

# Jarrell Cooper

Vice President – Sales



1976 Camilla, GA—2000 Owensboro, KY  
2014 Warsaw, NC





# **Waters Agricultural Laboratories, Inc.**

## **Analytical and Microbiological Services**

- ▣ **Soil Testing**
- ▣ **Nematode Assays**
- ▣ **Plant Analysis**
- ▣ Citrus, Peach, & Pecan Nutrient Program
- ▣ Pine/Hardwood Foliage Analysis
- ▣ **Fertilizer Analysis**
- ▣ **Limestone and Gypsum Materials**
- ▣ Feed Analysis
- ▣ Manure and Sludge Analysis
- ▣ Heavy Metal Analysis
- ▣ **Microbiological Analysis**
- ▣ **Water Analysis**
- ▣ **Herbicide & Pesticide Residue Analysis**
- ▣ Herbicide & Pesticide Analysis
- ▣ Aflatoxins and Mycotoxins
- ▣ Cotton Programs
- ▣ Onion Programs
- ▣ **Golf Course Fertility Management**
- ▣ Precision Agricultural Mapping Services
- ▣ **AgFleet, EnHanced Ag and Agrian**
- ▣ Research Analysis

# Water Quality for Irrigation

- ❖ Water is now considered a commodity.
- ❖ Weather patterns changing creating multiple moisture condition in regions worldwide
- ❖ Proper irrigation programs being used to conserve water
- ❖ Water quality for irrigation more important today
- ❖ Timing is often more important than application amounts
- ❖ More data being collected allows for better decisions
- ❖ Irrigation suitability test being utilized more than ever
- ❖ Looking for more regulations to come sooner than later

# **High Analytical Standards**

- **Quality Control Program**
- **Qualified Personnel**
- **Modern Equipment**
- **Accepted Procedures (AOAC)**
- **Methods Suitable For Soils In Different Regions**



# WATERS AGRICULTURAL LABORATORIES, INC.

P.O. Box 382 • Newton Highway  
Camilla, Georgia 31730  
(912) 336-7216 (912) 336-7967 FAX



## Soil Analysis Report

Ship To: XYZ FARMS NEWTON HIGHWAY CAMILLA GA 31730	For :	Received : 10/22/97 Processed : 10/24/97 Acct # : 1
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# Test Method • Double Acid

Element	Lab Result
Phosphorus	62 lbs.
Potassium	140 lbs.
Magnesium	60 lbs.
Calcium	854 lbs.
Soil pH	5.9
Buffer pH	7.75
Sulfur	21 lbs.
Boron	0.5 lbs.
Zinc	2.6 lbs.
Manganese	20 lbs.
Iron	17 lbs.
Copper	1.2 lbs.
Aluminum	
Sodium	
Soluble Salts	
Organic Matter	
Nitrate Nitrogen	
Cation Exchange Capacity	4.6

Crop : COTTON

Lime Tons/Acre	Gypsum Tons/Acre	N Nitrogen	P <sub>2</sub> O <sub>5</sub> Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
1.0		90	60	100	30	19	0.5	2	5		

\*=Maintenance Recommendation

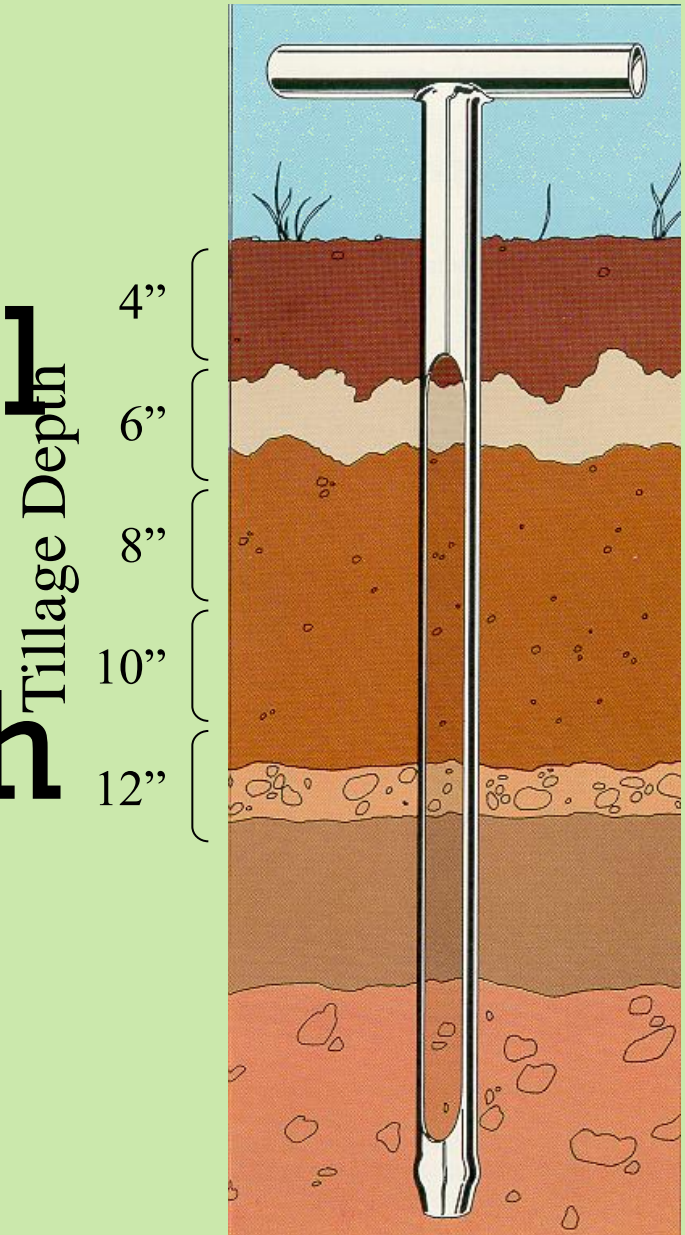
\*\*=See Back

### Comments :

PREBLOOM NITROGEN RECOMMENDATIONS FOR COTTON CAN BE REDUCED BY 30 LBS PER ACRE IF PETIOLE ANALYSIS IS UTILIZED. IF SOIL BORON LEVEL IS BELOW 1.5 LBS PER ACRE AN APPLICATION OF 1-2 LBS OF BORON SHOULD BE CONSIDERED-1/2 APPLIED AT PLANTING AND 1/2 APPLIED DURING FRUITING STAGE. ACTUAL AMOUNT OF ALL NUTRIENTS SHOULD BE DETERMINED BY PLANT ANALYSIS OR PETIOLE ANALYSIS.

IF DOLOMITE LIME HAS BEEN APPLIED RECENTLY, MAGNESIUM RECOMMENDATION CAN BE CUT IN HALF.

# Quality Soil Analysis Begins With Accurate Sampling









# Lime Requirement in 1000 lbs./Acre to Raise Soil pH to 6.5

		Buffer pH													
		7.95	7.90	7.85	7.80	7.75	7.70	7.65	7.60	7.55	7.50	7.45	7.40	7.35	7.30
Water pH	6.4	0	0	0	0	0	0	0	0	1	1	1	1	2	2
	6.3	0	0	0	0	0	1	1	1	1	1	2	2	2	2
	6.2	1	1	1	1	1	1	1	2	2	2	2	2	2	2
	6.1	1	1	1	1	1	1	1	2	2	2	2	2	2	3
	6.0	1	1	1	1	1	1	2	2	2	2	2	2	3	3
	5.9	1	1	1	2	2	2	2	2	2	3	3	3	3	4
	5.8	1	1	2	2	2	2	2	2	2	3	3	3	3	4
	5.7	1	1	2	2	2	2	2	2	2	3	3	3	4	4
	5.6	1	1	2	2	2	2	2	2	2	3	3	3	4	4
	5.5	1	1	2	2	2	2	2	3	3	3	4	4	4	5
	5.4	2	2	2	2	2	2	3	3	3	3	4	4	4	5
	5.3	2	2	2	2	2	2	3	3	3	3	4	4	5	5
	5.2	2	2	2	2	2	2	3	3	3	3	4	4	5	5



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*"Improving Growth...  
With Science"*

## Soil Analysis

WATERS AGRICULTURAL LAB

Grower: JARRELL COOPER

Received: 02/23/2016

JARRELL COOPER

Area: LAKE NONA

Processed: 02/25/2016

PO BOX 382

Sample ID: 9T

Account #: 158

CAMILLA, GA 31730

### Fertility Recommendations

lbs./1000 Sq. Ft.

Yield: MAX

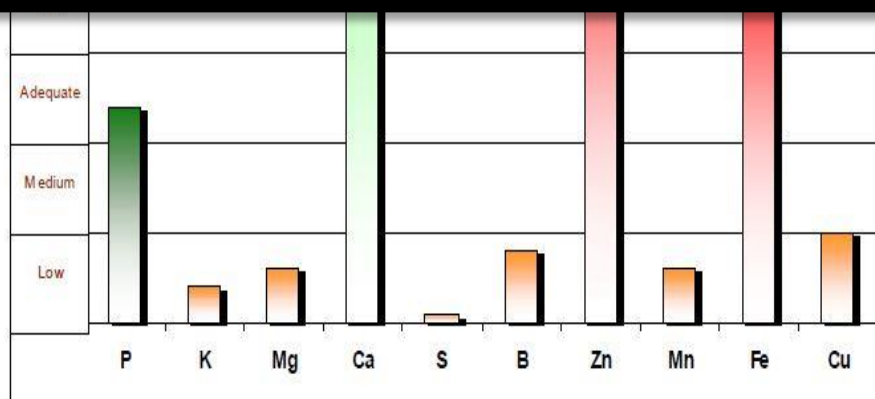
Crop: BERMUDA TEES

Lime lbs/1000SqFt	Gypsum lbs/1000SqFt	N Nitrogen	P2O5 Phosphate	K2O Potash	Mg Magnesium	S Sulfur	B Boron	Zn Zinc	Mn Manganese	Fe Iron	Cu Copper
		6.90	1.15	5.75	0.80	0.74	0.016		0.21		0.01

\* = Maintenance Recommendation

Comments:

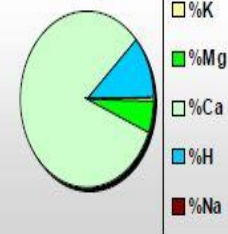
NITROGEN AND POTASSIUM SHOULD BE APPLIED IN SPLIT APPLICATIONS - PREFERABLY 3 TO 5 TIMES - PREDICATED ON THE TYPE OF NITROGEN USED. PLANT SAMPLES (GRASS CLIPPINGS) SHOULD BE TAKEN DURING THE GROWING SEASON TO MONITOR ALL NUTRIENTS. ADDITIONAL NUTRIENTS MAY BE NEEDED ESPECIALLY NITROGEN AND POTASSIUM. If Dolomite Lime has been applied recently - Magnesium recommendation can be cut in half.



H: 11.1 %

Na: %

### Base Saturation





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## Soil Analysis

WATERS AGRICULTURAL LAB

JARRELL COOPER

PO BOX 382

CAMILLA, GA 31730

Grower: JARRELL COOPER

Area: LAKE NONA

Sample ID: 11A

Received: 02/23/2016

Processed: 02/25/2016

Account #: 158

## Fertility Recommendations lbs./1000 Sq. Ft.

Crop: GOLF-BERMUDA FAIRWAY

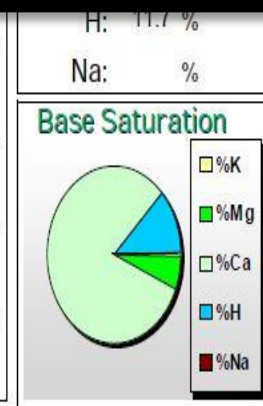
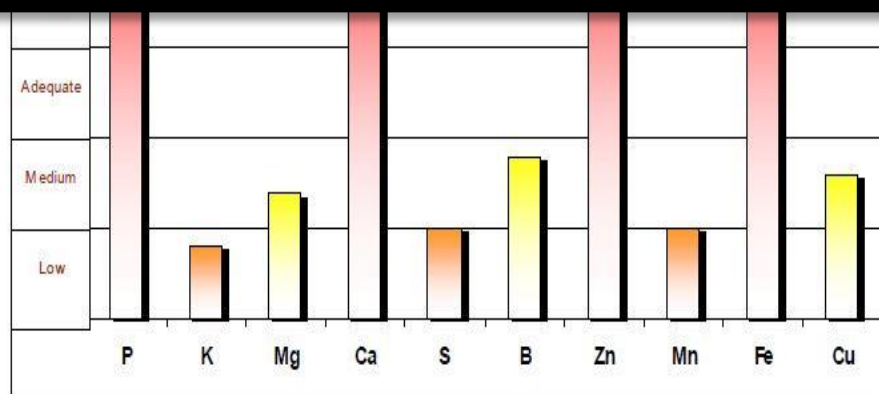
Yield: MAX

Lime lbs/1000SqFt	Gypsum lbs/1000SqFt	N Nitrogen	P2O5 Phosphate	K2O Potash	Mg Magnesium	S Sulfur	B Boron	Zn Zinc	Mn Manganese	Fe Iron	Cu Copper
		4.02		4.60	0.23	0.28	0.003				0.00

\* = Maintenance Recommendation

### Comments:

NITROGEN AND POTASSIUM SHOULD BE APPLIED IN SPLIT APPLICATIONS - PREFERABLY 3 TO 5 TIMES - PREDICATED ON THE TYPE OF NITROGEN USED. PLANT SAMPLES (GRASS CLIPPINGS) SHOULD BE TAKEN DURING THE GROWING SEASON TO MONITOR ALL NUTRIENTS. ADDITIONAL NUTRIENTS MAY BE NEEDED ESPECIALLY NITROGEN AND POTASSIUM. If Dolomite Lime has been applied recently - Magnesium recommendation can be cut in half.







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## Soil Analysis

WATERS AGRICULTURAL LAB

Grower: JARRELL COOPER

Received: 02/23/2016

JARRELL COOPER

Area: LAKE NONA

Processed: 02/25/2016

PO BOX 382

Sample ID: 17G

Account #: 158

## Fertility Recommendations

Crop: GOLF-BERMUDA GREENS

lbs./1000 Sq. Ft.

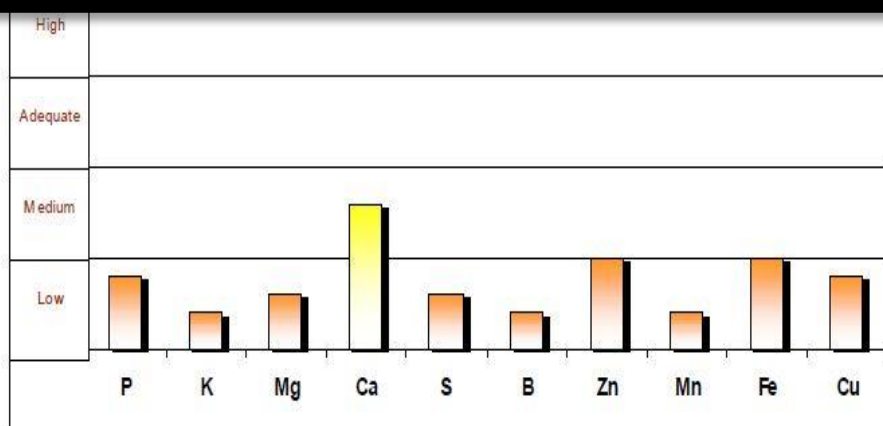
Yield: MAX

Lime lbs/1000SqFt	Gypsum lbs/1000SqFt	N Nitrogen	P2O5 Phosphate	K2O Potash	Mg Magnesium	S Sulfur	B Boron	Zn Zinc	Mn Manganese	Fe Iron	Cu Copper
		8.62	2.41	7.82	0.80	0.55	0.018		0.23	0.07	0.01

\* = Maintenance Recommendation

Comments:

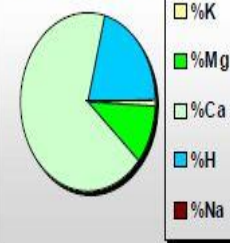
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H: 20.6 %

Na: %

### Base Saturation





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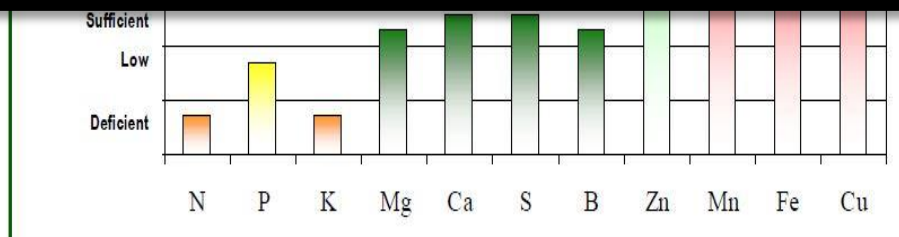
## Plant Tissue Analysis

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Customer: 158	Grower: WATERS LANDING	Received: 10/22/2015
WATERS AGRICULTURAL LAB	FieldID:	Processed: 10/23/2015
JARRELL COOPER	SampleID: NG B	Lab Number: 212875PT
PO BOX 382	Crop: BERMUDA FWY	

### Comments

- ~ Apply 1- 1.5 lbs. per 1000 Sq/Ft of nitrogen.
  - ~ Apply 1- 1.5lbs per 1000 Sq/Ft of phosphate material.
  - ~ Apply 1/2- 1 lbs. of Potassium per 1000 Sq/Ft.
  - ~Above applications should be made only if crop is NOT within 30 days of maturity. If more than one foliar application is made, suggest that 1/2 be applied now and 1/2 5-7 days later. Use only material approved for foliar application.
- Note: A soil sample was not submitted with plant tissue sample, therefore a thorough analysis is not possible. The results and recommendations are based only on the plant analysis.



The following Plant nutrient levels are low, deficient or borderline:

Nitrogen-Phosphorus-Potassium-

# ICAP





# LabTalk

**A Complete Analytical Data  
Management System**



**Results Returned in 48 Hours or Less**



# Thank You



## Improving Growth with Science since 1976

Jarrell Cooper—[jarrell@watersag.com](mailto:jarrell@watersag.com)

Vice President, Sales

[www.watersag.com](http://www.watersag.com)