

# Using OSU's Soil Lab website for fertility recommendations

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## Before We Begin

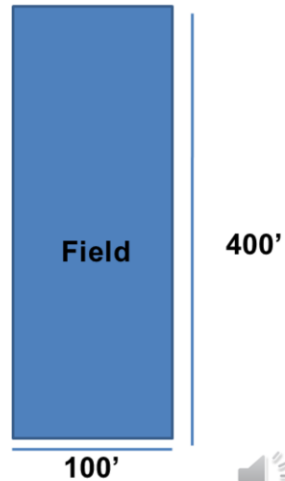


- Soil testing is:
  - Best way to determine soil pH and nutrient levels
- Fertility recommendations:
  - Usually given in lbs. of actual N-P-K/acre
  - To convert to smaller basis:
    - Divide by 43,560 sq. ft./acre to provide:
      - Fertility recommendations per sq. ft.



## Calculating Fertilizer Rates

1. Determine square ft. of area
  2. Calculate amount of fertilizer to use
- Example:
    - Area  $100 \times 400 = 40,000$  sqft
    - Recommended fertilizer from soil test
      - $40,000 \text{ sqft} / 43,560 \text{ sqft/acre} = 0.92$  acres
      - 50 lbs of N/acre from 46-0-0
      - $0.92 \text{ acres} \times 50 \text{ lbs N} = 45.9 \text{ lbs N}$
      - $45.9 \text{ N} / 0.46 \text{ lb. of nitrogen/ lb. of 46-0-0}$
      - =99.8 lbs. of 46-0-0





## Where to Send Samples

- For direct access to the SWFAL website & your soil test results:
- Send your soil samples to:
  - Soil, Water & Forage Analytical Laboratory
  - 045 Agricultural Hall
  - Stillwater, OK 74078
- For recommendations from your OSU County Ext. Educator:
- Take your soil samples to:
  - Your County Extension office
  - Don't forget to request recommendations for crops you are interested in



# SWFAL Home Page

SWFAL SOIL, WATER AND FORAGE ANALYTICAL LABORATORY

Division Home Extension Research Teaching Academic Departments OSU Home

Home

Customer Login

General Lab Information

Benefits of Testing

Soil Sampling and Testing

Submitting a Sample

Services and Price List

Extension Fact Sheets

Soil Test Interpretations

Water Test Interpretations

Need More Help?

Sensor - Based N Rate Calculator

Seawater Soil Sampler

Where are we located?


Order Supplies

Contact Us

Other Useful Links

Full Home Page

## Welcome




The Soil, Water and Forage Analytical Laboratory (SWFAL) was established by the Oklahoma Cooperative Extension Service to provide soil testing, plant, animal waste and water analyses for the State of Oklahoma and anyone who needs agricultural testing services. Each year over 60,000 various samples are submitted for analyses by thousands of farmers, ranchers, homeowners, consultants, governmental agencies and researchers. Interpretations and recommendations are made based on many years' field calibrations conducted in Oklahoma. SWFAL provides valuable information that helps lab users to protect and utilize their soil, water, animal manure, and forage resources efficiently and effectively.

**Soil Testing:**  
the Best Management Practice  
for Nutrient Management

[soiltesting@okstate.edu](mailto:soiltesting@okstate.edu)  
<http://soiltesting.okstate.edu>

045 Agricultural Hall, Stillwater, Oklahoma 74078  
405-744-6030  
405-744-6575 (fax)



# SWFAL Log In Page

The screenshot displays the SWFAL (Soil, Water and Forage Analytical Laboratory) website's customer login interface. At the top, there is a navigation bar with links for Home, About Us, and Contact Us. The main header includes the Alabama State University logo and the text "SOIL, WATER AND FORAGE ANALYTICAL LABORATORY". A breadcrumb trail indicates the user is on the "Customer Login" page. A left-hand navigation menu lists various services and information. The central content area features a "Customer Login" form with the following elements:

- Log In** (Section Header)
- Customer Code:** A text input field containing the value "008".
- Password:** A text input field.
- Remember me next time.**
- Log In** (Submit Button)

A speaker icon is located in the bottom right corner of the page.

# Logged-In & Ready to Go

The screenshot displays the user interface of the Soil, Water and Forage Analytical Laboratory website. At the top, there is a navigation bar with links for Home, Email Page, About Us, and Contact Us. The main header features the laboratory's logo on the left and the text "SOIL, WATER AND FORAGE ANALYTICAL LABORATORY" on the right. Below the header, the user's name "Customer : LYNN BRANDENBERGER" is displayed, along with "Update" and "Logout" links. A secondary navigation bar contains tabs for Reports, Crops / Yield Goal, Supply Order, Barcodes, Test Codes, Invoices, My Profile, and Logout. The "Reports" section is active, showing a "Reports" title and a "Select Year" dropdown menu set to "2016". Under "Choose Type", there are radio buttons for Fertility, Water & Salinity, Forage, Texture, Animal Waste, and Plant Tissue. Under "Result Option", there are radio buttons for "Most recent day", "Choose Date", "Specific sample No.", "All samples", and "Samples in progress". There are also "From" and "To" date input fields. A "Display Results" button is located to the right of the date fields. At the bottom of the page, contact information for the laboratory is provided, including the address "005 Ag Hall | Stillman, OK 74078", phone number "405.744.6630", fax number "405.744.9575", and copyright notice "Copyright © 2000 - 2015 | Oklahoma State University | All rights reserved." A speaker icon is visible in the bottom right corner of the screenshot.

# Selected All Samples

Home | Email Page | About Us | Contact Us

**Soil, Water and Forage Analytical Laboratory**

Customer: 205, LYNN BRANDBERGER  
Update | Logout

Reports | Crops / Yield Goal | Supply Order | Barcodes | Test Codes | Invoices | My Profile | Logout

Fertility Reports

Choose Type:  Fertility  Water & Salinity  Forage  Texture  Animal Waste  Plant Tissue

Result Option:  Most recent day  Choose Date  Specific sample No.  All samples  Samples in progress

Select Year: 2016


Display Results | Export to MS Excel

Lab ID	Sample No.	Date Received	Test Code	pH	EC	TopN (lbs/A)	SubN (lbs/A)	P (lbs/A)	K (lbs/A)	TopSO <sub>4</sub> (lbs/A)	SubSO <sub>4</sub> (lbs/A)	Ca (lbs/A)	Mg (lbs/A)
815405	1019	06/22/2016	10	5.9	7.2	290		107		514			
808033	1011	06/22/2016	10	6.7		21		45		616			
808034	1022	06/22/2016	10	6.3		61		34		638			
808035	1033	06/22/2016	10	6.5		35		38		697			
808036	1044	06/22/2016	10	6.4		16		37		630			
808037	1055	06/22/2016	10	6.4		45		48		728			
808038	2013	06/22/2016	10	6.4		32		50		803			
808040	2025	06/22/2016	10	6.5		30		43		742			
808041	2032	06/22/2016	10	6.3		45		41		741			
808042	2041	06/22/2016	10	6.5		13		42		666			
808043	2054	06/22/2016	10	6.5		22		48		615			
808044	3014	06/22/2016	10	6.4		15		45		644			



# Results from Lab ID 808044

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**SOIL, WATER AND FORAGE ANALYTICAL LABORATORY**  
Customer : 205, LYNN BRANDENBERGER  
[Update](#) | [Logout](#)

**FERTILITY REPORTS**

Reports | Crops / Yield Goal | Supply Order | Barcodes | Test Codes | Invoices | My Profile | Logout

[Email Results](#) | [Print/Save as PDF](#)

**SOIL TEST REPORT**

LYNN BRANDENBERGER  
 OSU VEGETABLES  
 HORTICULTURE DEPT  
 360 AG HALL  
 CAMPUS MAIL 0

Name:

Location:


Lab ID: 808044  
 Customer Code: 205  
 Sample No: 3014  
 Date Received: 6/22/2016  
 Report Date: 6/24/2016

<b>Routine Test</b>
pH: 6.4
Buffer Index:
NO3-N (lb/Acre):
Surface: 15
Subsoil:
Soil Test P Index: 45 (22.5 ppm)
Soil Test K Index: 644 (322 ppm)

<b>Secondary Nutrients</b>
SO4-S (lb/Acre):
Surface:
Subsoil:
Ca (lb/Acre):
Mg (lb/Acre):
<b>Additional Tests</b>
OM (%): 2.3

<b>Micronutrients</b>
Fe (ppm):
Zn (ppm):
B (ppm):

Interpretation and Requirements for No Crop provided    Yield Goal : NA    [Interpret](#)    [See Chart](#)



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# Using Select a Crop

OSU SOIL, WATER AND FORAGE ANALYTICAL LABORATORY

Customer: 205, LYNN BRANDENBERGER  
[Update](#) | [Logout](#)

FERTILITY REPORTS

Reports | Crops / Yield Goal | Supply Order | Barcodes | Test Codes | Invoices | My Profile | Logout

[Email Results](#) | [Print/Save as PDF](#)

### SOIL TEST REPORT

LYNN BRANDENBERGER  
 OSU VEGETABLES  
 HORTICULTURE DEPT  
 360 AG HALL  
 CAMPUS MAIL: 0

Name	Lab ID	815404
Customer Code	205	
Sample No	1019	
Date Received	8/22/2016	
Report Date	8/23/2016	

Routine Test	Secondary Nutrients	Micronutrients
pH: 5.9	SO <sub>4</sub> -S (lb/Acre):	Fe (ppm):
Buffer Index: 7.1	Surface:	Zn (ppm):
NO <sub>3</sub> -N (lb/Acre):	Subsoil:	B (ppm):
Surface: 290	Ca (lb/Acre):	
Subsoil:	Mg (lb/Acre):	
Soil Test P Index: 107 (53.5 ppm)	<b>Additional Tests</b>	
Soil Test K Index: 514 (257 ppm)		

Interpretation and Requirements for  Yield Goal =

# Text Recommendation for Cowpea

🕒 Interpretation updated for Cowpea (No Yield Goal Needed for N recommendation)

Interpretation and Requirements for

[Bar Chart](#)

Test	Interpretation	Requirement
pH	Adequate	No lime required
Nitrogen	Deficient	35 lbs/Acre N
Phosphorus	90 % Sufficient	25lbs/Acre P <sub>2</sub> O <sub>5</sub> annually until next soil test
Potassium	Adequate	None
Organic Matter	Medium	

Comments







# Bar Chart Recommendations for Cowpea

Interpretation updated for Cowpea (No Yield Goal Needed for N recommendation)

Interpretation and Requirements for Cowpea

Bar Chart

Test	Interpretation					Requirement
	Adequate	Very low	Low	Medium	High	
pH	Adequate					No lime required
Nitrogen						35 lbs/Acre N
Phosphorus						25 lbs/Acre P2O5 annually until next soil test.
Potassium						None
Organic Matter						2.28

█ <- Indicates 100% sufficiency(STP=65,STK=250(For Lawn/Garden STK = 300))

Comments

2016: N-P-K results close to expected. Organic matter is continuing to increase over the past 2 years and is currently at 2.28%, when you figure that many tilled production soils in Oklahoma can be 0.5% or less, we are making progress from the use of our cover crops.



# Factsheets Available at

<http://pods.dasnr.okstate.edu/docushare/dsweb/View/Collection-12>

OKLAHOMA COOPERATIVE EXTENSION SERVICE HLA-6036

## Soil Test Interpretations For Vegetable Crops

Lynn Brundinger  
Interdisciplinary Vegetable Crops  
Heidi Zhang  
Denton, TX Plant and Fertilizer Management Laboratory

Oklahoma Cooperative Extension Fact Sheets are also available on our website at <http://pods.okstate.edu>

Soil test interpretation is an integral part of nutrient management for vegetable crops. The value of soil test results is dependent on the crop, soil type, and the nutrient being tested. The following factsheet provides information on how to use soil test results to make decisions about fertilizer application. Soil tests can be used to help determine if a crop needs additional fertilizer, and if so, how much. Soil test results can also be used to help determine if a crop needs additional fertilizer, and if so, how much. Soil test results can also be used to help determine if a crop needs additional fertilizer, and if so, how much.

### Determining Fertilizer Needs by Soil Testing

The starting point for vegetable crop fertilization decisions is the soil test results. The soil test results are used to determine the nutrient status of the soil and to determine the fertilizer needs of the crop. The soil test results are used to determine the nutrient status of the soil and to determine the fertilizer needs of the crop.

County Extension Offices throughout Oklahoma have soil test laboratories. Contact your local Extension Office for more information. The soil test results are used to determine the nutrient status of the soil and to determine the fertilizer needs of the crop.

PSS-2225: Vegetable crop yield is their ability to take up nutrients in a plant. Nutrient uptake is also affected by the availability of nutrients in the soil. The availability of nutrients in the soil is affected by the soil type, the amount of fertilizer applied, and the amount of nutrients taken up by the crop.

Table 1. Top of SOCC, also explained to make soil pH of a 100 mm layer (0-10 cm).

Soil pH	Top of SOCC
7.0	0.9
6.5	1.0
6.0	1.1
5.5	1.2
5.0	1.3
4.5	1.4
4.0	1.5
3.5	1.6
3.0	1.7
2.5	1.8
2.0	1.9
1.5	2.0
1.0	2.1
0.5	2.2

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OKLAHOMA COOPERATIVE EXTENSION SERVICE PSS-2225

## OSU Soil Test Interpretations

Heidi Zhang  
Denton, TX Plant and Fertilizer Management Laboratory  
Bill Roun  
Soil Fertility Specialist  
Brian Arnold  
Nutrient Management Specialist

Oklahoma Cooperative Extension Fact Sheets are also available on our website at <http://pods.okstate.edu>

The following tables are soil test interpretations of nutrient status for the most commonly grown vegetable crops in Oklahoma. These interpretations are based on information from the OSU Soil, Water, and Fertilizer Laboratory and are not intended to be used without the assistance of a professional soil scientist. The following tables provide information on how to use soil test results to make decisions about fertilizer application. Soil test results can also be used to help determine if a crop needs additional fertilizer, and if so, how much.

Table 1. Primary Nutrient Soil Test Interpretations for Selected Small Grains and Row Crops.

Nutrient	Nitrogen Requirements		Phosphorus Requirements		Potassium Requirements	
	ppm	lb/acre	ppm	lb/acre	ppm	lb/acre
0-10 cm	10	100	10	100	10	100
10-20 cm	10	100	10	100	10	100
20-30 cm	10	100	10	100	10	100
30-40 cm	10	100	10	100	10	100
40-50 cm	10	100	10	100	10	100
50-60 cm	10	100	10	100	10	100
60-70 cm	10	100	10	100	10	100
70-80 cm	10	100	10	100	10	100
80-90 cm	10	100	10	100	10	100
90-100 cm	10	100	10	100	10	100

The following tables are soil test interpretations of nutrient status for the most commonly grown vegetable crops in Oklahoma. These interpretations are based on information from the OSU Soil, Water, and Fertilizer Laboratory and are not intended to be used without the assistance of a professional soil scientist. The following tables provide information on how to use soil test results to make decisions about fertilizer application. Soil test results can also be used to help determine if a crop needs additional fertilizer, and if so, how much.

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# Considerations

- You should try:
  - SWFAL's website
  - It's great for crop specific fertility recommendations!
- You can build:
  - Specific recommendations
    - By crop
    - With your own notations
- SWFAL website address:
  - <http://soiltesting.okstate.edu/>

**Soil Testing:**  
**the Best Management Practice**  
**for Nutrient Management**

