



Diagnostic

Solution Report

[Links to Helpful Information](#)

Client: Larry Martin
4143 Red Tail Run
Efland, NC 27243

Advisor: Mart Bumgarner
Orange CES - House
306 E Revere RD
Hillsborough, NC 27278

Sampled County : Orange

Farm: Not Provided

Sampled: 06/28/2018
Received: 07/02/2018
Completed: 07/03/2018

PALS #: 422516

PALS #: 450520

Sample Information

ID: P2018
Code: FP
Description: Fish
Production/Recreation

Nutrient Measurements

are given in units of parts per million (ppm), unless otherwise specified.

Nitrogen (N)		P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo
Inorganic:	0.61	0.01	0.63	4.86	2.04	0.32	0.15	0.00	0.00	0.00	0.01	-
NH ₄ -N	0.46											
NO ₃ -N	0.15											
Organic:												
Urea	-	SS	EC	pH	CO ₃	HCO ₃	Total Alkalinity		Acid Requirement			

Other Results

Al Na Cl
0.00 2.35 4.30

Other Results

SS (10 ⁻⁵ S/cm)	EC (mS/cm)	pH (Unitless)	CO ₃ (meq/L)	HCO ₃ (meq/L)	Total Alkalinity (ppm CaCO ₃)	Acid Requirement (oz/100 gal)	Hardness (ppm CaCO ₃)	SAR (Unitless)
6	0.06	6.49	0	0.44	22.0	-	20.5	0.23

Grower Comments: Not Provided

Agronomist's Comments: The general desired ranges for aquaculture/fish pond water are (acceptable ranges in parentheses): pH 6.5-9.0 (5.5-10.0); alkalinity 50-150 ppm CaCO₃ (20 - 400 ppm); hardness 50-150 ppm CaCO₃ (>20) ; EC 6-100 10⁻⁵ S/cm (3-500); Ca > 20 ppm (>5); Fe 0-0.1 ppm (fry) or 1.0 ppm (general fish); Mn 0-0.01 ppm (<1); Cl < 100 ppm for catfish; NO₃ <90 ppm; P 0.01-3.0 ppm. Note where the results vary from these desired ranges or the recommended ranges for your application. The Agronomic Division does not analyze water samples for parameters (such as dissolved oxygen or carbon dioxide concentrations) that may be important for good quality fish pond / aquaculture water. Please contact the aquaculture specialist through your county extension office if you would like additional information. Hunter G. Landis
7/3/2018 4:36 PM

Understanding the Solution Report

This report provides data on chemical properties relevant to use of water or nutrient solutions for a specific agricultural purpose such as crop, livestock & poultry production, aquaculture or pond management and indicates whether they pose a concern for that use. If you need to identify microorganisms, pesticides or organic chemical contaminants, contact a commercial laboratory or the county health department.

Acid Requirement is the amount of battery acid (35% sulfuric acid) needed to neutralize alkalinity by 80%.

EC (Electrical Conductivity) measures salinity, or soluble salts(SS).

Hardness is calculated from Ca & Mg levels and indicates tendency to form

pH measures basicity/acidity.

SAR (Sodium Adsorption Ratio; no units) indicates relative balance among Ca, Mg & Na, which can predict tendency for concerns with Na.

SS (Soluble Salts) measures salinity.

Total Alkalinity measures carbonates &

Al = Aluminum

As = Arsenic

B = Boron

Ca = Calcium

CaCO₃ = Ca Carbonate

Cd = Cadmium

Cl = Chloride

CO₃ = Carbonate

Cr = Chromium

Cu = Copper

Fe = Iron

HCO₃ = Bicarbonate

K = Potassium

Mg = Magnesium

Mn = Manganese

Mo = Molybdenum

N = Nitrogen

Na = Sodium

NH₄-N = Ammonium -N

Ni = Nickel

NO₃-N = Nitrate -N

P = Phosphorus

Pb = Lead

S = Sulfur

Se = Selenium

meq/L = milliequivalent per liter;

mS = millisiemens;

ppm = parts per million or mg/L;

S = siemens;

Additional Information: www.ncagr.gov/agronomi/pdf/files/usoln.pdf