

# OnlyMoso Field Sampling Guide

## For Prospective Planting Sites



Understanding the chemical and physical properties of your soil and water can provide critical information on the viability of planting a crop in your location. It'll help you decide what areas to grow in, which amendments to add, and how much, and whether or not you feel safe drinking and using your water.

### Soil Sampling

The recommended lab for soil analysis is Waters Agricultural Laboratories, Inc

<https://watersag.com/>

#### Steps for successful soil sampling

1. Order the following testing supplies for the lab. The easiest way to do this is from their website at this link: <https://watersag.com/sampling-supplies-2/>
  - a. Soil Sample Bags (Recommended 10 bags)
  - b. Small shipping boxes (Holds up to 8 samples) (Recommended 2 boxes)
  - c. UPS Authorized return service labels (Recommended 2 labels)
  - d. Soil probe (Optional, these can also be found on other sites like Amazon and make the processes of collecting samples easier)
2. Divide your field into identifiable zones no more than 5 acres in size. (Ex. Northern plot, southern plot, Northwest section)
  - a. Try to divide based on soil types and field elevation
3. On soil sample bags, clearly mark your name, address, and sample identification on each sample bag
  - a. For sample identification, indicate the zone in which the sample was taken
4. Once divided, take a thin vertical slice or core of soil with a spade, trowel, auger, or soil sampling tube from at least 5-10 different places in the area to be tested. For each section, combine core samples in a clean plastic bucket, mix thoroughly, and fill the designated soil sample bag half full. Fold-down and fasten metal flaps securely.
  - a. Avoid sampling from the following areas
    - i. Where fertilizer or liming materials may have been spilled
    - ii. Gate areas where livestock have congregated
    - iii. Poorly drained areas
    - iv. Fertilizer band areas of last year's crop
    - v. At least 50 feet from barns, roads, lanes, or fence rows
5. Fill out Submittal Form for the closest lab to your field location (Georgia, Kentucky, Mississippi, North Carolina). These can be found at <https://watersag.com/sample-submittal-forms/>

- a. For soil samples, you want the Soil-Plant-Nematode Samples form (Example Sheet attached)
- b. For each sample, enter the planned species name under Planned Crop (**Asper, Moso, or Henon**)
- c. There are four different types of tests that the lab can run
  - i. Soil Nutrients
    - 1. **(RI)**Routine 1: Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity & Percent Base Saturation of Cation Elements. PLUS ANY TWO OF: Zinc, Manganese, Iron. Copper, Boron
    - 2. **(BII)**Basic 2: Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity & Percent Base Saturation of Cation Element
    - 3. **(BIII)**Basic 3: Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity & Percent Base Saturation of Cation Elements. PLUS ANY FOUR OF: Zinc, Manganese, Iron. Copper, Boron
    - 4. **(BIV)** Basic 4: Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity & Percent Base Saturation of Cation Elements. PLUS SULFATE SULFUR Zinc, Manganese, Iron. Copper, Boron **(Highly Recommended)**
  - ii. Soil Texture (**Soil Texture**)
    - 1. Soil texture tests identify the ratios between clay, sand, and silt that are present in your soil. These tests are beneficial in determining water and nutrient management plans **(Recommend for at least one sample per field or for soil samples that appear to have different compositions)**
  - iii. Organic Matter (**O.M**)
    - 1. Organic matter is a vital component to healthy soil and can contain 5 to 6 % nitrogen with 2 to 4 %. Understanding the organic levels in your soil can help guide fertilizer management plans **(Recommend for at least one sample per field)**
  - iv. Soluble Salts (**Soluble Salts**)
    - 1. High soluble salt levels can reduce the growth of most crops. Some crops are more resistant to higher salt levels than others, but as salt levels increase, plant water uptake decreases. This causes chemical drought in the plant, even though soil moisture may be adequate. plans **(Recommend for at least one sample per field)**
- d. Most Labs offer 2 Extraction methods Mehlich I & Mehlich III (Found in upper Right corner of the form)
  - i. Waters Agricultural Laboratories, Inc. routinely uses two types of soil extraction solutions, Mehlich I and Mehlich III. The variability in soil characteristics determines the extraction method, which should be used for determining nutrient levels. Mehlich I soil extraction was developed for low CEC, low organic matter soils with acidic to neutral pH levels. The Mehlich III is ideally used on soils with higher CEC and organic matter values. The purpose behind using the two solutions is to match the extraction solution with the soil characteristics to extract the most

accurate plant-available nutrients. (For Most Fields Mehlich III is recommended)

6. Once the form is filled out, place the sample bags and submittal form in the box, seal the box, affix the shipping label, and drop off at the nearest UPS store
7. A report will be sent via the selected method. Once results are received, please forward on to your Sales Representative or Field Support
8. An invoice will be sent to the billing address after results are received and can be paid via their website ( <https://watersag.com/online-bill-pay/> ) or over the phone (229)-336-7216

## Water Sampling

The recommended lab for soil analysis is Waters Agricultural Laboratories, Inc  
<https://watersag.com/>

### Steps for successful water sampling

1. Order the following testing supplies for the lab. The easiest way to do this is from their website at this link: <https://watersag.com/sampling-supplies-2/>
  - a. Water Sample Bottles (Recommended 1 bottle per potential irrigation source)
  - b. Small shipping boxes (Holds up to 8 samples) (Recommended 2 boxes)
  - c. UPS Authorized return service labels (Recommended 2 labels)
2. Sampling Instructions
  - a. Material Preparation
    - i. Using the water-resistant marker, record the following information on an unopened sample bottle: Grower Name & Sample Identification
    - ii. Record Grower information and Sample identification on a Water sample information sheet
      1. Select Water Test 11 by placing a checkmark in the number 11 column for each sample collected
    - iii. Proceed to sample area.
  - b. Distribution System
    - i. If the water is to be taken from a distribution system (Wells) select a tap that is supplying water directly connected to the main system.
      1. Open the tap fully and let the water run for 3-5 minutes or until the line is completely flushed.
      2. Fill sample container and cap tightly.
    - ii. Rivers, Lakes, Streams, Reservoirs, etc.
      1. Do not take samples too near the bank or too far from the point of drain off, or at a depth above or below the drain-off point.
      2. Samples should be representative of the water that is used as the source of irrigation.
      3. Hold the sample bottle by its base and plunge into the water source with the neck of the bottle facing down.
      4. Slowly turn the bottle upward allowing the bottle to fill and cap the bottle tightly.
    - iii. Transportation

1. Place the samples in a box with sufficient packing material to keep the samples from moving around during transportation to the laboratory.
2. Ship samples to the laboratory using the pre-printed UPS ARS label or equivalent shipping method.



**Waters Agricultural Laboratories, Inc.**  
 257 Newton Highway \* P.O. Box 382 Carnilla, Georgia 31730-0382  
 ph (229) 336-7216 fax (229) 336-0977  
 website: www.watersag.com email: info@watersag.com

**Soil And Plant Information Sheet**

<b>WAL Acct #</b>

**Extraction Method:**  
 Mehlich I   
 Mehlich III

**Charge To: Grower Information Results Reported Via**

Enter Billing Address	Name: Farmer Smith	<b>Fax:</b> <input type="checkbox"/>
	Farm: Smith Bamboo Farm	<b>Mail:</b> <input type="checkbox"/>
	Field: Potential Bamboo	<b>Email:</b> <input checked="" type="checkbox"/>
<b>Phone:</b>	<b>Fax:</b>	

**Date Submitted:** Total Number of Samples: 5  
 Email: FarmerSmith@farmmail.com  
 Address:

Sample Identification	Lab Number <small>(Lab Use Only)</small>	Crop Information		Soil Test Requested					Individual Elements					Soil Texture	Soluble Salts	Other	Nematode		Plant Test			Remarks				
		Planned Crop	Yield Goal	RI	Bill	Bill	BIV	S	B	Zn	Mn	Fe	Cu				O.M.	Soil	Root	Basic	Other		Stage of Growth			
Northwest Corner		Bamboo Species																								
Southwest corner		Bamboo Species																								
Northeast Corner		Bamboo Species																								
Southeast Corner		Bamboo Species																								
Center		Bamboo Species																								

<b>Explanation of Soil Test Packages</b>	<b>Explanation of Nematode Test Package</b>
<p><b>Routine 1:</b> Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity &amp; Percent Base Saturation of Cation Elements. PLUS ANY TWO OF: Zinc, Manganese, Iron, Copper, Boron</p> <p><b>Basic 2:</b> Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity &amp; Percent Base Saturation of Cation Elements</p> <p><b>Basic 3:</b> Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity &amp; Percent Base Saturation of Cation Elements. PLUS ANY FOUR OF: Zinc, Manganese, Iron, Copper, Boron</p> <p><b>Basic 4:</b> Phosphorus, Potassium, Magnesium, Calcium, Soil pH, Cation Exchange Capacity &amp; Percent Base Saturation of Cation Elements. PLUS SULFATE SULFUR, Zinc, Manganese, Iron, Copper, Boron</p>	<p><b>Nematode Assay:</b> Soil: Complete Parasitic Count          Roots: Complete Parasitic Count</p> <p><b>Explanation of Plant Tissue Test</b>  <b>Basic Test:</b> Nitrogen, Phosphorus, Potassium, Magnesium          Calcium, Sulfur, Boron, Zinc, Manganese, Iron &amp; Copper  <b>Other:</b> List any element from above or Aluminum, Sodium, Molybdenum or Chloride</p>

Example Forms



**Waters Agricultural Laboratories, Inc.**  
 257 Newton Highway - P.O. Box 382  
 Camilla, Georgia 31730-0382  
 Phone: (229) 336-7216 Fax: (229) 336-7967

## Water Sample Information Sheet

Charge To: <b>Farmer Name</b>		Grower:	
Billing Address			
Date Sampled:		Total No.:	Phone:
Date Submitted:		of Samples:	Fax:
Email:			

### Basic Water Analysis

Lab #	Sample ID	Description	Water Test Requested (Please Check)											Individual Test (Please Check)					
			1	2	3	4	5	6	7	8	9	10	11	pH	Nitrate	Purity	Chloride		
1	Farm Well	Agricultural well																	
2	NE Pond	Pond																	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Additional Testing:

### Explanation of Tests

<b>Test 1:</b>	<b>Irrigation Suitability:</b> Nitrate-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sodium, Chloride, Sulfate, Boron, Iron, Manganese, Carbonate, Bicarbonate, pH, Conductivity, Total Dissolved Solids, and Sodium Absorption Ratio.
<b>Test 2:</b>	<b>Livestock Suitability:</b> Nitrate-Nitrogen, Phosphorus, Potassium, Magnesium, Calcium, pH, Chloride, Sulfate, Conductivity, Total Dissolved Solids, Iron, Boron, Copper, Zinc, Sodium, and Manganese.
<b>Test 3:</b>	<b>Fish Pond Recommendations:</b> Calcium, Magnesium, Hardness, and pH (Test includes lime and general fertilizer recommendations).
<b>Test 4:</b>	<b>Domestic Suitability:</b> Purity (Total Coliform/Generic E. Coli), Calcium, Magnesium, pH, Total Hardness, Conductivity, Total Dissolved Solids, and Nitrate-Nitrogen.
<b>Test 5:</b>	<b>Poultry Suitability:</b> Total Dissolved Solids, Total Bacteria, Coliform Bacteria, Nitrate-Nitrogen, Nitrite-Nitrogen, pH, Hardness, Calcium, Chloride, Copper, Iron, Lead, Magnesium, Sodium, Sulfate, and Zinc.
<b>Test 6:</b>	<b>Nutrient Solution (ppm Levels):</b> Nitrate-Nitrogen, Ammonia-Nitrogen, Phosphorus, Potassium, Calcium, Magnesium, Sulfate, Boron, Zinc, Manganese, Iron, and Copper.
<b>Test 7:</b>	<b>FHA/VA Real Estate Test:</b> Purity (Total Coliform and E. Coli), Nitrate-Nitrogen, Nitrite-Nitrogen, and Lead.
<b>Test 8:</b>	<b>Acid Titration Curve:</b> Includes pH, Bicarbonate, and estimate of acid or product required.
<b>Test 9:</b>	<b>Food Safety Irrigation Suitability:</b> Includes Irrigation Suitability Test (Test 1), Total Coliform and Generic E. Coli counts.
<b>Test 10:</b>	<b>Spraywater Report:</b> pH, Hardness, Total Dissolved Solids, Carbonate, Bicarbonate, Sodium, Chloride, and Iron.
<b>Test 11:</b>	<b>Irrigation / Spraywater Combo:</b> Includes Irrigation Suitability Test (Test 1) and Spraywater Report (Test 10).

16 ounces of water is required for **EACH** test package listed above

# Sampling Materials and Tools

