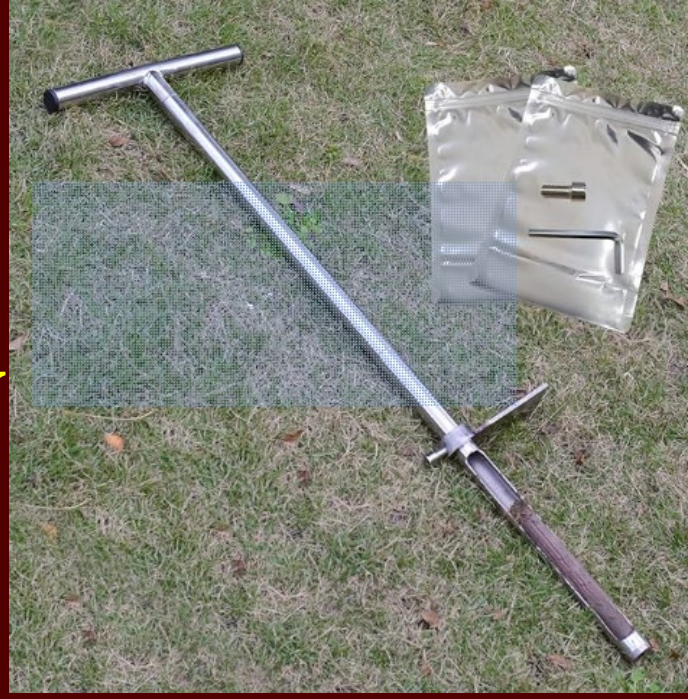
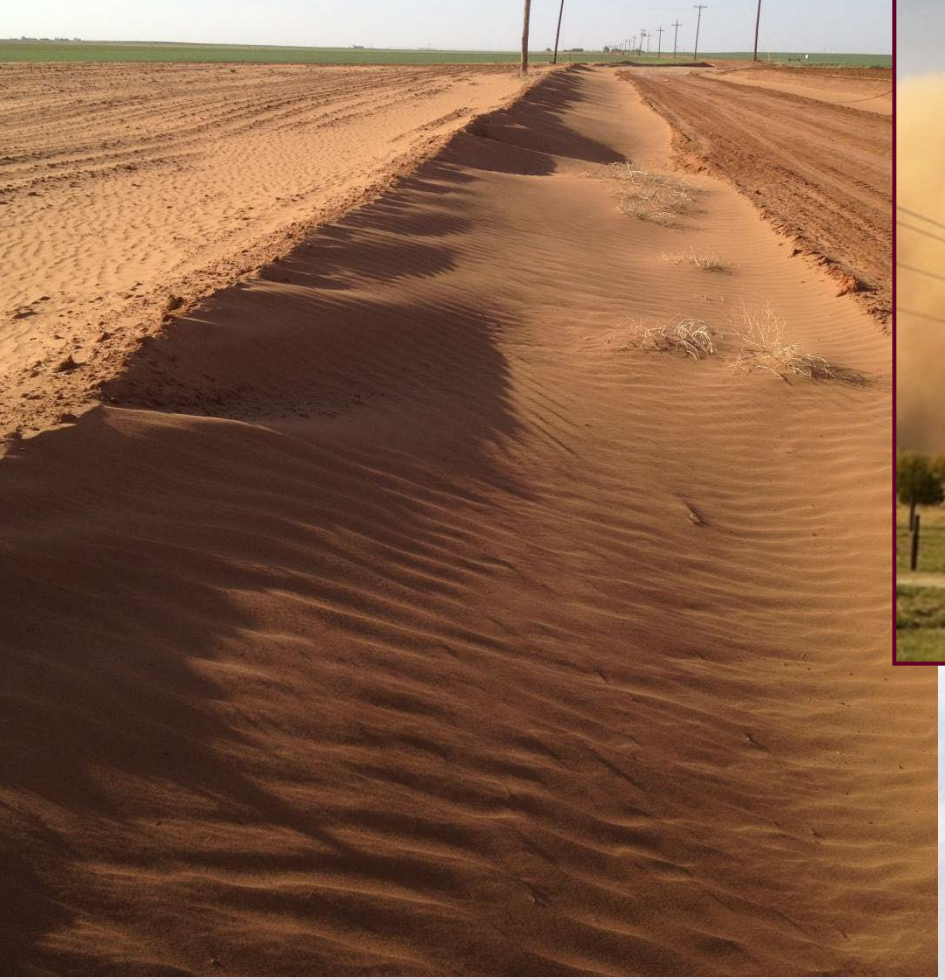
Pointers You Probably Haven't Heard about Soil Testing!

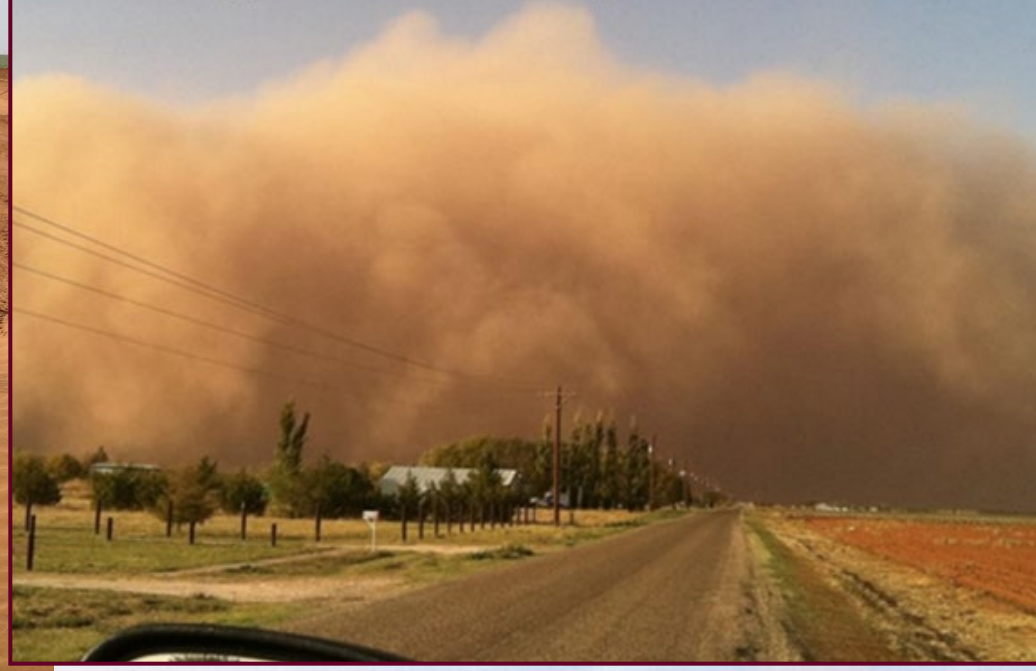


Dr. Calvin Trostle, Extension Agronomy
Texas A&M AgriLife Research &
Extension Center, Lubbock
806-746-6101, ctrostle@ag.tamu.edu

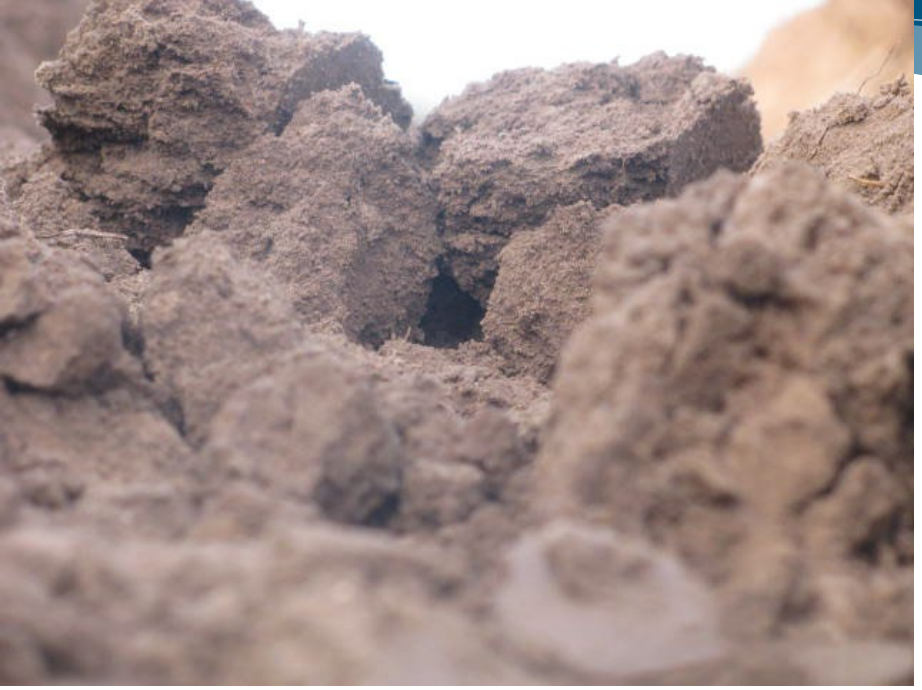
TEXAS A&M AGRILIFE EXTENSION

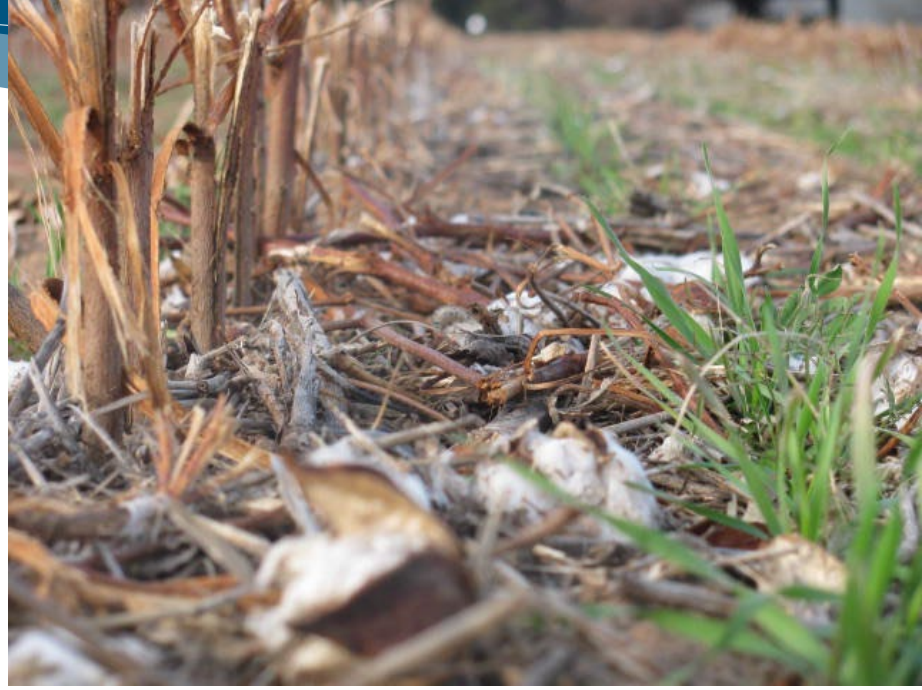
May 2025

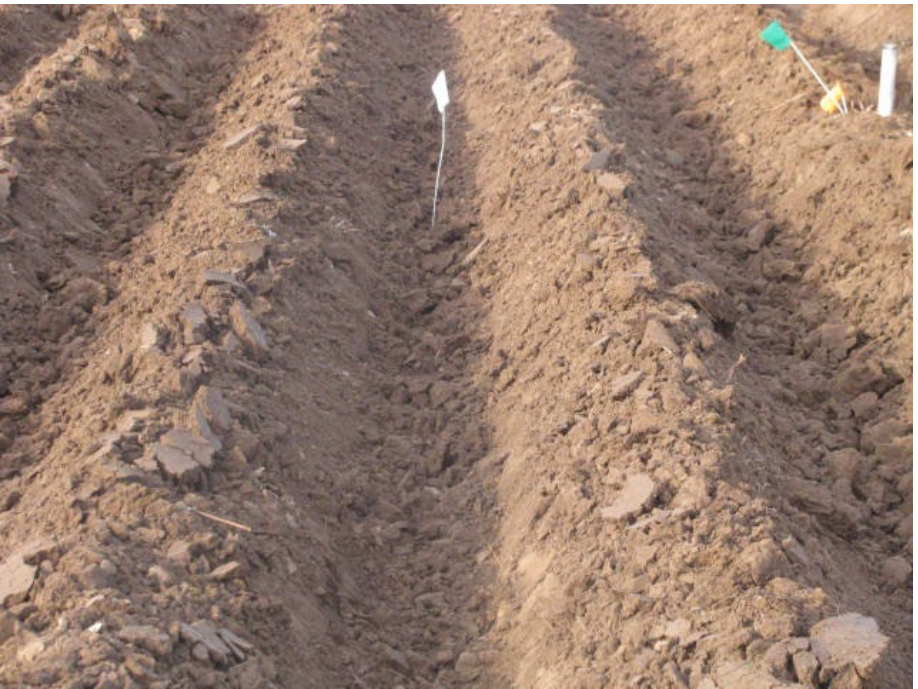


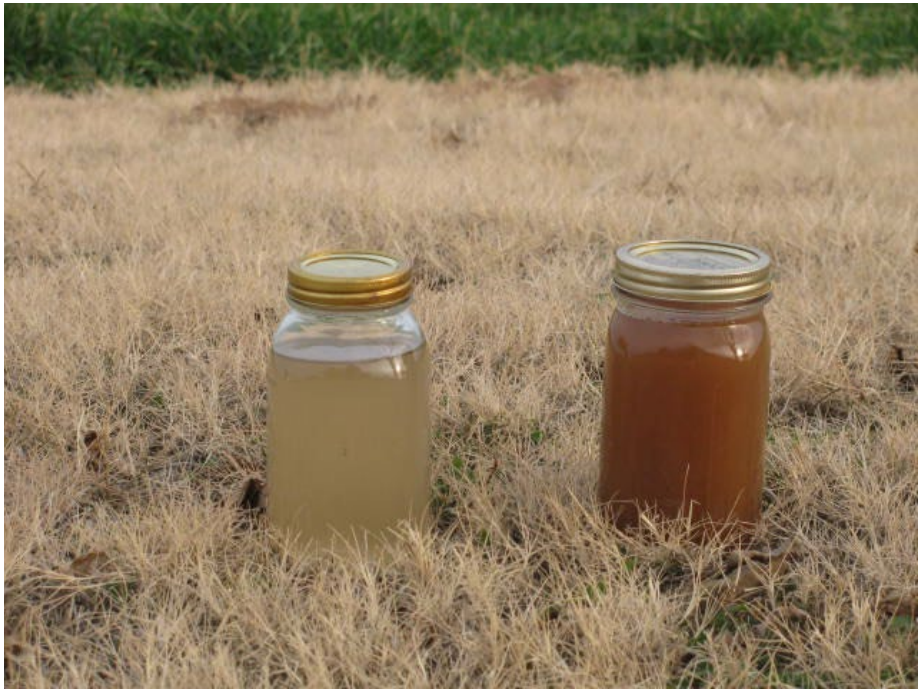


West Texas: Where will this land be in another 20 Years?









A Soil Perspective…

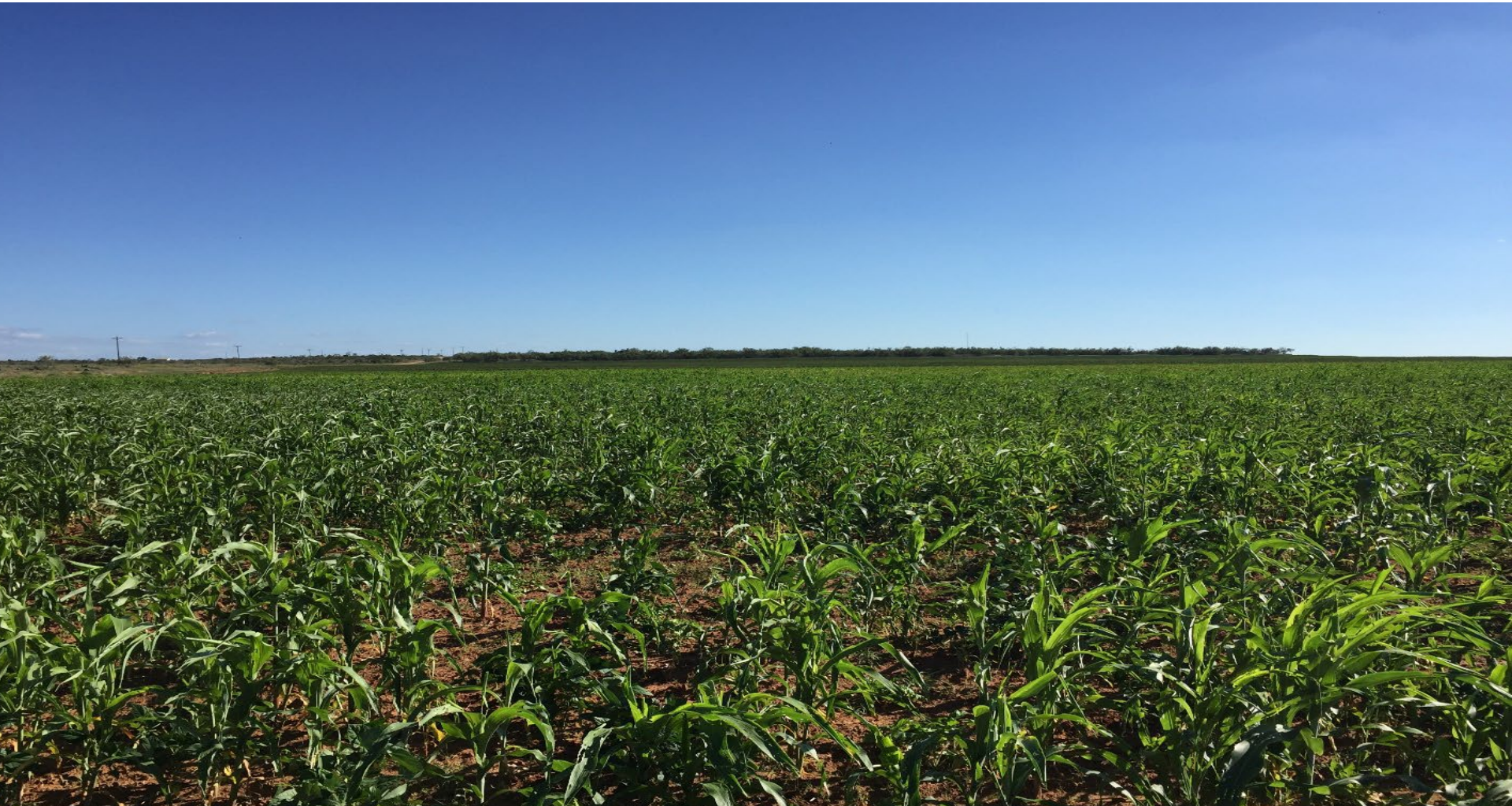
Matt Miller, Heliae, Inc. (Seymour, TX, Dec. 3, 2022)

- What high quality or healthy soils do…
  - Improved water infiltration and storage
  - Resist erosion
  - Nutrient cycling and retention
  - Improve nutrient use
  - Increase crop resiliency
  - Improve yields & profitability

Texas A&M AgriLife Extension

October, Mitchell Co., Texas

Drilled mid-August, dominated by sorghum/sudan; others included rye (65% of seed weight), cowpea, vetch, radish, flax



Soil Testing

Oh no, not again…

I've heard this before…

Today, something new!

You might be surprised…

- Though there are merits, AgriLife Extension does not expect you to soil test every year (exceptions on next slide)
- We are not disappointed if you soil test every third year.
- There are exceptions where AgriLife for sure recommends annual testing.

Texas A&M AgriLife Extension

Soil Testing Necessity (often annually)

- Hay/silage/greenchop forages. AgriLife recommends annual soil testing due to high level of nutrient removal in the forage.
  - Nutrient removal from the cropping system is **much greater** than grain or grazing.
- Before establishing perennial crops. Bermuda, alfalfa, etc.
  - Phosphates, potash (K), micronutrients are inefficient when surface applied without tillage.
- Before you convert to no-till. Incorporation of P, K, micros.
- High value crops merit more regular testing.
  - Horticultural, fruit, vegetable, and specialty crops.
- After industrial hemp fiber due to complete removal of above-ground biomass.

TEXAS A&M AGRILIFE EXTENSION

Texas High Plains

Texas A&M AgriLife Extension Service High Deep Sampling Program of Nitrate-Nitrogen in top 0-24”

Most soil sampling still relies on a 6” sample, but a lot of information is missing.		Nitrogen 0-6" NO_3-N	Nitrogen 6-24" NO_3-N	Nitrogen Total (0-24") NO_3-N
	No. Fields (113 Total)	Average lbs. per acre		
Dryland	17	11	32	43
Irrigated	96	15	38	52
		Maximum lbs. per acre		
Dryland		26	114	140
Irrigated		66	126	142
		Minimum lbs. per acre		
Dryland		0	0	7
Irrigated		2	1	8

Includes results from Briscoe, Carson, Deaf Smith, Moore, and Sherman Counties of District 1 and Bailey, Crosby, Floyd, Hale, Hockley, Lamb, Lubbock, and Parmer Counties of District 2.

TEXAS A&M AGRILIFE EXTENSION

TEXAS A&M AGRILIFE EXTENSION

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
Texas AgriLife Extension Service

S 25

SOIL SAMPLE INFORMATION FORM

Please submit this completed form and payment with samples. Mark each sample bag with your sample identification and ensure that it corresponds with the sample identification written on this form. *See sampling and mailing instructions on the back of this form.

(PLEASE DO NOT SEND CASH)

SUBMITTAL AND INVOICE INFORMATION: This information will be used for all official invoicing and communication. **Sheet ___ of ___**

Name _____

Mailing Address _____

City _____

County where sampled _____

Phone _____

Email* _____

Ensure you use the **current-year form**. See this and other forms (water, small acres, forages, plant tissue, biosolids) at http://soiltesting.tamu.edu Finally, if you have many samples call about possible bulk discounts.

CLIENT NAME

Name _____

Lab Use only

Payment Options (DO NOT SEND CASH)

1) ☐ Check/ Money Order (keep your M.O. receipt)

Amount Paid $_____ Check Number _____

Make Checks Payable to: **Soil Testing Laboratory**

2) ☐ Prepayment on Aggie Marketplace Payment

Order Number _ _ _ _ _ _ _ $ amount_____

(Fill in last 7 digits of order number.)

3) ☐ AG-257-Ipayments account number

55000000 _ _ _ _ _ (Fill in last 5 digits.)

***A $3.00 mail fee will be charged for all invoice and sample results mailed via USPS. Results and invoice can be emailed in PDF form for free.** ☐ **email results** ☐ **Charge $3 for mailing**

Please email the laboratory at soiltesting@ag.tamu.edu during time of shipping samples to ensure a valid email address is on file for delivery of your results.

1. Routine Analysis (R) (pH, NO_3-N, Conductivity and Mehlich III P, K, Ca, Mg, Na, S, Boron) (This test is a base test for basic fertilizer recommendations.)	**$12 per sample**
2. R + Micronutrients (Micro) (Adds Zn, Fe, Cu, and Mn to test 1.)	**$19 per sample**
3. R + Micro + Texture (TEX) (adds soil texture to test number 2)	**$44 per sample**
4. R + Micro + Organic Matter (OM) (Includes Test 1 plus micronutrient and organic matter analysis)	**$39 per sample**
5. R + Micro + OM + Texture Analyses (TEX) (Includes Test 1 plus micronutrient, organic matter and textural analysis)	**$64 per sample**
6. R + OM (Includes Test 1 plus organic matter analysis)	**$32 per sample**
7. R + TEX (determines % sand, silt, and clay) (Includes Test 1 plus textural analysis)	**$37 per sample**
8. R + OM+ TEX (Includes Test 1 plus organic matter and Textural Analyses)	**$57 per sample**
9. R + Detailed Salinity (SAL) (Includes Test 1 plus detailed salinity analysis) (Recommended for individuals using lower quality irrigation water.)	**$37 per sample**
10. R + Micro + SAL (Includes Test 1 plus micronutrient and detailed salinity analyses)	**$44 per sample**
11. R + Micro + OM + SAL (Includes Test 1 plus micronutrient, organic matter and detail salinity analyses)	**$64 per sample**
12. R + Micro + OM + SAL + TEX (Includes Test 1 plus micronutrient, organic matter, detailed salinity and textural analysis and provides the most comprehensive data needed for troubleshooting most plant/soil growing issues (does not address pathogen, pesticide or hydrocarbon issues)).	**$89 per sample**
Hardcopy mailed to address listed above (1-100 samples)	**$3 per shipment**

Pricing valid until 12-31-2025.

The latest form can be downloaded at the laboratory's website: soiltesting.tamu.edu

The back side of the Soil Sample Information form.

Procedure for Taking Soil Samples

Soil Sampling Area

1) Take one composite sample for every 10 to 40 acres. A separate sample should be taken for:
   a) Areas with different soil types
   b) Areas with different land uses or fertilizer application rates
   c) Areas with different cropping histories (species and yields)
   d) Areas with different terrain
2) Avoid sampling areas such as small gullies, slight field depressions, terrace, waterways, or unusual areas.
3) When sampling fertilized fields, avoid sampling directly in fertilized band and wait at least 2 months after last fertilization.

Taking a Composite Sample

4) Use a spade, soil auger or soil sampling tube.
5) Clear plants and plant residue from the surface (do not remove decomposed black material that no longer can be identified as a plant).
6) Take a 0-6 inch sample, insure equal soil throughout this six inch depth.
7) It is important to **repeat steps 4-6** an additional **9 to 14 times** for each area identified in steps 1-3. Place each collected core/sample in a clean plastic bucket or other non-metallic container and thoroughly mix the soil while removing any large roots/plant tissues that might have been collected.
8) Fill a quart-sized freezer resealable bag half to 3/4 full for soil tests suites that do not include Detailed Salinity or Soil Texture. For sample analysis that includes Detailed Salinity and/or Soil Texture, a full rock free quart bag or full soil sample bag is required.
9) To improve the nitrate-nitrogen analysis, samples may be **air dried** before sending to the laboratory. **Do not use heat** to dry samples.
10) Label the sample bag with the identical Sample ID listed on the front side of this submittal form. Use multiple submittal sheets if needed, do not place more than one sample per line.

Payment and Shipping

Payment options include the three options below.

1) Check or Money Order must be included with samples, 2) prepaid on Aggie Marketplace or 3) enter Ipayments Account Number for invoicing. A completed AG-257 must be on file with Texas A&M AgriLife Banking and Receivables for samples to be processed. Go to the laboratory website for easy access to the Aggie Marketplace payment option. Please note that the *price is per sample*.

Soil Test Pointer #1

- What is your soil test lab's philosophy of nutrient supply?
- Crop Nutrient Requirement?
  - Provide what your crop needs for this year (likely based on yield goal)
- Build & Maintain?
  - Grow residual nutrient levels over time (6-8 years?) for higher potential production (most likely P; this does not apply to N due to potential N losses)
- **Is one philosophy better than the other?**—Not necessarily
  - Public labs vs. private labs

Soil Test Pointer #1--Comments

- Crop Nutrient Requirement?
  - This is different than crop *fertilizer* requirement, which adjusts for what is already available from the soil.
  - What is a realistic yield goal? Field history, your goals. Some farmers might unrealistically set a too-high yield goal, then fertilizer for that year after year. This leads to excess accumulation (which a soil test will identify—so it is time to cut back).
- Build & Maintain?
- Public labs vs. private labs (Public labs likely are CNR, private labs may lean toward B&M. A good lab, crop consultant, fertilizer dealer will **ask you** what you prefer.)

Soil Test Pointer #2

- What does your soil test lab base their recommendations on?
- Most likely you assume (and hope) "research." This is our expectation, this is our standard—it should be yours, too.
  - University labs for major and moderate crops in their state have years and locations (including different soil types) of fertility research and crop nutrient response.
- How do private soil testing labs also use soil test and research crop yield response for calibration?

Soil Test Pointer #2 (continued)

- What about fertilizer recommendations for lesser agronomic crops?

- Bottom Line—A question to ask:

What do you base your crop fertilizer recommendations on?

Soil Test Pointer #2 (continued)

- What about fertilizer recommendations for lesser agronomic crops?
  - For Texas A&M has no research-based crop response data to N or P or K in our soil test database for fertility recommendations for several crops like haygrazer, sesame, sunflower, guar.
  - Thus, the crop requirement is "fixed." It is the same whether your yield target is 600 lbs./A or 2,600 lbs./A, that is, after soil nutrients are accounted for a nitrogen "recommendation" will be the same for each yield goal. (In this case recommend farmers send soil samples for sunflower to Kansas State, sesame & guar to Oklahoma State.)
- Bottom Line—A question to ask: What do you base your crop fertilizer recommendations on?

TEXAS A&M AGRILIFE EXTENSION

Soil Test Pointer #3

- Do you use a soil test lab that is out of state?
  - For example, many Texas High Plains farmers send soil samples for cotton to a lab in a state that does not grow cotton.
- The two labs out of state I called say they use 'research publications' to base their recommendations on. One noted they use Texas A&M data for Texas samples (good!).

Soil Test Pointer #4
Someone else samples your soil

- Do they use good representative soil sampling methods?
  - Uniform sampling across different productivity zones or landscape in the field? Enough collection points per zone? Thorough mixing of sample?
- What sampling depth? What is a good target?
  - 0-6” is routine (a few use 0-8”), but nutrients below this depth are also important.
  - Kansas State & North Dakota State now prefer 0-24” samples if you can get it (esp. due to N)

Soil Test Pointer #4
Someone else samples your soil

- Does a farm supplier, fertilizer dealer, or crop consultant collect and analyze your soil samples **often for free** (then make your recommendations)?
  - For courtesy sampling—and if you are paying for sampling and analysis—what **must** you do!
  - Be aware this type of arrangement might represent a possible financial conflict of interest.

Texas A&M AgriLife Extension

Soil Test Pointer #4
Someone else samples your soil

- Does a farm supplier, fertilizer dealer, or crop consultant collect and analyze your soil samples **often for free** (then make your recommendations)?
  - Here is what you **must** do!—**Get a copy of the soil reports** (doesn't matter who "owns" the information, if that is a concern, it is *your* soil.)
  - Review the soil test reports yourself and ask questions if you need to.

Texas A&M AgriLife Extension

Soil Test Pointer #4
Someone else samples your soil

- Does a farm supplier, fertilizer dealer, or crop consultant collect and analyze your soil samples **often for free** (then make your recommendations)?
  - Possible financial conflict of interest?—Recognize this possible issue. Hopefully only a minor concern, but if abused, it could mean you might be applying more fertilizer ($) than you need. Some farm supply sales staff are partially on commission.
  - Can you request a "Fiduciary" relationship with your advisor or one who recommends your fertilizer? This means recommendations are in *your* best interest.

Soil Test Pointer #4
A Trostle Case Study from my Experience

- I was asked to help a farmer in an adjacent state to assess poor alfalfa growth. There was a lawsuit between farmer who didn't think the alfalfa variety was appropriate vs. the company who had not received payment for seed, fertilizer, etc.
- I visited the field, took soil samples, plant tissue samples, pictures, and had the samples analyzed. Soon I received a subpoena from the company's lawyer via a state court. What did I learn and think? I studied all the information available about the field, alfalfa growth & management, etc.
- In a few weeks I sat for a deposition with the company attorney and other observers for 6.5 hours (whew!). Late in the meeting I was presented several soil sample reports over years the company had from the field in question. I saw in the analyses and comments that the field had a high level of soil sodium (Na^+). The reports noted this in capital letters. I turned to the farmer, who was listening: "Did you ever receive a copy of these reports?" Never.
- The company was sitting on details the farmer didn't know about that explained why the poor alfalfa growth. Some reports were over three years old before the farmer seeded the alfalfa. I think the farmer would have recognized the issue if had the soil test reports. This issue could have been addressed years earlier without tens of thousands of dollars in legal costs.
- The fault, however, is not fully only the company. The farmer didn't ask for the soil test reports.

Soil Test Pointer #5— How do I read soil test lab results?

- Critical Level (CL) or Critical Value
  - Same as the footnote on a Texas A&M soil sample report (next slide): "CL = Critical level is the point which no additional nutrient (excluding nitrate-N, sodium, and conductivity) is recommended."
- Nitrate-N vs. Nitrate
  - NO_3-N vs. NO_3^-
  - The former is a lower test value, but the same amount of actual N either way it is expressed.

Texas A&M AgriLife Extension

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
Texas Agrilife Research - Paul DeLaune
PO Box 1658
Vernon, TX 76384

Sample received on: 9/23/2013
Printed on: 9/25/2013
Area Represented: 1 acres

Henderson County
Laboratory Number: 394226
Customer Sample ID: 0-6" CRS-DT6
Crop Grown: WHEAT (40-59 BU/A) GRAIN ONLY

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	7.0	(6)	-	Neutral	
Conductivity	195	(-)	umho/cm	None	
Nitrate-N	6	(-)	ppm**		65 lbs N/acre
Phosphorus	35	(50)	ppm		20 lbs P2O5/acre
Potassium	357	(125)	ppm		0 lbs K20/acre
Calcium	2,939	(180)	ppm		0 lbs Ca/acre
Magnesium	221	(50)	ppm		0 lbs Mg/acre
Sulfur	4	(13)	ppm		15 lbs S/acre
Sodium	7	(-)	ppm		
Iron	4.70	(4.25)	ppm		
Zinc	0.10	(0.27)	ppm		4 lbs Zn/acre
Manganese	2.73	(1.00)	ppm		0 lbs Mn/acre
Copper	0.45	(0.16)	ppm		0 lbs Cu/acre
Boron					
Limestone Requirement					0.00 tons 100ECCE/acre

This report is for wheat. It noted at the bottom to apply 1/3 of N at or before planting.

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Soil Test Report Units Might Vary

- Not all soil test labs report the same units. Watch for these:
  - 1 part per million (ppm) = 1 milligram per kilogram (1 mg/kg)
  - And…

Conversion	Multiply by
NO_3 (nitrate) to N only (NO_3-N)	0.23
N only (NO_3-N) to NO_3 (nitrate)	4.4
P_2O_5 to P	0.28
P to P_2O_5	3.6
K_2O to K	0.42
K to K_2O	2.4

P and K are usually expressed as oxides though this can be confusing.

Texas A&M AgriLife Extension

Soil Test Pointer #6—

- How long should I keep my soil sample reports?

Soil Test Pointer #6—

- How long should I keep my soil sample reports?

- Years! 20 or more...
  - Then you can track historical fertility, especially if you have changed management practices like converting to no-till, began using compost/manures, etc.
  - If were to sell the land, the soil test reports are similar to maintenance records on a pickup or tractor. It shows the equipment—or soil—has been taken care of.

Soil Test Pointer #7—

- Can soil test information be useful in buying or selling farm land?

Soil Test Pointer #7—

- Can soil test information be useful in buying or selling farm land?
- **Yes.** Soil testing reveals the nutrient status ($$).
  - High residual fertility? Might be worth >$60/A.
  - Mined-out soil or pH out of whack? Might cost >$150/A to restore to optimum productivity. (A landowner might have planned to sell so for two years they added no fertilizer.)
  - If considering purchasing property—ask if you can soil sample. (If they say 'no', reduce your bid?)
  - If selling and you know residual fertility is good, invite prospective buyers to take their own soil sample.

Soil Test Pointer #7—

- A soil testing caveat:
- More often in the U.S. Corn Belt—If residual nutrient levels are high (or even if they are not) is this a depreciation tax consideration for the buyer?
  - **Be wary…**
  - There is an apparent tax provision (loophole?) in the IRS code that can allow you to depreciate (high) soil nutrient values in newly purchased land.
  - But the claims of how much you could save are grossly exaggerated (and unethical). Services claim you could save hundreds and even up to $1,000 per acre because of tax depreciation of this "asset." I have seen claims of soil nutrients worth up to $4,000 per acre. (I could kill a lot of crop due to toxicity for much less cost than that!)
  - Apart from the tax code the fallacy is the grossly excess value assigned to soil nutrients. For further information contact Dr. Calvin Trostle for "**Residual (Excess) Soil Fertility Tax Deduction,"** 6/15/2023.

Soil Test Pointer #8—

- Our economists—and agronomists—like to say:

"Soil sampling doesn't cost, it pays!"

- Be strategic.

Texas A&M AgriLife Extension

Other Soil Testing Information from Texas A&M

- The accounting and value of subsoil (below 6”) nitrate-nitrogen.
- Entering your soil test information from another lab on the Texas A&M website to see what recommendations Texas A&M would give.
  - This requires the other lab also use the “Mehlich-III” extraction method for soil nutrients.

Is subsoil nitrate-N valuable? What should I do if I have a lot?

- Question: "I have 30 lbs. of nitrate-N at 6-18" deep in my soil. Should I fully credit 100% of that N to my wheat crop requirement?

- Ensure viewers understand this is below the *typical* 0-6" soil testing depth.

Is subsoil nitrate-N valuable? What should I do if I have a lot?

- Question: "I have 30 lbs. of nitrate-N at 6-18" deep in my soil. Should I fully credit 100% of that N to my wheat crop requirement?

- Additional comment: When I ask this question of a farmer audience (or anyone else for that matter), I emphasize 'fully' to make sure they heard it, e.g. ALL. They hear that. Fully? All? *Really?* Maybe that pulls them back a bit. I will ask for a show of hands: How many say Yes? How many say No? If there are 50 people 3 to 5 will say Yes, 4 to 7 will say No, and the rest are sitting on the fence waiting to see what I am going to say.

What about subsoil nitrate-N?

- Question: "I have 30 lbs. of nitrate-N at 6-18" deep in my soil. Should I fully credit that N to my crop requirement?
- ***YES***. *Texas A&M AgriLife data across many soil types and different crops across the state shows that for all practical purposes we **CAN** credit that N to crop requirement.*
  - *When soil fertilizer tests have been conducted and the soil profile N below 6" is deducted from the applied N there is essentially no difference in yield due to the N fertilizer reduction.*

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  - *When soil fertilizer tests have been conducted and the soil profile N below 6" is deducted from the applied N there is essentially no difference in yield due to the N fertilizer reduction.*

- Additional comment: There are many who will NOT agree with this! But I emphasize that different crops, different soil types—even the many researchers that have work on this topic in Texas for 25 years, demonstrate that if you reduce the applied fertilizer N (in this case by 30 lbs. N per acre), there has never been any real difference in yields. A former colleague in another university for the Texas High Plains says his information says you can credit 70% of that 30 lbs. N per acre. I am not going to spend time debating that… OK, that might be the case, but 70% of 30 lbs. is 0.70 X 30 = 21 lbs. N per acre. That is still a significant credit, worth about $14/A at 2025 N fertilizer prices.

TEXAS A&M AGRILIFE EXTENSION

TEXAS A&M AGRILIFE EXTENSION

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
Texas AgriLife Extension Service

SP 21

PROFILE SOIL SAMPLE INFORMATION FORM

Please [illegible]s completed form and payment with samples. Mark each sample bag with your unique sample identification and ensure that [illegible]nds with the sample identification written on this form. *See sampling and mailing instructions on the back of this form.
(PLEASE DO NOT SEND CASH)

SUBMITTAL AND INVOICE INFORMATION: This information will be used for all official invoicing and communication. Sheet ___ of ____

Name _____

Address _____

City _____ State_____ Zip _____

Though this form is no longer used, it demonstrates the possibility of sampling 1) a topsoil layer for regular nutrient testing, and 2) a deeper soil layer for nitrate-N only.

CLIENT NAME: Client name will only be included with information above on result reports.

Name _____

This form is only for paired (surface and subsurface) profile sample submittal. All subsurface samples must have a corresponding surface soil. If submitting non-profile samples, use regular Soil Submission form.

Payment (DO NOT SEND CASH)
☐ Check/ Money Order (keep your M.O. receipt)
Amount Paid $_____
Make Checks Payable to: **Soil Testing Laboratory**
☐ Prepayment on Aggie Marketplace Payment
Order Number_____ $ amount_____
☐ Extension of Credit-Bill, AG-257 on file
Samples will not be processed if payment is not received or a valid AG-257 is not on file with Texas A&M AgriLife Extension Service. See Website for more information on Form AG-257

SAMPLE INFORMATION (Required) (See options listed below)

Laboratory # (For Lab Use)	Your Sample I.D.	Acreage Represented	Previous lime/ fertilizer	What are you growing?	Requested analyses	How is forage used?
					☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10	☐Grazing (G) ☐ G&H ☐Hay (H) ☐**Min. requirement
	This subsurface sample must correspond to surface sample listed above.		Sampling Depth: ☐6-12" ☐6-18" ☐6-24"		☐1 ☐11	

Checking Soil Test Recommendations from Another Lab

- Must use the test method "Mehlich-III" to be comparable if comparing to Texas A&M
- "Obtain New Recommendations…"
  - https://soiltesting.tamu.edu/ag-calculator/
- You can plug in your own numbers and get Texas A&M recommendations—a good way to cross-check for applied fertilizer amounts.

Texas A&M AgriLife Extension Soil, Water and Forage Testing Laboratory Soil Fertility Recommendation Calculator

	Units	Test Values*	Critical Value	Recs	Units
Nitrate-N	ppm		-		
Mehlich III Phosphorus	ppm				
Mehlich III Potassium	ppm				

Enter your soil test data in the red rectangles above.

Select the drop down-menu from the following crop categories (select only one)

Lawn or Gardens

Forages

Oil Crops

Vegetable, Fruit and Nut Crops

Rowcrops and Grains

Landscape

Fiber Crops

Tree Production

Texas A&M AgriLife Extension Soil, Water and Forage Testing Laboratory Soil Fertility Recommendation Calculator

	Units	Test Values*	Critical Value	Recs	Units
Nitrate-N	ppm	8	-		
Mehlich III Phosphorus	ppm	30			
Mehlich III Potassium	ppm	180			

Enter your soil test data in the red rectangles above.

Select the drop down-menu from the following crop categories (select only one)

Lawn or Gardens

Forages

Oil Crops

Vegetable, Fruit and Nut Crops

Rowcrops and Grains

Landscape

Fiber Crops

COTTON (2.0 BALES/A)
COTTON (3.0 BALES/A)
COTTON (3.5 BALES/A)
COTTON (4.0 BALES/A)
COTTON (4.5 BALES/A)
COTTON (5.0 BALES/A)
COTTON (DRYLAND OR IRRIGATION , 1.5 BALES/A)
COTTON (DRYLAND OR LIMITED IRRIGATION , 1 BALE/A)
COTTON (FULL IRRIGATION , 2.5 BALE/A)
KENAF

Texas A&M AgriLife Extension Soil, Water and Forage Testing Laboratory Soil Fertility Recommendation Calculator

COTTON (DRYLAND OR LIMITED IRRIGATION , 1 BALE/A)

	Units	Test Values*	Critical Value	Recs	Units
Nitrate-N	ppm	8	-	30	lbs N/acre
Mehlich III Phosphorus	ppm	30	50	20	lbs P2O5/acre
Mehlich III Potassium	ppm	180	125	0	lbs K2O/acre

Enter your soil test data in the red rectangles above.

Select the drop down-menu from the following crop categories (select only one)

Lawn or Gardens

Forages

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Fiber Crops

COTTON (DRYLAND OR LIMITED IRRIGATION , 1 BALE/A)

Tree Production

Nitrogen: Potassium:

AgriLIFE EXTENSION
Texas A&M System

Soil, Water and Forage Testing Laboratory

Nitrogen recommendations applicable for methods used by laboratory.

Nitrogen Soil Fertility Recommendations for Texas Grain and Row Crops

updated on 3-30-2012: soiltesting.tamu.edu

	1M KCl, Cd-Reduction Nitrate-N (ppm or mg/kg) in Soil									
	0	2	4	6	8	10	12	14	16	18
	----------lbs N/acre----------									
RICE (SHORT VARIETIES <6,000 LBS/ACRE)										
RICE (SHORT VARIETIES >10,000 LBS/ACRE)										
RICE (SHORT VARIETIES 6,000-10,000 LBS/ACRE)										
RICE (TALL VARIETIES <6,000 LBS/ACRE)										
RICE (TALL VARIETIES >10,000 LBS/ACRE)										
RICE (TALL VARIETIES 6,000-10,000 LBS/ACRE)										
RYE , GRAIN	70	65	60	55	50	50	45	40	35	30
SORGHUM ALMUM	40	35	30	25	20	20	15	10	5	0
TRITICALE GRAIN	70	65	60	55	50	50	45	40	35	30
WHEAT (20-29 BU/A) GRAIN ONLY	45	40	35	30	25	25	20	15	10	5
WHEAT (20-29 BU/A) GRAZING & GRAIN	60	55	50	45	40	40	35	30	25	20
WHEAT (30-39 BU/A) GRAIN ONLY	60	55	50	45	40	40	35	30	25	20
WHEAT (30-39 BU/A) GRAZING & GRAIN	80	75	70	65	60	60	55	50	45	40
WHEAT (40-59 BU/A) GRAIN ONLY	80	75	70	65	60	60	55	50	45	40
WHEAT (40-59 BU/A) GRAZING & GRAIN	120	115	110	105	100	100	95	90	85	80
WHEAT (60-79 BU/A) GRAIN ONLY	120	115	110	105	100	100	95	90	85	80
WHEAT (60-79 BU/A) GRAZING & GRAIN	160	155	150	145	140	140	135	130	125	120

Sources of Chemical Label Information

& AgriLife Extension Weed Scientists

- Labels for herbicides, insecticides, fungicides, seed treatments, growth regulators, etc.—access through **http://www.cdms.net** then conduct either search:
  - **A) Simple:** Click 'Product Databases' then enter product name then choose the specific product then its label or supplemental label (most common use)
  - **B) Detailed:** Under 'Product Databases' click "CDMS Advanced Search" then you may search by active ingredient (looking for a generic?), a specific crop, or a class of chemicals (herbicides, fungicides, insecticides) labeled for a particular crop, etc.
- Texas High Plains—Dr. Pete Dotray, Lubbock, (806) 746-6101, pdotray@ag.tamu.edu
- Central & Texas—Dr. Scott Nolte, College Station, (979) 321-5934, scott.nolte@ag.tamu.edu
- South Texas—Dr. Josh McGinty, Corpus Christi, (361) 265-9203, joshua.mcginty@ag.tamu.edu

TEXAS A&M AGRILIFE EXTENSION

Texas Poison Center Network

- http://www.poisoncontrol.org
- (800) 222-1222
- Put this in your Cell Phone!

  If you are blinded and can't see you can still voice dial (or call 9-1-1).