

# Chapters 3 & 4 - Soils and Fertilizers




Jay F. Conta

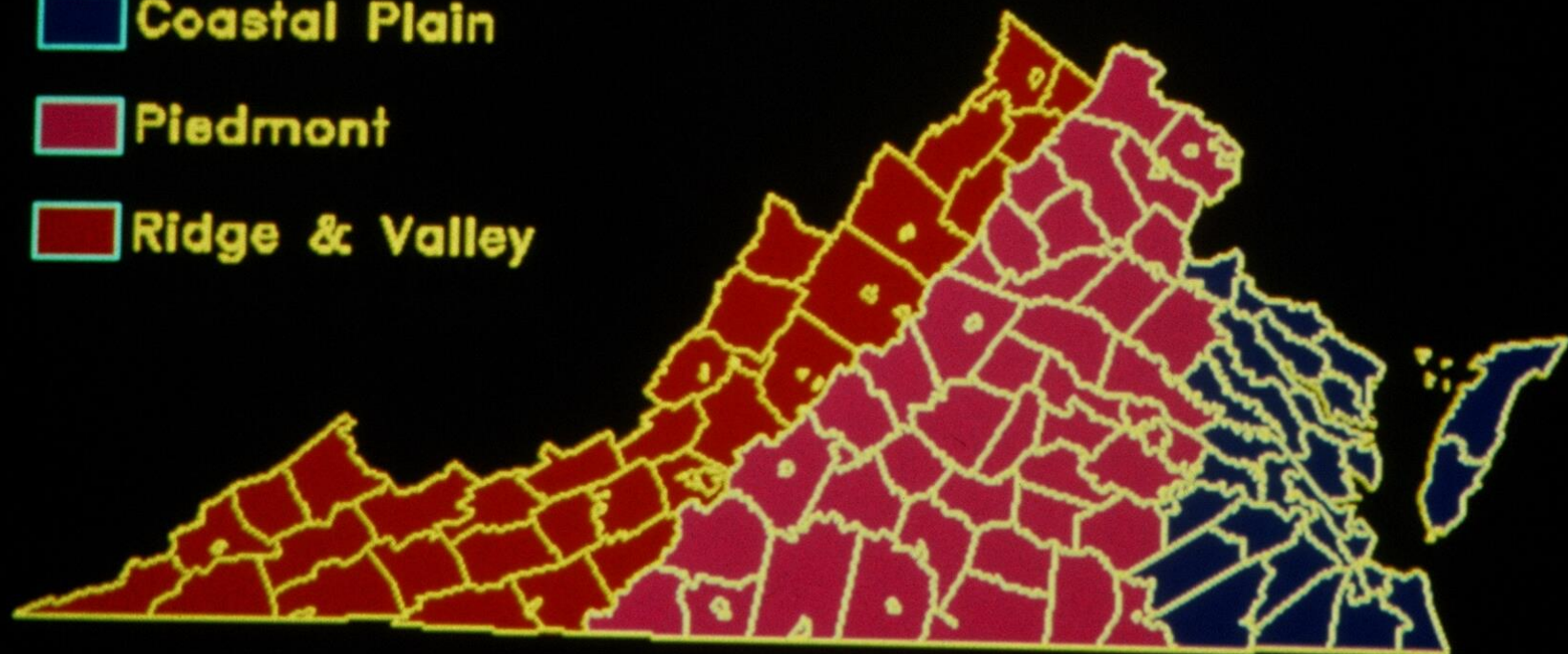
Virginia Tech - Soil Scientist (ret.)

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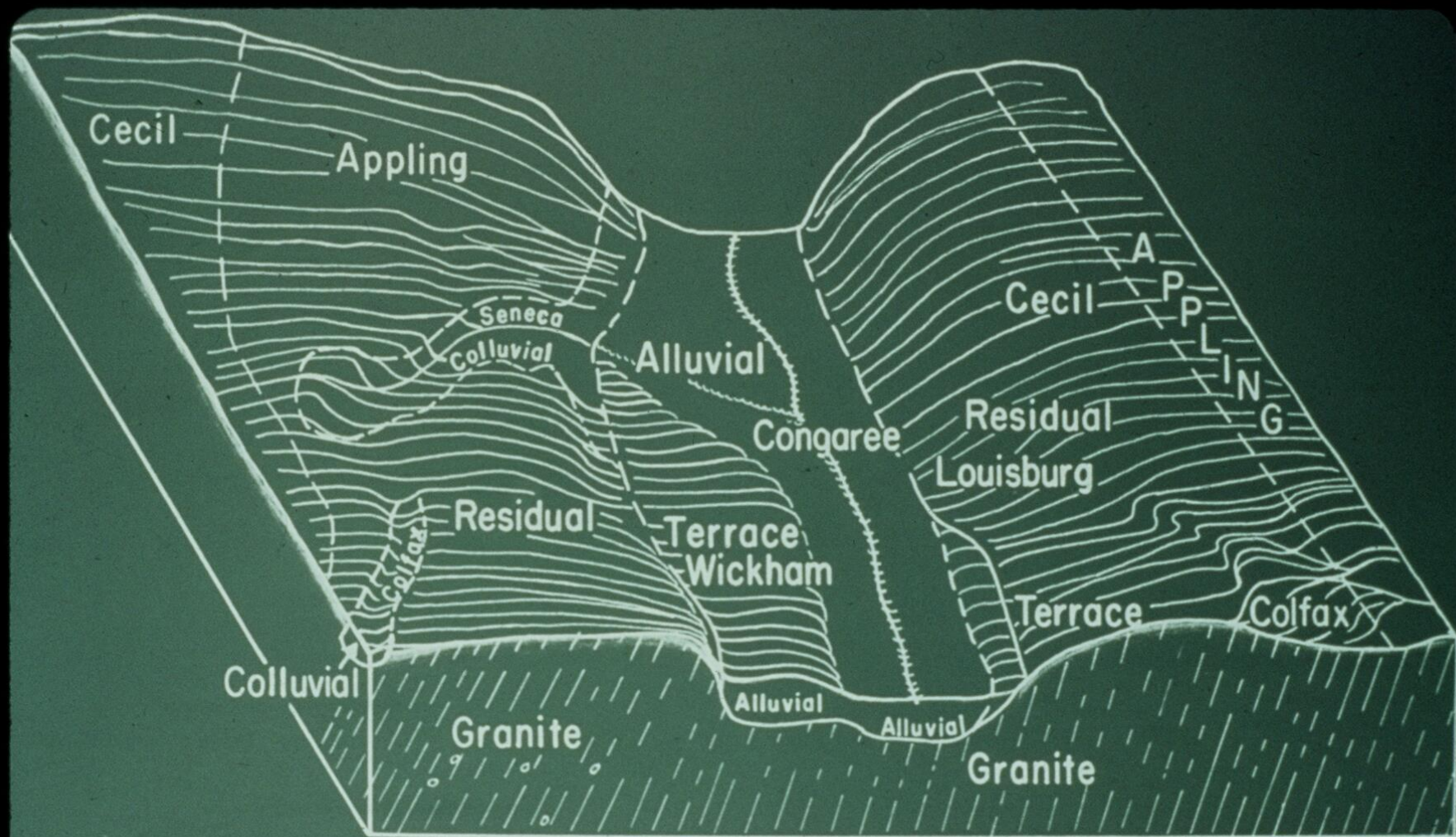
## Generalized Physiographic Regions of Virginia

### Legend

-  Coastal Plain
-  Piedmont
-  Ridge & Valley







A SOIL LANDSCAPE IN SOUTHERN PIEDMONT

































































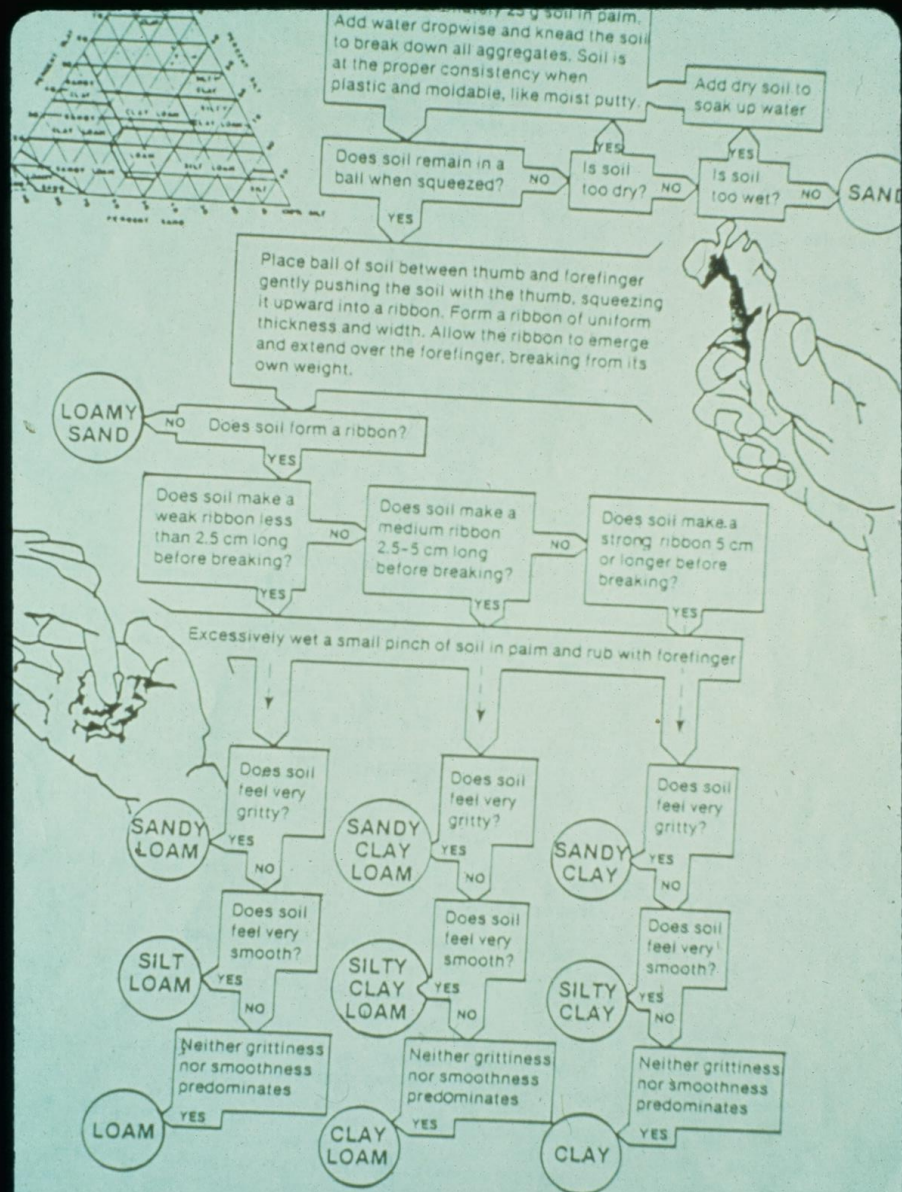


Fig. 1. Instructional diagram for determining soil texture by feel.



















































































# Soil Testing

- Will provide information about
  - pH
  - P and K, Ca and Mg, some micros
- Will provide recommendations about
  - lime applications
  - fertilizer types and rates
- Recommended every two to four years

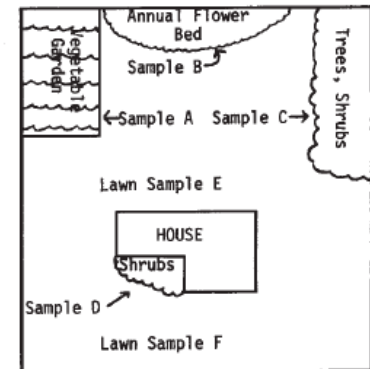
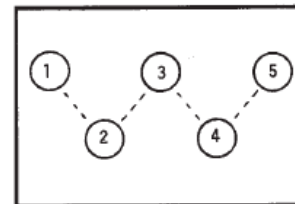
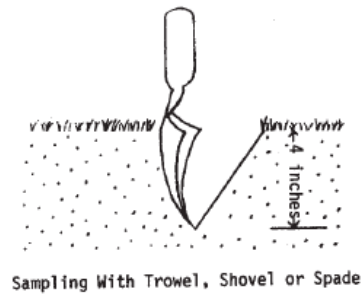


# Accurate Soil Testing

- Requires a representative sample
- Sample from 10
- Sample to 4-6 i
- Mix soil together
- Place 1 cup of r
- sample box
- Send to Soil Tes



How To Take Composite Samples of Each Bed or Section





# Soil Test Box and Form



VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY

REVISED 2001

## Virginia Cooperative Extension

Virginia Tech Soil Testing Laboratory  
Soil Sample Information Sheet for  
Home Lawns, Gardens, Fruits,  
and Ornamentals



VIRGINIA STATE UNIVERSITY

PUBLICATION 452-125

### Please Print

INSTRUCTIONS: See other side for sampling instructions. For a recommendation, be sure to fill in the **plant code number**. Place check marks (✓) where appropriate. Use another form for commercial crop production. Send samples, forms, and payment to Virginia Tech Soil Testing Lab, 145 Smyth Hall (0465), Blacksburg, VA 24061, in a sturdy shipping carton. For large shipments, total box weight must be less than 70 pounds.

Your Name _____		Date: _____
Street, Route _____		
City _____	Zip (required) _____	
Telephone No. _____	County _____	
Extra Copy For: (Dealer, etc.) _____		
Street, Route _____		Extension Unit Code: _____
City _____		
Zip (required) _____		

### SAMPLE IDENTIFICATION

Your Sample  
Number or Name  
(Up to 5 digits)

--	--	--	--	--

### PLANT TO BE GROWN

Insert Plant  
Code #

--	--	--

### SOIL INFORMATION

Last Lime Application		Type
Months Previous	Pounds per 1,000 Sq. Ft.	Soil Texture
<input type="checkbox"/> --	<input type="checkbox"/> 0	<input type="checkbox"/> Sandy
<input type="checkbox"/> 0-6	<input type="checkbox"/> 10-50	<input type="checkbox"/> Loamy
<input type="checkbox"/> 7-12	<input type="checkbox"/> 51-100	<input type="checkbox"/> Clayey
<input type="checkbox"/> 13-18	<input type="checkbox"/> 101-150	
<input type="checkbox"/> 19+	<input type="checkbox"/> 151+	

### PLANT CODE LIST

← insert code number to the left

<b>Lawn: Kentucky Bluegrass or Fescue</b>	<b>Non-Acid Loving Shrubs &amp; Trees</b>
201 Establishing New Lawn	245 Shrubs - Lilac, Forsythia, Boxwood, etc.
202 Maintaining Lawn, Repair of Bare Spots	246 Trees - Pine, Maple, Oak, etc.
<b>Lawn: Bermudagrass or Zoysiagrass</b>	<b>Fruits</b>
203 Establishing New Lawn	220 Apples
204 Maintaining Lawn, Repair of Bare Spots	221 Blackberries
	222 Blueberries
	223 Currants
	224 Gooseberries
	225 Grapes
<b>Garden</b>	226 Nectarines
210 Vegetable Garden	227 Peaches
211 Flower Garden	228 Pears
212 Roses	229 Plums
	230 Quince
<b>Acid-Loving Shrubs</b>	231 Raspberries
240 Azaleas	232 Sour Cherry
241 Andromedas	233 Strawberries
242 Camellias	234 Sweet Cherries
243 Laurel	<b>House Plants</b>
244 Rhododendron	250 Potted House Plants

### SOIL TESTS DESIRED

- ☐ Routine (soil pH, P, K, Ca, Mg, Zn, Mn, Cu, Fe and B)  
☐ Organic Matter  
☐ Soluble Salts  
☐ Fax Results: FAX # ( \_\_\_\_\_ )

COST PER SAMPLE	
IN-STATE	OUT-OF-STATE
\$ 7.00	\$10.50
\$ 3.00	\$ 4.50
\$ 3.00	\$ 4.50
\$ 1.00	\$ 1.50

Send in payment along with soil sample and form; make check or money order payable to "Treasurer, Virginia Tech."



# Soil pH

- A measure of soil alkalinity or acidity.
- Many nutrients become unavailable if pH is not correct.
- May need 100 pounds of lime per 1000 square feet to raise pH 1 point.

**Proper pH for Lawns 6.2 to 6.5**























THREE  
MONTHS

TWO  
MONTHS

FOUR  
MONTHS





5



6 MONTHS



7



9

