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FERTILIZER RECOMMENDATIONS FOR FIELD CROPS IN LOUISIANA: **N-P-K-S**

FERTILIZER RECOMMENDATIONS FOR FIELD CROPS IN LOUISIANA: **N-P-K-S**

Leandro O. Vieira, Ph.D.
Assistant Professor and Soil Fertility Specialist; School of Plant, Environmental, and Soil Sciences

Brenda Tubaña, Ph.D.
Professor; School of Plant, Environmental, and Soil Sciences

Guy B. Padgett, Ph.D.
Professor and Wheat Specialist; Dean Lee Research and Extension Center

David Moseley, Ph.D.
Assistant Professor and Soybean Specialist; Dean Lee Research and Extension Center

Kenneth Gravois, Ph.D.
Professor and Sugarcane Specialist; Sugar Research Station

Ronald J. Levy, Ph.D.
Associate Professor and Rice Specialist; H. Rouse Caffey Rice Research Station

Shelly Pate Kerns, Ph.D.
Assistant Professor and Corn, Cotton and Grain Sorghum Specialist; Scott Research and Extension Center

HIGHLIGHTS

- This fact sheet provides nitrogen (N), phosphorus (P), potassium (K) and sulfur (S) recommendations for the following crops: corn, cotton, oat, rice, rye, sorghum, soybean, sugarcane and wheat.
- No increase in yield is expected when fertilizer is applied to soil with nutrient concentrations above the critical level (optimum range).
- The highest benefit of fertilizer application in crop yield is likely to occur in soils exhibiting low to very low nutrient levels.
- In older soil test reports from the LSU AgCenter Soil Testing and Plant Analysis Laboratory, high nutrient levels indicate optimum levels and very high nutrient levels indicate above optimum levels according to recommendations developed for Louisiana.

NUTRIENT CRITICAL LEVELS

Critical levels of plant nutrients are determined to assess the extent to which adding a nutrient will increase crop yield. In Louisiana, the critical level of a nutrient is defined as its concentration in the soil being in the optimal range (previously named as high). When a soil test indicates optimum levels of a nutrient, applying more of that nutrient will not increase yield in 95% of the cases. In other words, if a soil already has an optimum level of a nutrient, there is only a 5% chance that additional application will boost yield. Therefore, for soils with nutrient concentrations in the optimum and above optimum ranges, no application of fertilizer containing that nutrient is recommended.

Conversely, soils with low to very low levels of a nutrient will almost certainly show an increase in crop yield when that nutrient is applied. The probability of increasing crop yield is approximately 100%, 80%, 50%, 5% and 0% for very low, low, medium, optimum (previously named as high), and above optimum (previously named as very high) nutrient levels, respectively (Figure 1).

Soil tests are calibrated through a series of experiments. This process typically begins with greenhouse studies and is further refined through multiple field experiments conducted on the most common soil types in the state. The recommendations in this publication come from the nutrient management publications published by LSU AgCenter scientists and the Soil Testing and Plant Analysis Laboratory Database.

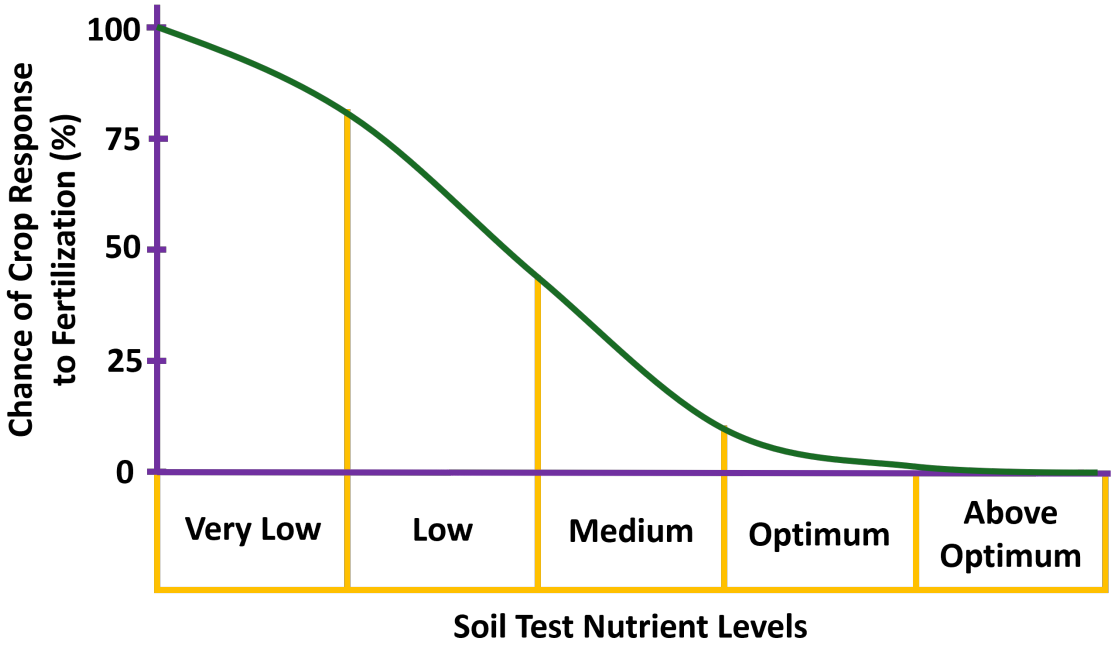

Figure 1. Illustration of expected crop response to fertilization (%) as a function of soil test nutrient levels. Illustration by Leandro Vieira

NITROGEN

Nitrogen is likely the most important and yield-limiting macronutrient for field crops. This nutrient is essential to plants because it is a key component of amino acids, nucleic acids, chlorophyll molecules and energy transfer compounds. As a result, plants require a higher quantity of N than any other nutrient.

In Louisiana, N recommendations are based on the specific needs of the crop and yield potential rather than its concentration in the soil (Table 1). Nitrogen can be lost through various processes including leaching, volatilization and denitrification. Therefore, to maximize yield potential, splitting N applications between different timepoints is highly recommended.

Table 1. Nitrogen (N) rate and management recommendations.

Corn - all soil types

Soil Texture*	Recommendation	Notes
Fine	1.25 lbs N/bushel	Split in two (25% preplanting, 75% at V6-V8) or three applications (25% preplanting, 50% at V6 and 25% at V12-14).
Coarse	1.00 lbs N/bushel	

Cotton (irrigated) - all soil types

Soil Texture*	Recommendation	Notes
Fine	100-120 lbs N/acre	Split in two applications: 30%-50% at preplanting and 50%-70% by early bloom. Use the lower end recommendation when a legume was previously grown in the area (previous crop or cover crop).
Coarse	60-90 lbs N/acre	

Cotton (nonirrigated) - all soil types

Soil Texture*	Recommendation	Notes
Fine	90-120 lbs N/acre	Split in two applications: 30%-50% at preplanting and 50%-70% by early bloom. Use the lower end recommendation when a legume was previously grown in the area (previous crop or cover crop).
Coarse	60-90 lbs N/acre	

Oat - all soil types

Soil Texture*	Recommendation	Notes
All	60-90 lbs N/acre	If following corn, sorghum, rice or cotton, preferentially split in three applications: 15-30 lbs N acre-1 at preplanting, 50% of the topdress in early spring and 50% of the topdress 14-28 days later (when the first application has visibly greened up the crop). The first topdress application should be made prior to first node (Feekes 6). Less than 50% of the topdress N can be applied if the first split is put out early and plants are not well enough developed to take up that much N.
All	60 lbs N/acre	If following soybeans, preferentially split in two topdress applications: 50% of the topdress in early spring and 50% of the topdress 14-28 days later (when the first application has visibly greened up the crop). The first topdress application should be made prior to first node (Feekes 6). Less than 50% of the topdress N can be applied if the first split is put out early and plants are not well enough developed to take up that much N.

Rice (flooded) - all soil types

Soil Texture*	Recommendation	Notes
All	115-180 lbs N/acre	Split in two applications: two-thirds immediately before permanent flooding (made on dry ground) and one-third at internode elongation (green ring) or earlier if deficiency symptoms occur. Varieties: Cheniere, CL111, CL153, CLHA03, CLJ01, CLL16, CLL18, CLL19, CLM04, Della-2, Fitzgerald, Frontiere, Jazzman, Jewel, Mermentau, PVL03, Taurus, Titan. Lodging was observed at 180 lbs N/acre in some locations for CLL16 and CLL18.
All	90-135 lbs N/acre	Split in two applications: two-thirds immediately before permanent flooding (made on dry ground) and one-third at internode elongation (green ring) or earlier if deficiency symptoms occur. Varieties: Addi Jo, Avant, Jupiter.

Rice (furrow-irrigated) - all soil types

Soil Texture*	Recommendation	Notes
All	145-230 lbs N/acre	Split in three (spaced 10-14 days apart) or four applications (spaced 7-10 days apart) with the final application occurring at green ring. Varieties: Cheniere, CL111, CL153, CLHA03, CLJ01, CLL16, CLL18, CLL19, CLM04, Della-2, Fitzgerald, Frontiere, Jazzman, Jewel, Mermentau, PVL03, Taurus, Titan. Lodging was observed at 180 lbs N/acre in some locations for CLL16 and CLL18.
All	120-185 lbs N/acre	Split in three (spaced 10-14 days apart) or four applications (spaced 7-10 days apart) with the final application occurring at green ring. Variety: Addi Jo, Avant, Jupiter.

Table 1. Nitrogen (N) rate and management recommendations. (cont.)

Rice (ratoon) - all soil types

Soil Texture*	Recommendation	Notes
All	90 lbs N/acre	Immediately after harvest prior to reflooding when the first crop harvest is before Aug. 15. A good rule of thumb is to reduce nitrogen by 5 to 6 pounds per day after Aug. 15. Nitrogen fertilizer is not recommended after Sept. 1.

Rye, Wheat - all soil types

Soil Texture*	Recommendation	Notes
All	90-120 lbs N/acre	If following corn, sorghum, rice or cotton, preferentially split in three applications: 15-30 lbs N acre-1 at preplanting, 50% of the topdress in early Spring and 50% of the topdress 14-28 days later (when the first application has visibly greened up the crop). The first topdress application should be made prior to first node (Feekes 6). Less than 50% of the topdress N can be applied if the first split is put out early and plants are not well enough developed to take up that much N.
All	90 lbs N/acre	If following soybeans, preferentially split in two topdress applications: 50% of the topdress in early spring and 50% of the topdress 14-28 days later (when the first application has visibly greened up the crop). The first topdress application should be made prior to first node (Feekes 6). Less than 50% of the topdress N can be applied if the first split is put out early and plants are not well enough developed to take up that much N.

Sorghum - all soil types

Soil Texture*	Recommendation	Notes
All	100-120 lbs N/acre	Preferentially split in two applications: 50%-70% before or at planting and 30%-50% before the plants reach the 6-8-leaf stage.

Soybean - all soil types

Soil Texture*	Recommendation	Notes
All	0 lbs N/acre	Legumes can fix their own N when viable inoculum of *Rhizobium japonicum* bacteria is present in the soil. Yearly seed inoculation is highly recommended, especially for fields that have not been cultivated with soybeans in the previous three years.

Sugarcane (plant) - all soil types

Soil Texture*	Recommendation	Notes
Fine	80-100 lbs N/acre	Applications should be made between March 20 and April 20. It can be done earlier if the crop is more advanced or later if the crop is less advanced.
Coarse	60-80 lbs N/acre	

Sugarcane (stubble) - all soil types

Soil Texture*	Recommendation	Notes
Fine	100-120 lbs N/acre	Applications should be made between March 20 and April 20. It can be done earlier if the crop is more advanced or later if the crop is less advanced.
Coarse	80-100 lbs N/acre	

*Fine texture includes clay, silty clay, silty clay loam and clay loam. Coarse texture includes silt loam, loam, very fine sandy loam, fine sandy loam, sandy loam and loamy sand.

PHOSPHORUS

Phosphorus (P) is likely the second most crucial and yield-limiting macronutrient for field crops. It is a component of ATP (adenosine triphosphate), which is the energy currency for cellular processes. In Louisiana, P recommendations are based on P concentration in the soil extracted through the Mehlich-3 methodology (Mehlich, 1984). For most field crops, the critical P level is 35 ppm (Table 2). In other words, P should be applied to the soil when the soil test report shows values lower than 35 ppm. The only exception is sugarcane, in which no increase in yield is expected from additional P application when soil test report shows values higher than 10 ppm.

The soil test reports present the Mehlich-3 P concentration in the empirical form of phosphorus pentoxide (P_2O_5). Phosphorus pentoxide contains 44% of P. However, there is no need for conversion, as fertilizer bags report percentage of P_2O_5 in their labels, rather than the percentage of P.

Phosphorus is taken up by the roots through diffusion and the nutrient can exhibit relatively limited mobility. Therefore, all P should be added in the spring before planting, then ripped or tilled into the soil. The exceptions to this are crops like oat, rye and wheat which are planted in the winter.

Table 2. Interpretations of Mehlich-3 soil test for phosphorus (P) for all soil types and textures.

Corn*, Cotton*, Soybean*

Level	Concentration (ppm)	Recommendation (lbs P_2O_5/acre)
Very low	<10	100
Low	10-20	80
Medium	21-35	60
Optimum	36-60	0
Above optimum	>60	0

Rice*

Level	Concentration (ppm)	Recommendation (lbs P_2O_5/acre)
Very low	<10	60
Low	10-20	40
Medium	21-35	20
Optimum	36-60	0
Above optimum	>60	0

Oat#, Rye#, Sorghum*, Wheat#

Level	Concentration (ppm)	Recommendation (lbs P_2O_5/acre)
Very low	<10	80
Low	10-20	60
Medium	21-35	40
Optimum	36-60	0
Above optimum	>60	0

Sugarcane*

Level	Concentration (ppm)	Recommendation (lbs P_2O_5/acre)
Very low	<5	45
Low	5-7	45
Medium	8-10	45
Optimum	11-35	0
Above optimum	>35	0

*Crops that should receive P fertilization in the spring include corn, cotton, soybean, sorghum, rice and sugarcane. #Crops that should receive P fertilization in the fall include oat, wheat and rye.

POTASSIUM

Potassium (K) is typically regarded as the third most important and most yield-limiting macronutrient for field crops. It regulates water, nutrients and carbohydrates in the plant tissue. The regulations of these functions play a significant role in improving plant resiliency to abiotic stresses, such as water deficit and low temperatures. In Louisiana, K recommendations are based on K concentration in the soil which is extracted through the Mehlich-3 methodology (Mehlich, 1984). Unlike P recommendations, K recommendations are more complex as the K critical level depends on the crop of interest and soil texture (Table 3). Recent research conducted by Rasel Parvej, former LSU AgCenter soil fertility specialist, has shown that fertilizer recommendations for corn, cotton and soybeans could be simplified. For this reason, a K critical level of 150 ppm was established for corn, cotton and soybean, regardless of soil texture and soil type.

Soil test reports present the Mehlich-3 K concentration in the form of potassium oxide (K_2O). Potassium oxide is composed of 83% K. However, there is no need for conversion, as fertilizer bags report the percentage of K_2O in their labels, rather than the percentage of K.

Potassium is also taken up by the roots through diffusion and can exhibit relatively limited mobility, especially in heavier soils. Thus, all K fertilization should be performed in the spring before planting, then ripped or tilled into the soil. The exceptions to this are crops like oat, rye and wheat which are planted in the winter.

Table 3. Interpretations of Mehlich-3 soil test for potassium (K).

Corn*, Cotton*, Soybean* - all soil types

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
All	Very low	<50	120
All	Low	51-100	100
All	Medium	101-150	60
All	Optimum	151-250	0
All	Above optimum	>250	0

Oat#, Sorghum*, Wheat# - alluvial soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<141	80
Clay, silt clay	Low	141-210	60
Clay, silt clay	Medium	211-316	40
Clay, silt clay	Optimum	317-334	0
Clay, silt clay	Above optimum	>334	0
Clay loam, silt clay loam	Very low	<123	80
Clay loam, silt clay loam	Low	123-175	60
Clay loam, silt clay loam	Medium	176-263	40
Clay loam, silt clay loam	Optimum	264-282	0
Clay loam, silt clay loam	Above optimum	>282	0
Loam, silt loam	Very low	<70	80
Loam, silt loam	Low	70-105	60
Loam, silt loam	Medium	106-140	40
Loam, silt loam	Optimum	141-158	0
Loam, silt loam	Above optimum	>158	0
Fine sandy loam, very fine sandy loam	Very low	<53	80
Fine sandy loam, very fine sandy loam	Low	53-87	60
Fine sandy loam, very fine sandy loam	Medium	88-122	40
Fine sandy loam, very fine sandy loam	Optimum	123-141	0
Fine sandy loam, very fine sandy loam	Above optimum	>141	0
Loamy sand	Very low	<35	80

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Table 3. Interpretations of Mehlich-3 soil test for potassium (K). (cont.)

Oat#, Sorghum*, Wheat# - alluvial soil (cont.)

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Loamy sand	Low	35-52	60
Loamy sand	Medium	53-78	40
Loamy sand	Optimum	79-123	0
Loamy sand	Above optimum	>123	0

Oat#, Sorghum*, Wheat# - upland soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, clay loam, silt clay, silt clay loam	Very low	<88	80
Clay, clay loam, silt clay, silt clay loam	Low	88-140	60
Clay, clay loam, silt clay, silt clay loam	Medium	141-175	40
Clay, clay loam, silt clay, silt clay loam	Optimum	176-194	0
Clay, clay loam, silt clay, silt clay loam	Above optimum	>194	0
Loam, silt loam	Very low	<62	80
Loam, silt loam	Low	62-96	60
Loam, silt loam	Medium	97-140	40
Loam, silt loam	Optimum	141-158	0
Loam, silt loam	Above optimum	>158	0
Fine sandy loam, very fine sandy loam	Very low	<44	80
Fine sandy loam, very fine sandy loam	Low	44-69	60
Fine sandy loam, very fine sandy loam	Medium	70-105	40
Fine sandy loam, very fine sandy loam	Optimum	106-123	0
Fine sandy loam, very fine sandy loam	Above optimum	>123	0
Loamy sand	Very low	<35	80
Loamy sand	Low	35-52	60
Loamy sand	Medium	53-87	40
Loamy sand	Optimum	88-106	0
Loamy sand	Above optimum	>106	0

Rice* - alluvial soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<114	60
Clay, silt clay	Low	114-182	40
Clay, silt clay	Medium	183-227	20
Clay, silt clay	Optimum	228-273	0
Clay, silt clay	Above optimum	>273	0
Clay loam, silt clay loam	Very low	<91	60
Clay loam, silt clay loam	Low	91-136	40
Clay loam, silt clay loam	Medium	137-182	20
Clay loam, silt clay loam	Optimum	183-205	0
Clay loam, silt clay loam	Above optimum	>205	0
Loam, silt loam	Very low	<57	60
Loam, silt loam	Low	57-91	40
Loam, silt loam	Medium	92-136	20
Loam, silt loam	Optimum	137-159	0
Loam, silt loam	Above optimum	>159	0

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Table 3. Interpretations of Mehlich-3 soil test for potassium (K). (cont.)

Rice* - alluvial soil (cont.)

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Fine sandy loam, very fine sandy loam, loamy sand	Very low	<45	60
Fine sandy loam, very fine sandy loam, loamy sand	Low	45-80	40
Fine sandy loam, very fine sandy loam, loamy sand	Medium	81-114	20
Fine sandy loam, very fine sandy loam, loamy sand	Optimum	115-136	0
Fine sandy loam, very fine sandy loam, loamy sand	Above optimum	>136	0

Rice* - upland soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<114	60
Clay, silt clay	Low	114-182	40
Clay, silt clay	Medium	183-227	20
Clay, silt clay	Optimum	228-250	0
Clay, silt clay	Above optimum	>250	0
Clay loam, silt clay loam	Very low	<57	60
Clay loam, silt clay loam	Low	57-102	40
Clay loam, silt clay loam	Medium	103-148	20
Clay loam, silt clay loam	Optimum	149-170	0
Clay loam, silt clay loam	Above optimum	>170	0
Loam, silt loam	Very low	<57	60
Loam, silt loam	Low	57-91	40
Loam, silt loam	Medium	92-136	20
Loam, silt loam	Optimum	137-159	0
Loam, silt loam	Above optimum	>159	0
Fine sandy loam, very fine sandy loam, loamy sand	Very low	<45	60
Fine sandy loam, very fine sandy loam, loamy sand	Low	45-80	40
Fine sandy loam, very fine sandy loam, loamy sand	Medium	81-114	20
Fine sandy loam, very fine sandy loam, loamy sand	Optimum	115-136	0
Fine sandy loam, very fine sandy loam, loamy sand	Above optimum	>136	0

Rye# - alluvial soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<141	80
Clay, silt clay	Low	141-210	60
Clay, silt clay	Medium	211-316	40
Clay, silt clay	Optimum	317-334	0
Clay, silt clay	Above optimum	>334	0
Clay loam, silt clay loam	Very low	<123	80
Clay loam, silt clay loam	Low	123-175	60

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Table 3. Interpretations of Mehlich-3 soil test for potassium (K). (cont.)

Rye# - alluvial soil (cont.)

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay loam, silt clay loam	Medium	176-263	40
Clay loam, silt clay loam	Optimum	264-299	0
Clay loam, silt clay loam	Above optimum	>299	0
Silt loam	Very low	<70	80
Silt loam	Low	70-105	60
Silt loam	Medium	106-140	40
Silt loam	Optimum	141-158	0
Silt loam	Above optimum	>158	0
Fine sandy loam, very fine sandy loam	Very low	<53	80
Fine sandy loam, very fine sandy loam	Low	53-87	60
Fine sandy loam, very fine sandy loam	Medium	88-122	40
Fine sandy loam, very fine sandy loam	Optimum	123-141	0
Fine sandy loam, very fine sandy loam	Above optimum	>141	0
Loamy sand	Very low	<35	80
Loamy sand	Low	35-52	60
Loamy sand	Medium	53-87	40
Loamy sand	Optimum	88-106	0
Loamy sand	Above optimum	>106	0

Rye# - upland soil

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, clay loam, silt clay, silt clay loam	Very low	<88	80
Clay, clay loam, silt clay, silt clay loam	Low	88-140	60
Clay, clay loam, silt clay, silt clay loam	Medium	141-175	40
Clay, clay loam, silt clay, silt clay loam	Optimum	176-194	0
Clay, clay loam, silt clay, silt clay loam	Above optimum	>194	0
Fine sandy loam, very fine sandy loam, silt loam	Very low	<44	80
Fine sandy loam, very fine sandy loam, silt loam	Low	44-69	60
Fine sandy loam, very fine sandy loam, silt loam	Medium	70-105	40
Fine sandy loam, very fine sandy loam, silt loam	Optimum	106-123	0
Fine sandy loam, very fine sandy loam, silt loam	Above optimum	>123	0
Loamy sand	Very low	<35	80
Loamy sand	Low	35-52	60
Loamy sand	Medium	53-87	40
Loamy sand	Optimum	88-106	0
Loamy sand	Above optimum	>106	0

Sugarcane (plant)* - all soil types

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<141	120
Clay, silt clay	Low	141-210	110
Clay, silt clay	Medium	211-316	80
Clay, silt clay	Optimum	317-334	0
Clay, silt clay	Above optimum	>334	0
Clay loam, silt clay loam	Very low	<123	120

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Table 3. Interpretations of Mehlich-3 soil test for potassium (K). (cont.)

Sugarcane (plant)* - all soil types (cont.)

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay loam, silt clay loam	Low	123-175	110
Clay loam, silt clay loam	Medium	176-263	80
Clay loam, silt clay loam	Optimum	264-282	0
Clay loam, silt clay loam	Above optimum	>282	0
Silt loam	Very low	<70	120
Silt loam	Low	70-105	110
Silt loam	Medium	106-140	80
Silt loam	Optimum	141-158	0
Silt loam	Above optimum	>158	0
Fine sandy loam, very fine sandy loam, loam, loamy sand	Very low	<53	120
Fine sandy loam, very fine sandy loam, loam, loamy sand	Low	53-87	110
Fine sandy loam, very fine sandy loam, loam, loamy sand	Medium	88-122	80
Fine sandy loam, very fine sandy loam, loam, loamy sand	Optimum	123-141	0
Fine sandy loam, very fine sandy loam, loam, loamy sand	Above optimum	>141	0

Sugarcane (stubble)* - all soil types

Soil Texture	Level	Concentration (ppm)	Recommendation (lbs K_2O/acre)
Clay, silt clay	Very low	<141	140
Clay, silt clay	Low	141-210	120
Clay, silt clay	Medium	211-316	80
Clay, silt clay	Optimum	317-334	0
Clay, silt clay	Above optimum	>334	0
Clay loam, silt clay loam	Very low	<123	140
Clay loam, silt clay loam	Low	123-175	120
Clay loam, silt clay loam	Medium	176-263	80
Clay loam, silt clay loam	Optimum	264-282	0
Clay loam, silt clay loam	Above optimum	>282	0
Silt loam	Very low	<70	140
Silt loam	Low	70-105	120
Silt loam	Medium	106-140	80
Silt loam	Optimum	141-158	0
Silt loam	Above optimum	>158	0
Fine sandy loam, very fine sandy loam, loam, loamy sand	Very low	<53	140
Fine sandy loam, very fine sandy loam, loam, loamy sand	Low	53-87	120
Fine sandy loam, very fine sandy loam, loam, loamy sand	Medium	88-122	80
Fine sandy loam, very fine sandy loam, loam, loamy sand	Optimum	123-141	0
Fine sandy loam, very fine sandy loam, loam, loamy sand	Above optimum	>141	0

*Crops that should receive K fertilization in the spring include corn, cotton, soybean, sorghum, rice and sugarcane. #Crops that should receive K fertilization in the fall include oat, wheat and rye.

SULFUR

Sulfur is also one of the most important and yield-limiting macronutrients for field crops. Sulfur is essential for the synthesis of some amino acids, and it is required for the synthesis of chlorophyll, despite not being a constituent of the molecule. In Louisiana, S recommendations are based on S concentration in the soil extracted through the Mehlich-3 methodology (Mehlich, 1984). The critical S level ranges from 12 ppm to 20 ppm, depending on the crop of interest (Table 4). Therefore, sulfur should be applied to the soil when the soil test report shows values below the critical level for these specific crops.

Sulfur is taken up by the roots through mass flow and diffusion but due to its increased mobility in the soil, it can be lost through leaching and runoff. Thus, S fertilization should be performed 100% preplanting and incorporated. In the case of wheat, it is advised to split the S application, applying at preplant and with the first spring N application. Except for the crops of oat, rye and wheat, S fertilization should be done preferably in the spring.

Table 4. Interpretations of Mehlich-3 soil test for sulfur (S) for all soil types and textures.

Corn*, Oat#, Rye#, Sorghum*, Wheat#

Level	Concentration (ppm)	Recommendation (lbs S/acre)
Low	<8	20
Medium	8-12	20
Optimum	>12	0

Cotton*

Level	Concentration (ppm)	Recommendation (lbs S/acre)
Low	<8	10
Medium	8-12	10
Optimum	>12	0

Soybean*

Level	Concentration (ppm)	Recommendation (lbs S/acre)
Low	<10	20
Medium	10-15	10
Optimum	>15	0

Sugarcane*

Level	Concentration (ppm)	Recommendation (lbs S/acre)
Low	<10	40
Medium	10-20	20
Optimum	>20	0

Rice*

Level	Concentration (ppm)	Recommendation (lbs S/acre)
Low	<12	40
Medium	12-16	20
Optimum	>16	0

*Crops that should receive S fertilization in the spring include corn, cotton, soybean, sorghum, rice and sugarcane. #Crops that should receive S fertilization in the fall include oat, wheat and rye.

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