Keys to

Agronomy

VOL 8

In this issue:

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MEET THE AGRILIFE TEAM

250 out of the 254 counties in Texas has at least one AgriLife Extension agent. These agents are typically specialized in a program area and their primary role is to inform and teach local residents through a variety of deliveries. We work with each other, local committees, and volunteers to identify issues that allow us to build our programs and are always looking for passionate people to help us do this. If you want to get connected with any of the team members below, visit the county websites or let me know.

Castro

- Felice Acker, CEA- Family & Community Health
- Courtney Lowe, EA- Health
- Kristie Keys, EA- Agronomy

Lamb

- Brandon Albus, CEA- Agriculture & Natural Resources
- Kathy Lostroh, CEA- Family & Community Health
- Kerry Siders, EA- Integrated Pest Management
- Courtney Lowe, EA- Health
- Kristie Keys, EA- Agronomy

Hale

- Andy Hart, CEA- Agriculture & Natural Resources
- Shawnte Clawson, CEA- Family & Community Health
- Audra Guess, CEA- 4-H Youth Development
- Blayne Reed, EA- Integrated Pest Management
- Courtney Lowe, EA- Health
- Kristie Keys, EA- Agronomy

Team

Contact Me!

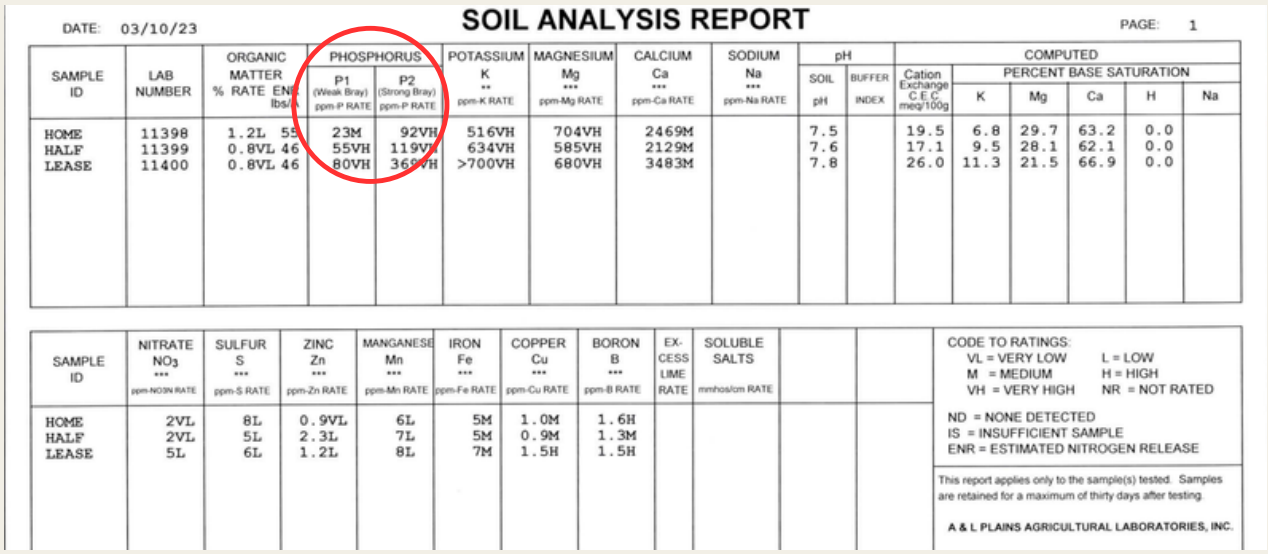
Got an idea, question, or comment?

Kristie Keys
kristie.keys@ag.tamu.edu
325-665-8790

Texas A&M AgriLife Extension

READING A SOIL ANALYSIS
PART 5: PHOSPHORUS

Phosphorus is an essential nutrient for the health and vigor of all plants. Not only it is used for converting the sun's energy into plant compounds, but it also stimulates root development, increases stalk and stem strength, is important for flower formation and seed production, and above all, supports development through the entire plant life cycle. This is why deficiencies late in the season could affect both seed development and normal crop maturity. Organic phosphorus comes in the form of residues, manures, and organic matter and can contribute greatly to the phosphorus in the soil solution for crop growth but is dependent on soil temperature and moisture to regulate how fast it becomes available through decomposition.



DATE: 03/10/23

SOIL ANALYSIS REPORT

PAGE: 1

SAMPLE ID	LAB NUMBER	ORGANIC MATTER %	RATE lbs/A	PHOSPHORUS P1 (Weak Bray) ppm-P	RATE	PHOSPHORUS P2 (Strong Bray) ppm-P	RATE	POTASSIUM K ** ppm-K	RATE	MAGNESIUM Mg *** ppm-Mg	RATE	CALCIUM Ca *** ppm-Ca	RATE	SODIUM Na *** ppm-Na	RATE	pH SOIL pH	pH BUFFER INDEX	COMPUTED Cation Exchange C.E.C. meq/100g	PERCENT BASE SATURATION K	Mg	Ca	H	Na
HOME	11398	1.2L	55	23M		92VH		516VH		704VH		2469M				7.5		19.5	6.8	29.7	63.2	0.0	
HALF	11399	0.8VL	46	55VH		119VH		634VH		585VH		2129M				7.6		17.1	9.5	28.1	62.1	0.0	
LEASE	11400	0.8VL	46	80VH		369VH		>700VH		680VH		3483M				7.8		26.0	11.3	21.5	66.9	0.0	

SAMPLE ID	NITRATE NO_3 *** ppm-NO3N	RATE	SULFUR S *** ppm-S	RATE	ZINC Zn *** ppm-Zn	RATE	MANGANESE Mn *** ppm-Mn	RATE	IRON Fe *** ppm-Fe	RATE	COPPER Cu *** ppm-Cu	RATE	BORON B *** ppm-B	RATE	EX-CESS LIME RATE	SOLUBLE SALTS mmhos/cm	RATE
HOME	2VL		8L		0.9VL		6L		5M		1.0M		1.6H				
HALF	2VL		5L		2.3L		7L		5M		0.9M		1.3M				
LEASE	5L		6L		1.2L		8L		7M		1.5H		1.5H				

CODE TO RATINGS:
VL = VERY LOW L = LOW
M = MEDIUM H = HIGH
VH = VERY HIGH NR = NOT RATED

ND = NONE DETECTED
IS = INSUFFICIENT SAMPLE
ENR = ESTIMATED NITROGEN RELEASE

This report applies only to the sample(s) tested. Samples are retained for a maximum of thirty days after testing.

A & L PLAINS AGRICULTURAL LABORATORIES, INC.

In the field:

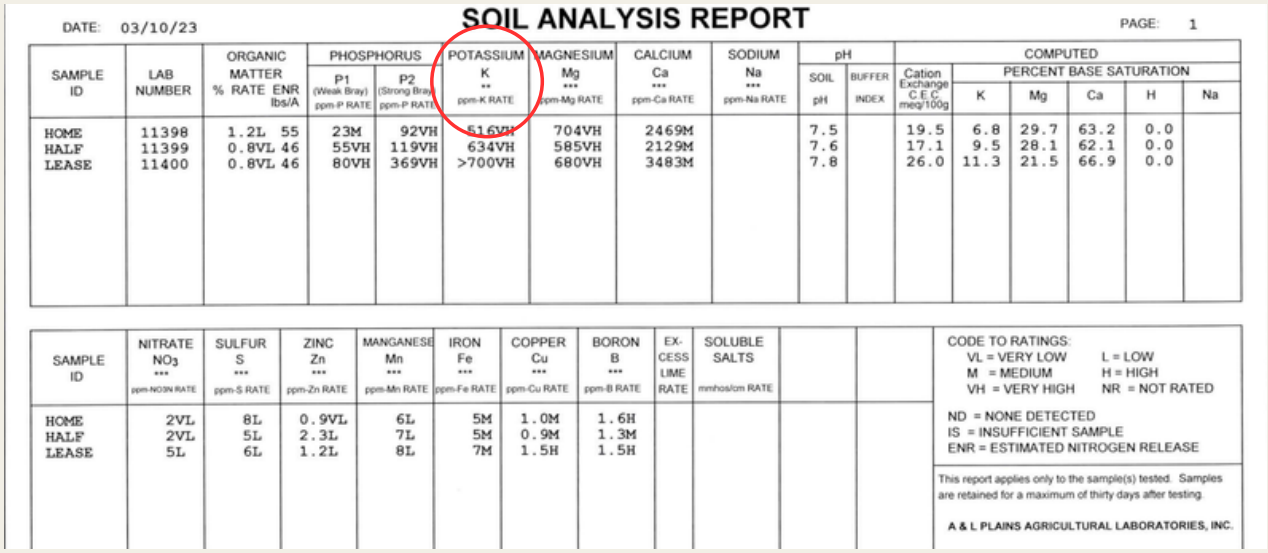
- Phosphorus deficiency is more difficult to detect in the field than some other nutrients. Symptoms could appear to have abnormal discoloration (reddish-purple) in the leaves and stems, often similar to nitrogen deficiency when plants are small
- Phosphorus is highly mobile in the plant and has very little mobility in the soil
- Phosphorus reacts with clay, iron, and aluminum compounds in the soil and transforms into less available forms by phosphorus fixation
- Soil erosion and crop removal are the significant ways soil phosphorus is lost

On the analysis:

- Maximum availability of phosphorus occurs in the pH range of 6.0 to 7.0
- All phosphorus soil tests are an "index" of availability, not a quantity of phosphorus in the soil
- There are 2 types of analysis when it comes to phosphorus; Bray and Mehlich-3. Check with your testing lab to see which is offered
- Mehlich-3 is used across multiple soils with varying pH values, versus the Bray

READING A SOIL ANALYSIS
PART 5: POTASSIUM

Another term for potassium you might hear is potash. Potassium is also one the three nutrients found in synthetic fertilizers: NPK = nitrogen, phosphorus, potassium. Like phosphorus, potassium is essential for plant growth and reproduction and improves drought tolerance by increasing root growth. In cotton, potassium improves fiber quality, and in grain crops, increases starch. Much like in humans, potassium balances the fluid inside the cells which reduces water loss and wilting.



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In the field:

- Plants deficient in potassium are less likely to tolerate drought, excess water, and temperature fluxations
- Uptake of potassium usually occurs during earlier growing stages
- A mobile element, potassium is translocated from older to younger tissue. Due to this, deficiency symptoms occur first on the lower (younger) leaves of the plant and progress upwards
- Classical potassium deficiencies are shown as yellow scorching along the leaf margins and between the leaf veins. In broadleaf crops like cotton, the plant may shed the entire leaf causing early defoliation of the crop
- Some symptoms can often be confused with wind scorch or drought

On the analysis:

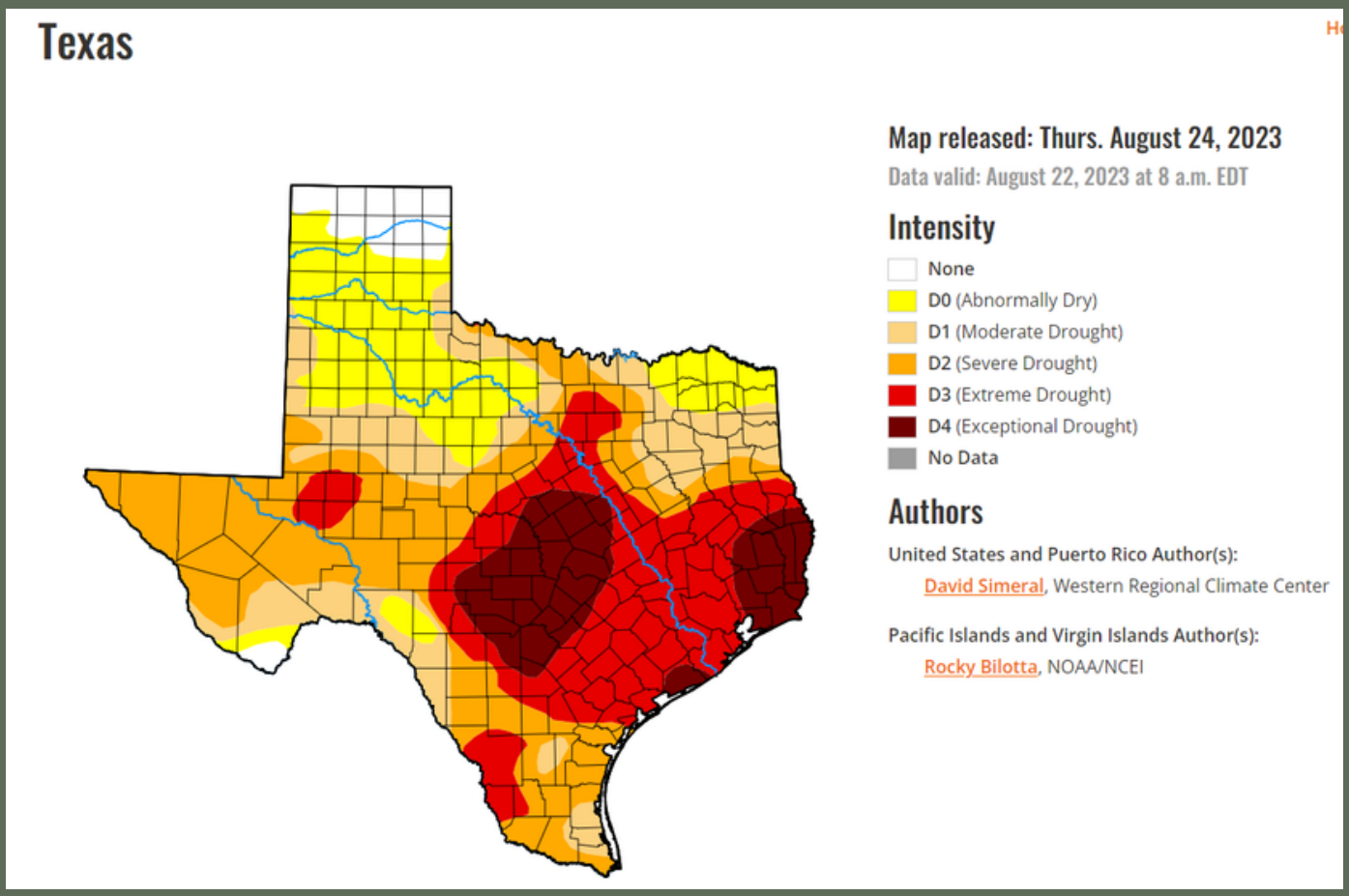
- Soil and plant tissue analysis values are expressed differently than the contents of fertilizers
- Potassium in fertilizers is expressed as K20
- To convert from K to K20, multiply K by 1.2, or to convert K20 to K, multiply K20 by a factor of 0.83
- Unfortunately, all the potassium in the soil is not usable by plants and must go through a transformation process (mineralize and break down) to become available

PGR DECISIONS/PODCAST

Do you enjoy listening to podcast? Texas A&M AgriLife North Region has a variety of podcast that are timely and relevant to issues and concerns you have in your operation.

PGR applications are a combination of arts and science and can vary from year to year. Although this episode is from May 2022, it still has great information. Kerry Siders, IPM agent (Hockley, Cochran, and Lamb Counties) with Texas A&M AgriLife Extension Service goes in detail to explain the chemistry and use of plant growth regulators during the growing season and at different growth stages. Click the link below to listen!

https://agrilifenorthregionag.libsyn.com/texas-am-agrilife-extension-crop-production-podcast



UPCOMING EVENTS

The GRAZE

ALL THINGS LIVESTOCK AND RANCHING

SAVE THE DATE

September 14th, 2023

Ollie Liner Center - Plainview, TX

For more information call -
Hale County Office - 806-291-5267
Floyd County Office - 806-983-4912

TEXAS A&M AGRILIFE EXTENSION

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife."

Mission: To empower women in agriculture to be successful through education, networks, and resources.

Who Should Attend: The target audience is all women with a passion for agribusiness, involvement in an agribusiness they inherited or married into, or an agribusiness they started on their own.

Sponsored by

StoneX

Annie's Project- Education for Women in Agriculture

Texas A&M AgriLife Extension will conduct a six- week educational workshop specifically tailored toward women in agriculture. The first class begins Monday, October 2 from 5:30 pm-8:30 pm. Sessions continue every week through November 6. Speaker topics will address five primary agricultural risk areas. These include financial risk, human resource risk, legal risk, market risk, and production risk. Registration is open to all women. A $75.00 fee is charged to cover costs associated with instruction, dinner, equipment, and materials used in the workshop.

For more information, contact:
DeDe Jones at 806.677.5667
or dljones@ag.tamu.edu

TEXAS A&M AGRILIFE EXTENSION

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, or any other classification protected by federal, state, or local law and will strive to achieve full and equal opportunity throughout Texas A&M AgriLife.

Texas A&M AgriLife Research and Extension Center
6500 Amarillo Blvd West
Amarillo, TX 79106
806.677.5600

Annie's Project is a nationally awarded workshop series for women. It's focus is farm/ranch management and dynamic decision making in the complex world of agriculture.

UPCOMING EVENTS

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Texas A&M AgriLife
Forage Sorghum Plot Tour
Friday, September 8, 2023
8:00 AM – 10:30 AM

The 2023 AgriLife Forage Sorghum Plot Tour will be hosted in conjunction with the USDA-ARS Summer Crops Field Day. Attendees will have the opportunity to visit the sorghum plots followed by presentations at the USDA-ARS feedlot.

- 7:30 Registration with coffee and donuts
- 8:00 Hybrid Trial Overview - Jourdan Bell (Texas A&M AgriLife Extension & Research Agronomist)
  - Insect Management in Forage Sorghum – Jose Santiago Gonzalez (Texas A&M AgriLife Extension Entomologist)
  - Male Sterile Sorghum - Juan Pineiro (Texas A&M AgriLife Extension Dairy Specialist)
  - Texas A&M AgriLife Forage Sorghum Breeding Program – Bill Rooney (Texas A&M AgriLife Sorghum Breeder) and Nick Porter (Texas A&M AgriLife Research Associate in Sorghum Breeding)
- 8:30 Open Plot Tour - Public Forage Sorghum Trial
- 11:00 USDA-ARS Feedlot
- 12:00 Box Lunch at USDA-ARS with a farm bill update by Dede Jones (Texas A&M AgriLife Risk Management Specialist)
- Plots are located at: 35.206188, -102.028114
  - Exit I-40 at Arnot Road. Travel west on the frontage road ~ 1 mile to Hill Road. Turn north and travel ~1 mile. The entrance to the field will be on the east side of the road. Follow signage to the plots.
- Attendees can also meet at the USDA-ARS Conservation and Production laboratory at 7:30 AM in Bushland. Morning tours at the USDA-ARS will address dryland and irrigated cropping systems including pest management.

Texas A&M AgriLife | USDA Agricultural Research Service | Ogallala Aquifer Program | USCP United Sorghum Checkoff Program | Nutrien Ag Solutions | DYNAGRO SEED | BAYER

Texas A&M AgriLife

COTTON BREEDING
&
COTTON EXTENSION AGRONOMY

Invites You To A

FIELD DAY

Thursday, September 21, 2023

Texas A&M AgriLife
Research & Extension Center
1102 E Drew St.
Lubbock, TX

Registration @ 8:30 am
In Auditorium
Field Tour @ 9:00 am
Lunch To Follow Tours

RSVP by September 11th to Valerie Morgan
806-746-6101
vmorgan@ag.tamu.edu

https://castro.agrilife.org/agronomy/

https://www.facebook.com/castrohalelambagronomy/

https://twitter.com/KeysToAgronomy

Kristie Keys
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325-665-8790