

Thus far in this article we've talked about feeding cattle, and weaning young calves. What about selling out? You know, that's a tough one to talk about, and tough thing to do. You also factor in that this drought is unprecedented, with the driest twelve months in Texas history. Some say that selling out is a 'no brainer'. Some producers are spending up to \$100/month/cow/month, with no end in site of this drought. The word is that we'll see some extremely high beef prices next year. But really, there's no guarantee that the drought will end anytime soon, thus making selling out a "a no brainer". Some counter this by arguing that it will cost more money to get back into the cattle business once weather conditions improve. This is true, but looking at the cost to buy back in at a later day when the market is high versus what it will cost to maintain cattle through this drought and upcoming winter with minimal feedstuffs available, is also worth arguing. The message at the 2011 Beef Cattle Short-course was to do one's best to stay in the cow business with some really great prices coming our way, not that prices are all that bad today. I don't know that any of these points have solved any of your issues, because after covering all of these options, most producers still aren't sure what they're going to do. But I think that one thing is certain, that producers will have to consider changing with the times, or should I say, changing with the climate! I say this with a point made by Dr. Joe Paschal, Extension Livestock Specialist, at a drought presentation he made in May 2011 in Damon, Texas. Dr. Paschal made the point that most of Brazoria County has not received any more than 70% of our normal annual rainfall for the past five consecutive years. With that considered, if you're only getting 70% of your normal rainfall, then you're growing only 70% of your normal available grazing or forage. Which means,

## Unusual Feedstuffs – Horse Feed in Drought

By Corrie Bowen

you shouldn't be carrying 100% of your normal carrying capacity of cattle on your pastures. So, should we consider downsizing our herds by selling the older cows, and keeping our more productive four to six year olds, thus making a more conservative move on our stocking rates. If we've been running a cow to seven acres, in order to "survive" our climate trend and stay in the cattle business, should one consider shifting that stocking rate to a cow to nine or ten acres? A simpler way to look at it is many Extension Livestock Specialists and Forage Specialists recommend stocking only 75% of normal carrying capacity in any normal year.

**Can Horses Consume Grain Sorghum Stubble Hay and Rice Hay?** This has been the question of the week coming through the phone line. Feeding rice hay is not the normal recommendation for feeding hay to horses, but when the higher quality and cleaner grass or alfalfa hays are not available because of shortage or high price, feeding other hays must be the alternative to meet the high roughage requirement of horses for normal digestion. Grain Sorghum, Johnsongrass Hay, Sorghum Haygrazers, Sorghum Alum, etc should NOT be fed to horses. Those choosing to feed an alternative hay that is lower in quality and digestibility like prairie hays and rice hay must understand the deficiencies and risks .

Alternative feedstuffs that are very high in digestible fiber are readily broken down by microbes in the cecum or hindgut of the horse. Examples include small grain hays harvest at a soft dough stage, immature grass and legume forages, wheat middlings, soy hulls, peanut hulls and beet pulp. Feedstuffs that are low in digestible fiber which is measured in feed analysis as acid detergent fiber (ADF). Feedstuffs with ADF values less than 32% can be easily digested by horses. Feedstuffs with ADF values ranging from 33 to 39% are moderately digested by the horse; feedstuffs with ADF values from 40% and higher are poorly digested. Make note that he recently tested rice hays baled this summer are testing 45.1 to 50.9 ADF – which fall in the poorly digested range.

So, if feeding poorly digested alternative forages is your only option, what are some feeding recommen-

ation practices? If it is overly mature, which can often be the case, horse owners will sometimes find that horses act disinterested in the hay and might not voluntarily consume it as readily as some other grass hays to which they are more accustomed. There is always some concern about low quality, coarse hay potentially contributing to impaction-type colic in horses. Even so, the drought in Texas has increased the number of inquiries about prairie hay. If prairie hay is clean and free of mold, one potential solution is to mix some prairie hay or rice with a legume source such as alfalfa for horses. Particularly in those cases where the alternative hay might be only 2 or 3 percent crude protein, mixing it in with a high quality legume source may be helpful to gut function. To begin, a grain concentrate (not pellets) must be fed at 2-3 lbs per horse to supplement the diet for an added intake of protein and energy. Adding bran at 0.25 lb per horse is beneficial for a laxative effect to increase rate of passage of the low quality roughage. One must be cautioned not to drastically change a horse over to the rice hay, since changing too quick can result in indigestion and laminitis. Mixing it with the hay regularly fed and gradually increasing the amount of rice hay over a period of 7-10 days. Weigh your horse, and feed hay at the rate of 1% of the horse's body weight being provided as hay. A simple method of determining the weight of a horse is by using a flexible, plastic, garment measuring tape and using the following formula:

$(\text{heartgirth in inches} \times \text{heartgirth in inches} \times \text{body length in inches}) \div 330 = \text{weight in pounds}$

Horses in stalls will eat rice hulls used for stall bedding, causing indigestion and laminitis.

### More Drought Resources On Line

The drought topics covered in this special drought edition simply focus on the more common inquiries that I've received as a County Extension Agent over the past two months. Texas AgriLife Extension has a wonderful resource full of drought and other disaster related information. The website address is <http://texashelp.tamu.edu>.

# Well Owner Drought Response

*Kristine A. Uhlman, Diane E. Boellstorff, and Mark L. McFarland*  
Texas AgriLife Extension Service

During periods of severe drought, groundwater resources are relied upon to provide water. The combination of increased pumping and the loss of recharge often results in lowered water table elevations. It should be noted that some aquifers are less reliant on recent recharge and/or may be responding to climate conditions that occurred during decades prior to the current drought. Regardless of the cause of lowered water tables, there are several best management practices recommended to protect your water supply.

Monitor your pump. Rapid cycling of the pump on and off over short periods of time is the result of lowered water tables and slow static water level recovery. Rapid pump cycling will burn out the motor. The heat generated by a submersible pump in lowered water tables can damage the drop-pipe if it is constructed of PVC. Allow your pump to rest or, if possible, throttle-down your pumping rate.

If pumping causes the sound of ‘sucking air,’ shut down the pump and allow it to rest. When the water table is drawn down below the pump intake, the well may begin to produce sand. If you notice sand in the toilet tank, the well is in danger of going dry and the pump will likely be damaged. A milky appearance of the water that clears upon standing also can occur when the pump draws air and may be an indication that the water level has dropped.

Depending on the overall depth of the well, lowering the pump may be an option. Check with a licensed pump installer. The Texas Dept. of Licensing and Regulation maintains an online database of licensed well drillers and pump installers; the list is available through <http://www.license.state.tx.us/LicenseSearch/>.

As the water table drops and pulls air (oxygen) into the aquifer, the chemistry of the water will change. Sometimes exposing the aquifer to oxygen dissolves naturally occurring arsenic and may cause arsenic concentrations to increase. For example, if well water normally

contains low concentrations of arsenic, expect concentrations to increase during drought and plan to sample the well water on a regular basis during and after the drought. Concentrations of other water quality parameters, such as TDS (salinity) may also change.

Lowered pumping rates and storage may be an option to protect your water supply equipment and groundwater resource.

Working with neighbors to schedule common or heavy water use may help. For example, if everyone in a neighborhood typically does laundry on Saturday, wells may begin to go dry Sunday. Distributing the schedule of heavy water use over the week may allow individual wells to recover and sustain water supply in your neighborhood.

Practice water conservation to protect your groundwater resource during times of drought.

## **THE USDA SERVICE CENTER HAS MOVED!**

The Brazoria/Galveston County Farm Service Agency has relocated to the following address and has a new telephone number:

**711 N. Velasco Street, Suite D  
Angleton, TX 77515  
979-549-0238**

The building is located in the Old Ash Square Building 2 blocks north of the Brazoria County Courthouse on the west side of Business 288.

## Income Tax Considerations for Drought-Related Sales of Livestock

COLLEGE STATION – Ranchers across Texas have been forced to sell cattle at a historic rate and income tax implications are a concern, according to Texas AgriLife Extension Service economists.

“The historic drought has forced many more cows than normal to be sold throughout Texas,” said Dr. David Anderson, AgriLife Extension livestock economist. “Of the \$5.2 billion in agricultural losses to date, \$2.06 billion has come from our livestock industry, as ranchers have sold off cattle due to lack of forage and escalating supplemental feed expenses. This has created several financial management issues for cattle producers to consider.”

Producers are advised to consult their financial professional for advice that best fits their operation and business plan, said Jose Pena, AgriLife Extension economist.

“Everybody’s situation is different, and it may not be best practice to do what your neighbor does,” he said.

Pena said there are things to consider looking ahead for the 2011 tax year.

“If weather-related sales cause a producer to sell livestock, the gain on sale can be postponed,” Pena said.

“There are two different tax treatments, both of which apply only to weather-related sales in excess of normal business practice.”

The first treatment applies to draft, breeding or dairy animals that will be replaced within a two-year period, Pena said. The second applies to all livestock and allows a one-year postponement of the reporting of the sales proceeds.

“If livestock (other than poultry) held for any length of time for draft, breeding, or dairy purposes is sold because of weather-related conditions, the gain realized on the sale does not have to be recognized if the proceeds are used to purchase replacement livestock within two years of the end of the tax year of the sale,” Pena said.

The replacement livestock must be used for the same purpose as the livestock that was sold, he said. For example, dairy cows must be replaced with dairy cows. The taxpayer must show that the weather-related conditions caused the sale of more livestock than would have been sold without the drought conditions.

“For example, if the farmer normally sells one-fifth of the herd each year, only the sales in excess of one-fifth will qualify for this provision,” he said. “There is no requirement that the weather-related conditions cause an area to be declared a disaster area by the federal government.”

Pena said the election to defer the recognition of gain is made by not reporting the deferred gain on the tax return.

“A statement should be attached to the tax return indicating the existence of the weather-related conditions, the computation of the amount of the gain realized on the sale or exchange, the number and kind of livestock sold or exchanged and the number of livestock each kind that would have been sold or exchanged under the usual business practice in the absence of the weather-related condition.”

Another scenario involves sales of livestock inventory. Pena said if inventory of livestock (calves, stockers, etc.) are sold because of weather-related conditions, the taxpayer may postpone reporting of the income for one year.

“To qualify for this election, the taxpayer must show that his/her principal business is from farming or ranching; use the cash method of accounting; show that the livestock would normally have been sold in a subsequent year; and that the sale of livestock was caused by weather conditions from an area (county declaration or contiguous county) officially declared as a disaster area. The sale can take place before or after an area is declared a disaster area as long as the same disaster caused the sale.”

The amount of income that can be postponed is the income generated from the excess amount of livestock sold as a result of weather-related causes, Pena said.

“For example, if a rancher sells 150 head of livestock due to weather-related causes instead of a usual average of 100 head, the income generated from the sale of the extra 50 head may be postponed to the following year,” he said.

### Contacts

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# New Sales Tax Exemption Requirement for Commercial Agriculture and Timber Operations — Get A Registration Number

## **Do I need a registration number?**

Beginning Jan. 1, 2012, if you claim an exemption from sales tax on the purchase of certain items used in the production of agricultural and timber products, yes. In the Texas 82nd Regular Legislative Session, a bill was passed (House Bill 268) that requires a person claiming an exemption from sales tax on such purchases must provide a registration number issued by the Comptroller of Public Accounts on the exemption certificate issued to the seller. The Comptroller will provide a registration number to you upon your successful application for registration.

## **What types of items are subject to this requirement?**

A registration number will be required in order to claim an exemption from Texas sales and use tax when purchasing the following goods and services:

- fertilizers, fungicides, insecticides, herbicides, defoliant and desiccants used exclusively in the production of timber for sale, or on a commercial farm or ranch in the production of food or other agricultural products for sale;
- machinery and equipment (including component parts) used exclusively in the production of timber, or on a commercial farm or ranch in the production of food or other agricultural products for sale or the building or maintaining of roads and water supplies;
- machinery and equipment used by an original producer for packing and processing agricultural or timber products;
- machinery and equipment used exclusively in an agricultural aircraft operation, as defined by 14 C.F.R. Section 137.3 (crop dusting);
- tangible personal property incorporated into a structure used for poultry carcass disposal;
- components of irrigation systems used in the production of food and other agricultural and timber products for sale;
- seedlings used in the production of timber for sale;
- electricity used in agriculture or timber operations;
- services performed on exempt tangible personal property identified in this list; and,

**farm, timber and off-road motor vehicles.**

## **What types of items are not subject to this requirement?**

A registration number is not required for the following types of agricultural items:

- horses, mules and work animals commonly used in agricultural production;
- animal life, the products of which ordinarily constitute food for human consumption, such as cattle, hogs, goats, sheep, chickens and turkeys;
- feed, including oats, corn, chicken scratch and hay, for farm and ranch animals and wildlife;
- feed for animals held for sale in the regular course of business;
- seeds and annual plants, the products of which are commonly recognized as food for humans or animals, or are usually only raised to be sold in the regular course of business such as corn, oats soybeans and cotton seed; and,

**ice used exclusively by commercial fishing boats in storing aquatic species including, but not limited to, shrimp and other crustaceans, finfish, mollusks and similar creatures.**

## **Who is eligible for a registration number?**

A person, including a non-Texas resident, engaged in the production of agricultural or timber products for sale in the regular course of business is eligible for a registration number that can be used to claim an exemption from Texas sales tax on the purchase of qualifying items included for eligibility for registration numbers are persons in these groups:

- farmers and ranchers who raise agricultural products to sell to others
- persons engaged in aquaculture and apiculture; (i.e. commercial fish farms or bee keepers)
- custom harvesters;
- persons engaged in agricultural aircraft operations, as defined by 14 C.F.R. Section 137.3 (crop dusting);
- commercial nurseries engaged in fostering growth of plants for sale (i.e., growing stock from seed or cuttings, replanting seedlings in larger containers); and, timber producers, including contract lumberjacks.

## New Sales Tax Exemption Requirement - cont. from page 7

### Who is NOT eligible for a registration number?

A person who is not engaged in the production of agricultural or timber products for sale is not eligible for a registration number and may not claim an exemption from tax when purchasing the items noted above. Examples of the types of activities that do not qualify for exemption include home gardening; horse racing; commercial nurseries and florists who only store or maintain plants prior to sale; wildlife management and/or land conservation; maintenance or operation of hunting and fishing leases; horse boarding; trail rides; commercial fishing; dog breeding and pet kennels.

### How do I apply for a registration number?

We are working on the application now and will have it available on the Comptroller's website and by mail as soon as possible. [Sign up for email or text message updates](#), and we will notify you when the application and other information about this new program is available.

### Does every person employed by a farm, ranch or timber operation need their own registration number?

The primary owner or operator of the farm, ranch or timber operation may obtain a number that can then be used by any person authorized by the registrant. For example, if three different family members operate a family farm or ranch, one member of the family can apply for one registration number for the farm that all three can then use when making qualifying purchases. Similarly, a large corporate agricultural or timber operation that employs multiple personnel may obtain one number that can be used by all authorized employees when making qualifying purchases.

It is important to note, however, that the person to whom the registration number is issued is responsible for ensuring that all items purchased exempt from tax under the permit holder's registration number will be used in a qualifying, exempt manner.

### Additional Information

See Tax Code Sections 151.316, 151.3162, 152.001(a)(13) and 152.091, as well as Rules 3.296, 3.367 and 3.72 for more information about the agricultural and timber production sales and motor vehicle tax exemptions.

## Tree and Shrub Irrigation During Drought

By Corrie Bowen

During a severe drought, the goal for tree and shrub irrigation is twofold; reduce water use to save precious water and money, yet use enough water to preserve your substantial investment in your landscape trees and shrubs.

Irrigating large trees is often misunderstood. Laying a hose at the trunk of a large tree and letting it run for hours does not water a tree and can waste huge amounts of water. In addition, sprinkler irrigation systems do not water trees. With this severe heat and result evaporation rate, they simply do not apply enough volume of water to meet the tree's requirement.

To irrigate trees and large shrubs within a lawn area, apply water just inside and a little beyond the "dripline", not at the trunk. The dripline is the area directly below the outermost reaches of the branches. This is where the feeding root system of a tree or shrub is located.

Simply lay a slowly running hose on the ground and move it around the dripline as each area becomes saturated to a depth of 8 to 10 inches. For large trees, this watering technique may take several hours.

In the continued absence of significant rainfall, large trees and shrubs will benefit from a twice a month watering to help them survive drought and heat.

For more information on creating a healthy and sustainable landscape environment we invite you to visit the EarthKind website at <http://EarthKind.tamu.edu>. One can reach the Brazoria County Extension Office by calling (979) 864-1558, or on the web at <http://brazoria.agrilife.org>