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Agriculture Newsletter

Looking Ahead to the 2017 Crop Year

By: John Gordy, CEA Agriculture and Natural Resources

2016 Result Demonstrations and Applied Research Plot Results: If you were at the Winter Row Crops meeting in January, we had hard copies of the Fort Bend County Result Demonstration and Applied Research Handbook—some of them are now available on-line and the rest will soon be. We have information on yield data from the county Corn, Sorghum, and Cotton plots, sugarcane aphid management in sorghum—seed treatments and hybrid selection, and cotton defoliation. To find electronic copies of these reports, please go to:

<http://fortbend.agrilife.org/agriculture-natural-resources>

Fort Bend County Weather Station: The research group that maintains the weather station are having some issues with on-line access. The station is still recording data and I will post hourly and daily data at the end of each month so that you can access it for your spray records, etc. The data can still be found at:

<http://fortbend.agrilife.org/agriculture-natural-resources/fbc-weather-station>

As of February 8th, soil temperatures at various places around the county ranged from 65°F to 71°F at a depth of 6" in the row.

A Glance at Row Crops: With the rains we saw a couple weeks ago, much of the area has good soil profile moisture ahead of planting. We did have two "cold" spells this winter where temperatures dropped below freezing, one of which was pretty significant. Hopefully this will delay sugarcane aphid arrival in our grain sorghum fields. Last year, Cotton regained the top spot as the most planted crop in Fort Bend County and I expect that to remain for 2017. Corn acres increased from ~7,700 in 2015 to >16,000 in 2016 and I expect they will dip back down slightly this year, giving more ground back to cotton and grain sorghum.

Pasture Soil Testing Campaign Going Through February 28: As it warms up, winter forages will begin to play out and warm-season grasses will break dormancy and begin to dominate pastures. This is a good time to test your soil to see if you can improve production through fertility management. Links to information on soil testing and recommendations can be found on page 3 of this newsletter. In a month or so, we will start to see warm-season weeds germinate or begin to break dormancy and grow. The best time to treat pastures for weeds is when the weeds are actively growing, before they get too big—typically between March and May. There is a link to a publication covering Management of Weeds in Pastures and Forages at the Fort Bend Agriculture and Natural Resources webpage referenced in the first paragraph. We also have hard copies of publications available at the extension office.

Spring Pasture Management: Soil Fertility is Critical

By: John Gordy, CEA Agriculture and Natural Resources
Selected material from extension publications E-179 and E-273

Of the factors that limit forage production, water is the most important. Without water, plants will not grow, no matter how much fertility is available. With any luck we will have sufficient, timely rains in 2017, compared to the excessive moisture we had in 2015 and 2016. Fertility, particularly nitrogen, is the second most-important limiting factor to production. From a practical viewpoint, water and fertility and their interaction cannot be separated. In comparison to other plants, hybrid bermudagrass is very water-efficient.

The water efficiency of hybrid bermudagrass can be improved even more by adding fertilizer. Plants use nitrogen to build new cells and the amount of new growth is directly related to the amount of nitrogen it is able to absorb. Figure 1 shows three very important points that have been repeated in research throughout the South. As the rate of nitrogen increases, the percent crude protein and yield increase dramatically, while the amount of water used to produce a ton of forage goes down. With low nitrogen rates, a high of 17.6 inches of water is needed to produce a ton of dry matter. With adequate nitrogen, only 3.9 inches of water is needed to produce a ton of dry matter. Adequate nitrogen fertility is necessary to fully utilize the amount of water received by a crop. Water without fertility will not produce new plant tissue. Warm-season perennial grasses use nitrogen, phosphorus and potassium at a ratio of approximately 4-1-3. To produce 1 ton of dry forage, bermudagrass must absorb approximately 50 pounds of nitrogen per acre, 15 pounds of phosphorus and 42 pounds of potassium. If these numbers are multiplied by the number of tons of forage desired, the product will equal approximately the pounds of nutrients needed. For example, for 4 tons of production, it will take about 30 inches of water during the growing season, 200 pounds of nitrogen, 60 pounds of phosphorus, and 168 pounds of potassium.

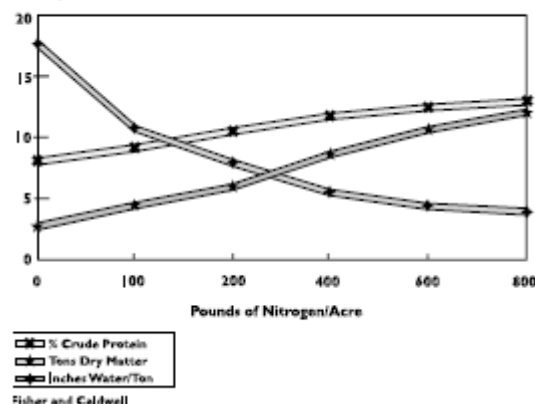
Splitting the applications of fertilizer throughout the growing season improves efficiency, which means that a greater percentage of the nutrients, particularly nitrogen, is used by the plants. It is important to test soil every 2 to 3 years to determine if the natural mineral content of the soil is changing—please consider taking part in the current forage soil testing campaign that will run through the end of February. Many soils can provide some nutrients almost indefinitely—for our area, soils typically provide enough potassium and a fair portion of the required phosphorus. Fertilizer rates should be adjusted to maintain soil nutrients without excessive buildup.

Another way to improve forage quality and quantity is weed management. The first step is to correctly identify the weed species, then select the most effective herbicide. The second step is to follow the label directions precisely to ensure that you use the herbicide safely, effectively and economically. Even if you have used certain herbicides for many years, check the label each year to see if the product instructions have changed. The Texas Agrilife Extension Pasture Weed Management Guide can be found at:

<http://fortbend.agrilife.org/agriculture-natural-resources>

In summary, the advantages for fertilization include increased forage production, improved forage quality, improved root system and sod density, reduced weed competition, reduced soil erosion, and improved water-to-yield ratio.

Figure 1. Effects of Nitrogen Rates on Percent Protein, Yield, and Inches of Water/Ton.



Deep Soil Profile Nitrogen—Winter Meeting Follow-Up

By: Jake Mowrer, Assistant Professor and Extension Specialist—Soil Nutrient & Water Resource Mgmt.

Deep soil profile nitrogen crediting has proven to save farmers fertilizer (and money) in cotton, corn, sorghum, and wheat whenever nitrate is detected in the deep soil profile test. In 2012 and 2013, deep soil profile testing was performed on 104,000 acres of cotton and 129,000 acres of corn and grain sorghum (2014 & 2015 numbers are forthcoming). Reducing applications of N fertilizer based on what is already in the soil saves and estimated \$23/acre for cotton and \$31/acre for corn and grain sorghum. Texas A&M AgriLife Extension believes that this credit is 100% usable to a depth of 2 feet (24") in soils with good clay content. Below this depth, or in sandy and silty soils, the credit becomes less effective.

In the graph below, corn grown in the upper gulf coast at 13 sites x years showed that the nitrogen-use efficiency as kg corn yield per kg N fertilizer input (this can also be read as lbs / lbs since the units cancel) was superior in 9 of those site-years. This means that the yield increase per unit N was highest when crediting to 2 feet with no overall loss of total yield as compared to applying the full amount of nitrogen fertilizer. In 2011 a major drought event led to a poor result in Colorado and Victoria counties. In 2009, there was a negative impact on N-Use efficiency but the differences were very small and there was only a small amount of residual soil N to bank on at that site.

Things to remember for 2017—Band Liquids, Split Apply, and include a Urease Inhibitor w/ surface-applied urea, if conditions warrant it. Looking forward to 2018, Soil Test and Deep Soil Test to give yourself credit for residual nutrients deeper in the soil profile. Additional information can be found at:

<http://soiltesting.tamu.edu/>

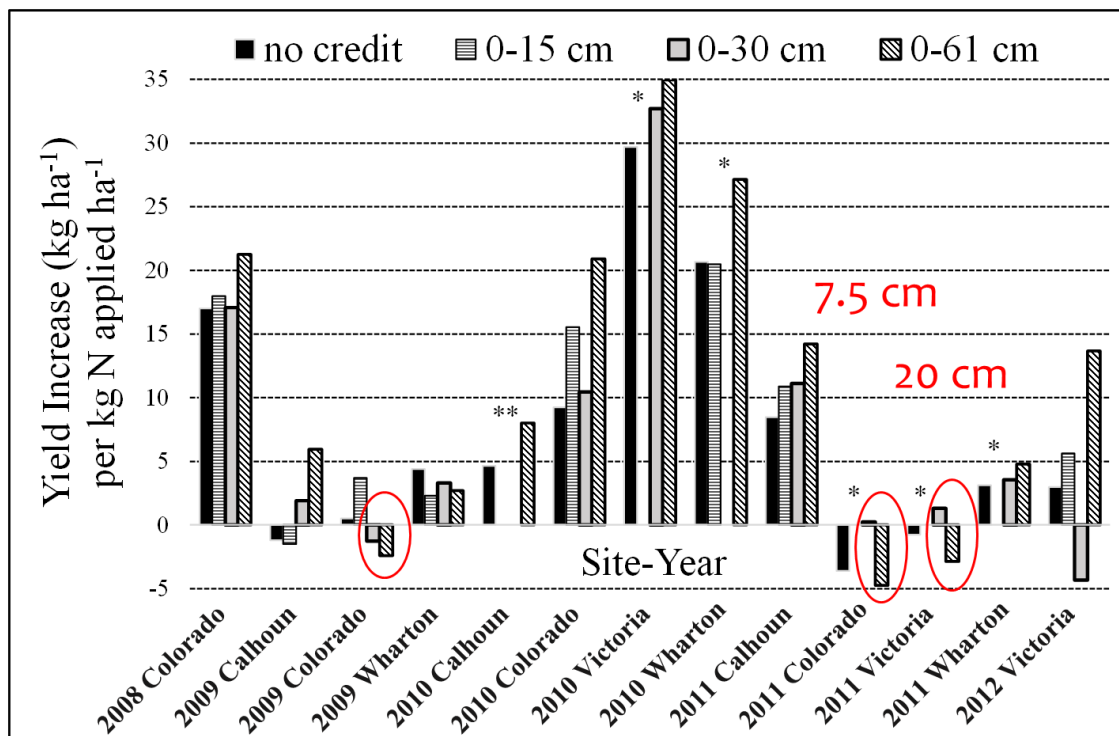


Figure 3: Nitrogen fertilizer use efficiency in corn depending on credit for soil nutrients at various profile depths

Best Management Practices for Auxin-Tolerant Cotton Technologies

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Peter Dotray – Extension Weed Specialist – Lubbock, TX

In recent news, new auxin herbicides have received Section 3 approval for use in XtendFlex (dicamba-tolerant) and Enlist (2,4-D tolerant) cotton. Currently, two dicamba herbicides (XtendiMax™ with VaporGrip™ Technology and Engenia™) and one 2,4-D containing herbicide (Enlist Duo™ with Colex-D™ Technology). At the time of this writing, XtendiMax with VaporGrip Technology and Engenia have received approval for use in Texas. It is anticipated that Enlist Duo with Colex-D Technology will receive state approval in the near future.

The ability to use these herbicides will certainly provide additional options for managing troublesome glyphosate-resistant Palmer amaranth and common waterhemp, but will also present some challenges with regard to off-target movement of these herbicides. As you may be aware, there was significant misuse of dicamba in portions of the Midsouth in 2016, resulting in widespread damage to non-tolerant soybeans. These problems were due in large part to improper (and illegal) applications of dicamba formulations not labelled for use in these crops. To avoid these issues in Texas, it will be critical to only use the **approved** herbicides (XtendiMax with VaporGrip Technology and Engenia for XtendFlex cotton, and Enlist Duo with Colex-D Technology for Enlist cotton), and to diligently follow the label application requirements. What follows in Table 1 are important application requirements for these herbicides. Please note that these are application **requirements**, not recommendations, and it is expected that applicators fully read and follow them as outlined on the product label.

Know Your Surroundings

With the many different herbicide tolerant traits on the market in 2017 and labeled herbicides, the potential for off-target movement and self-inflicted damage is much increased. The Flag-the-Technology concept (publication and mobile app) has been developed to address this issue. The publication can be found at http://publications.tamu.edu/WEEDS_HERBICIDES/FlagTheTechnology.pdf, while the mobile app can be downloaded from iTunes and Google Play. The Hit-the-Target crop registry will soon be available as well, which will help producers identify the proximity to susceptible and sensitive crops.

Sprayer Cleanout

Due to extreme sensitivity of many crops to these herbicides, thorough sprayer system cleanout procedures will be necessary after the use of these auxin herbicides before moving to other crops. The labels of all three of these herbicides will outline an extensive sprayer cleanout protocol. Be sure to read and follow these cleanout procedures fully if the sprayer will be used for non-tolerant crops.

For more information on weed management in cotton, visit: <http://cotton.tamu.edu/weeds.html>

Table 1. Application requirements as outlined on product labels

	XtendiMax with VaporGrip Technology	Engenia	Enlist Duo with Colex-D Technology
Active ingredient(s)	dicamba 2.9 lb/gal	dicamba 5 lb/gal	2,4-D 1.6 lb/gal + glyphosate 1.7 lb/gal
For use in:	XtendFlex cotton	XtendFlex cotton	Enlist cotton
Use rates	Preplant, preemergence: 22 – 44 fl oz/A Postemergence: 22 fl oz/A	12.8 fl oz/A	3.5 – 4.75 pt/A
Maximum annual use rate	88 fl oz/A/year	51.2 fl oz/A/year	14.25 pt/A/year
Application window	Preplant through 7 days prior to harvest	Preplant through 7 days prior to harvest	Preplant through mid-bloom stage
Aerial applications allowed?	NO	NO	NO
Tank-mixtures with other pesticides or adjuvants?	Only if approved by EPA ¹	Only if approved by EPA ¹	Only if approved by EPA ¹
Ammonium salts allowed? (AMS, UAN)	NO	NO	AMS and approved AMS substitutes allowed. Do not substitute water with nitrogen solutions as carrier
Approved spray nozzle(s)	TeeJet TTI 11004, See product website for additional nozzles	TeeJet TTI 11004, See product website for additional nozzles	Several approved nozzles on product label, see product website for additional nozzles
Maximum operating pressure	63 psi	Do not exceed nozzle manufacturer's recommended pressure	Varies depending on nozzle, read label
Total spray volume	10 GPA minimum	10 GPA minimum	10-15 GPA
Spray boom height	Minimum of 20 inches, maximum of 24 inches above crop or pest canopy	Minimum of 20 inches, maximum of 24 inches above crop or pest canopy	Apply at minimum height based upon nozzle manufacturer's directions
Minimum wind speed	3 mph	3 mph	3mph ⁴
Maximum wind speed	10 mph as set by TDA	10 mph as set by TDA	10 mph as set by TDA
Non-treated buffer area/zone	Downwind only 110 ft (22 fl oz/A), or 220 ft (44 fl oz/A) to sensitive areas	Downwind only, 110 ft to sensitive areas	Downwind only, 30 ft to sensitive areas
Do not apply product if wind is blowing toward:	Adjacent commercially sensitive crops, including tomatoes and other fruiting vegetables, cucurbits, and grapes.	Neighboring specialty crops, tomatoes, fruiting vegetables, cucurbits, peas, potato, tobacco, flowers, fruit trees, grapes, ornamentals, including greenhouse and shade house grown broad-leaf plants	Adjacent commercially grown tomatoes and other fruiting vegetables, cucurbits, grapes, and non-Enlist cotton
Target weed size	Less than 4 inches tall	Less than 4 inches tall	Apply 3.5 to 4.75 pt/A to weeds less than 6 inches tall. For weeds larger than 6 inches, apply 4.75 pt/A. Glyphosate resistant Palmer amaranth may require application at smaller growth stages.

¹For approved tank mix partners for Xtendimax, visit: www.xtendimaxapplicationrequirements.com²For approved tank mix partners for Engenia, visit: www.engeniatankmix.com³For approved tank mix partners for Enlist Duo, visit: www.enlisttankmix.com⁴Not specified on product label, however a minimum of 3 mph wind speed is recommended by AgriLife Extension specialists.

Don't Forget your Residual Herbicides

Dr. Josh McGinty, Extension Agronomist, Corpus Christi Research and Extension Center

According to the NOAA Climate Prediction Center, we should be slightly drier than normal for February and should see normal precipitation patterns through June. Keep in mind that good growing conditions also favor the growth and development of our weed species as well. Our primary concern this season, as it has been for the past few years, is with glyphosate-resistant Palmer amaranth and common waterhemp.

The backbone of our current management recommendation for these (and most other weeds) is the inclusion of residual pre-plant incorporated or pre-emergent herbicides. When we include an effective residual herbicide in our weed control program, we take a large amount of pressure off of glyphosate and other herbicides used post-emergence. The key point here is that an effective weed control program should be centered upon these soil residual herbicides. Post-emergence herbicides such as Roundup, Liberty (in LibertyLink crops), and newly available options—XtendiMax, Enlist Duo, and Engenia (see pages 4-5) should only be viewed as a means to control weed “escapes” that make it through the residual herbicides. As the season progresses and these postemergence herbicides are applied, the inclusion of a soil residual tank-mix partner should be seriously considered, as it will extend your protection from later-emerging weeds. This is especially true when a wetter than average season is expected and multiple flushes of weeds are possible throughout the season.

In order to realize the benefit from these residual herbicides, it is important to remember that these materials **MUST** be incorporated into the soil in order for them to work. The herbicide must be present in the zone of the soil where weed seeds are germinating. If a proper incorporation does not take place, the herbicide will simply sit on the soil surface (often degrading rapidly due to sunlight), and weeds will germinate and emerge safely from below. Mechanical incorporation through shallow tillage (typically to a depth of 2 to 3 inches) is a highly effective method of incorporation. This is particularly important with the “yellow” herbicides such as Prowl and Treflan. When mechanically incorporating, it is important to uniformly distribute the herbicide into the soil to avoid “streaking” of the herbicide.

The depth of incorporation is also critical – the herbicide only needs to be mixed to the depth of germinating weed seeds. If incorporated too deeply, the herbicide will be “diluted” in the soil and poor weed control will be likely. For example, if you have incorporated to twice the required depth, you have effectively reduced the herbicide rate by 50% in the zone where weed seeds are germinating. Power-driven incorporation tools will place the herbicide as deep as the machine is running, while implements such as a tandem disk or field cultivator will place the herbicide to approximately one-half the depth of tillage. Keep in mind that mechanical incorporation may not be recommended for some herbicides, so read the product label for instructions about recommended incorporation methods.

Many residual herbicides may also be incorporated by rainfall or irrigation, and it is the first rainfall or irrigation that determines the depth of these herbicides. In these situations, we are relying upon water to move the herbicide into the soil, thus the quantity of water is critical for getting the herbicide deep enough. In dry-land production, if a significant rain (0.75 in. or more) is not predicted within 7 days after application, a mechanical incorporation may be required.

More information, including the AgriLife Extension Cotton Weed Management Publication, can be found at: <http://cotton.tamu.edu/weeds.html>

USDA Announces Enrollment Period for Safety Net Coverage in 2017

Producers on farms with base acres under the safety net programs established by the 2014 Farm Bill, known as the Agriculture Risk Coverage (ARC) or Price Loss Coverage (PLC) programs, were able to begin visiting FSA county offices starting Nov. 1, 2016, to sign contracts and enroll for the 2017 crop year. The enrollment period will continue until Aug. 1, 2017. Since shares and ownership of a farm can change year-to-year, producers on the farm must enroll by signing a contract each program year.

If a farm is not enrolled during the 2017 enrollment period, the producers on that farm will not be eligible for financial assistance from the ARC or PLC programs for the 2017 crop should crop prices or farm revenues fall below the historical price or revenue benchmarks established by the program. Producers who made their elections in 2015 must still enroll during the 2017 enrollment period.

The ARC and PLC programs were authorized by the 2014 Farm Bill and offer a safety net to agricultural producers when there is a substantial drop in prices or revenues for covered commodities. Covered commodities for our area include corn, grain sorghum, long grain rice, medium grain rice (which includes short grain and sweet rice), soybeans, and wheat. Upland cotton is no longer a covered commodity. For more details regarding these programs, go to www.fsa.usda.gov/arc-plc

For more information, producers are encouraged to visit their local FSA office.

USDA Farm Service Agency Offers Text Alerts to Fort Bend County Producers

Subscribers Can Receive Important Program Reminders and Updates

Fort Bend County USDA Farm Service Agency (FSA) Executive Director Veronica Crum announced that farmers and ranchers in Fort Bend County now can receive notifications from their county office through text messages on their cell phone.

Whether producers are in the field, on a tractor or even on horseback, this service enables FSA customers and stakeholders to receive notifications while on the go. Producers will receive text messages regarding important program deadlines, reporting requirements, outreach events and updates.

Producers can text TXFORTBEND to FSANOW (372-669) to subscribe to text message alerts from Fort Bend County. Standard text messaging rates apply. Contact your wireless carrier for details associated with your particular data plan. Participants may unsubscribe at any time.

Please contact your local FSA office at 281-232-6898 Ext 2 if you have questions regarding FSA's email news service or the new text message option.

Texas A & M AgriLife Extension Service — Fort Bend County

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DATES TO REMEMBER

February 28

Last day to drop off Pasture Soil Samples

May 19

Private Applicator Training

Registration 8:30 a.m., Training 9:00 a.m.

USDA RMA Final Planting Dates

Corn and Grain Sorghum –April 15th

Cotton –May 15th

Rice –May 31st

Soybeans –June 25th

August 1

USDA Farm Service Agency ARC/PLC Enrollment Deadline

Texas A&M AgriLife Extension provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating. Individuals with disabilities who require an auxiliary aid, service or accommodation in order to participate in any Extension activities, are encouraged to contact the County Extension Office at 281-342-3034 for assistance 5 days prior to the activity.