

**Agricultural Service Laboratory
Clemson University
2008 Annual Report**

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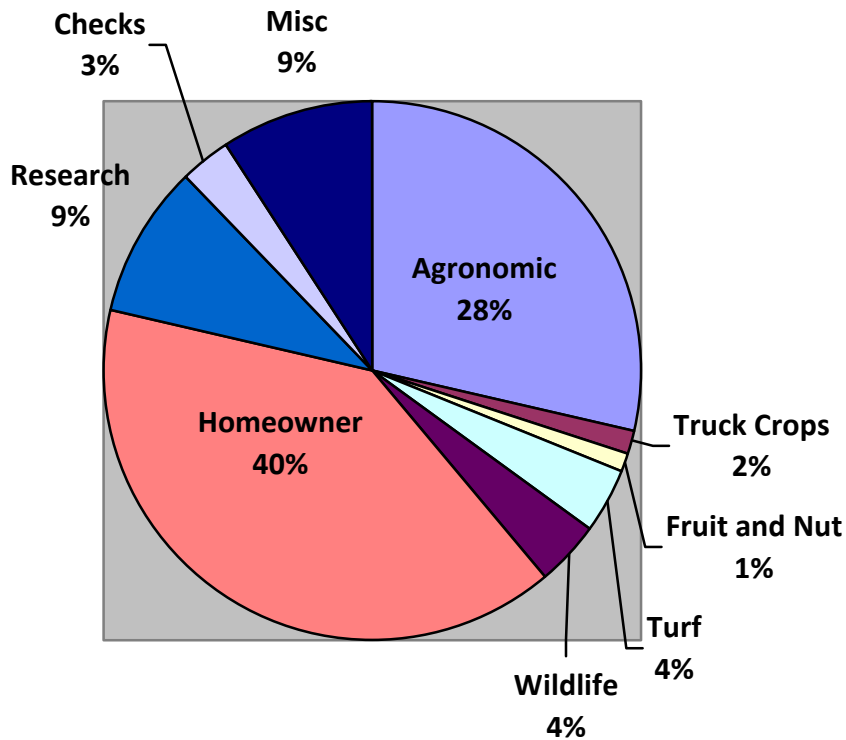
Soil

Counties	Sample Number Totals	Large Area Crop Codes	Small Area Crop Codes	Diagnostic Reports
Abbeville	391	238	58	95
Aiken	1336	506	829	1
Allendale	376	308	68	0
Anderson	578	244	332	2
Bamberg	877	827	48	2
Barnwell	324	242	81	1
Beaufort	1063	182	881	0
Berkeley	402	145	253	4
Calhoun	575	464	100	11
Charleston	1376	212	1128	36
Cherokee	230	138	89	3
Chester	254	211	43	0
Chesterfield	428	359	67	2

Clarendon	1757	1655	98	4
Colleton	767	594	171	2
Darlington	1093	876	216	1
Dillon	441	358	82	1
Dorchester	253	140	112	1
Edgefield	245	213	32	0
Fairfield	212	140	72	0
Florence	1006	552	451	3
Georgetown	858	253	599	6
Greenville	1547	437	1105	5
Greenwood	608	288	319	1
Hampton	588	453	135	0
Horry	1744	744	981	19
Jasper	417	277	139	1
Kershaw	818	416	300	102
Lancaster	472	309	163	0
Laurens	485	371	113	1
Lee	1596	1527	69	0
Lexington	2291	1091	1175	25
Marion	390	339	51	0
Marlboro	826	801	25	0
McCormick	85	36	49	0
Newberry	604	465	138	1
Oconee	414	175	236	3
Orangeburg	457	253	202	2
Pickens	241	83	156	2
Richland	1682	327	1346	9

Saluda	474	415	57	2
Spartanburg	1003	449	539	15
Sumter	1378	725	588	65
Union	204	87	100	17
Williamsburg	475	441	34	0
York	602	331	270	1
Prepaid	1018	475	513	30
Accounts	4590	1002	737	2851
SubTotal	39851	21174	15350	3327
Research	3830	1211	142	2477
Checks & Blanks	1338	5	0	1333
Total Samples Analyzed	45019	22390	15492	7137

2008 Soil Crops

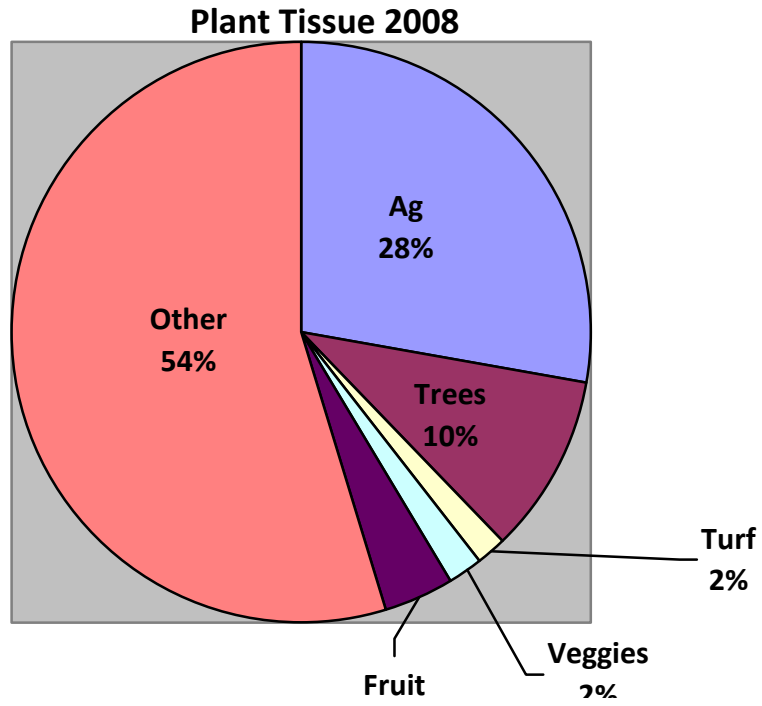


Other Soil Analyses	Total
Organic Matter	540
Nitrate Nitrogen	2316
Soluble Salts	491
Extractable Sulfate Sulfur	29
pH Only	3
Pond Bottom	84
Shrimp Pond	0
Soilless Mixes	59
Bulk Density	30

Plant Tissue

Counties	Total
Abbeville	1
Aiken	7
Allendale	16
Anderson	4
Bamberg	13
Barnwell	5
Beaufort	1
Charleston	19
Cherokee	29
Chester	2
Chesterfield	3
Clarendon	39
Colleton	6
Darlington	3
Dillon	3
Dorchester	6
Edgefield	2
Florence	4
Georgetown	2
Greenville	1
Hampton	8
Horry	33
Lee	4
Lexington	17
Marion	3

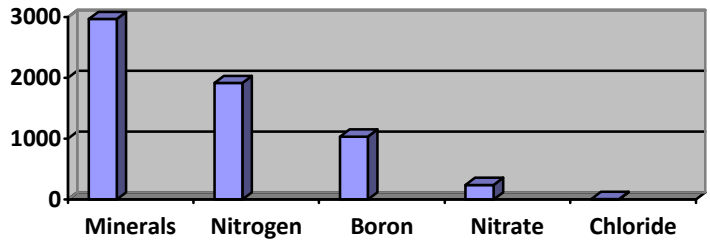
Marlboro	3
Newberry	6
Saluda	17
Spartanburg	96
Sumter	6
Williamsburg	8
Sub Total	367
Prepaid	68
Accounts	1754
Research	1801
Total Samples Analyzed	3990



Crop	Total
Alfalfa	1
Coastal Bermuda Hay	216
Cotton	195
Fescue	13
Grain Sorghum	1
Soybean	11
Corn Leaf	167
Corn Whole	297
Small Grain	202
Tobacco	3
Total Agronomic	1106
Evergreen	4
Pine, Loblolly	11
Pine, Longleaf	1
Deciduous	383
Total Trees	399
Poinsettia	1
Rhododendron	1
Roses	2
Total Ornamental	4
Centipede	2
Zoysia	1
Cool Season Grass	7
Bentgrass	45
Bermudagrass	18
Total Turf	73
Cucumbers	2
Cantaloupe	7
Collards	4
Watermelon	9
Eggplant	1
Lettuce	1
Peppers	2
Tomatoes	2
Tomatoes, Greenhouse	25
Turnips	21
Total Vegetables	74
Strawberries	143
Blueberries	4
Raspberry	3
Peaches	2
Pecans	7

Fruit	159
Other	2179
Total All	3990

Total Number of Plant Tissue Analyses 2008



Minerals include phosphorus, potassium, calcium, magnesium, zinc, copper, manganese, iron, sulfur sodium, and aluminum

Feed and Forage

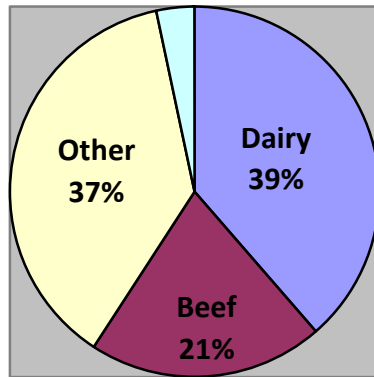
Counties	Total
Abbeville	7
Aiken	8
Anderson	13
Bamberg	6
Calhoun	2
Charleston	1
Cherokee	13
Chester	7
Chesterfield	12
Colleton	2
Darlington	9
Dillon	2
Dorchester	2
Edgefield	7
Florence	2
Georgetown	1
Greenville	4
Greenwood	39
Hampton	5
Horry	1
Kershaw	5
Lancaster	23
Laurens	13
Lee	4

Lexington	4
Marion	4
Marlboro	2
McCormick	2
Newberry	19
Orangeburg	16
Pickens	6
Richland	3
Saluda	27
Spartanburg	10
Sumter	5
York	15
Sub Total	301
Prepaid	56
Accounts	696
Research	303
Total Samples Analyzed	1356

Feed and Forage 2008

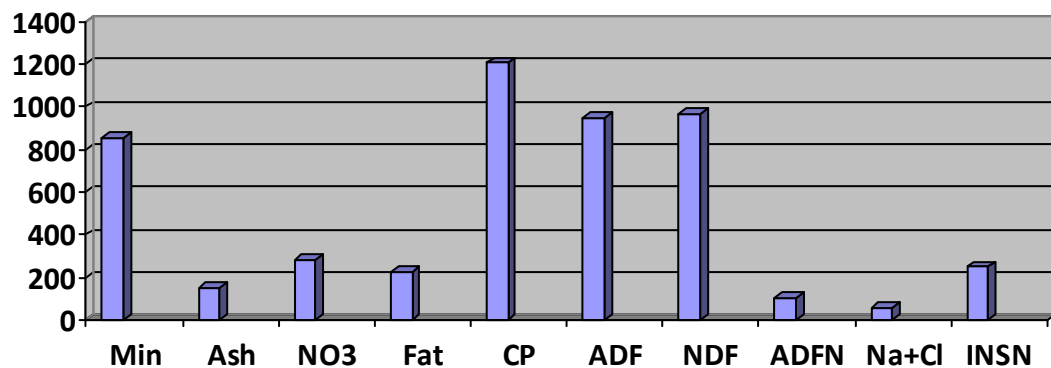
Horses

3%



Total Number	Feed Type
166	Hay Bermuda
1	Hay Bahia
38	Hay Fescue
42	Hay Legume
9	Hay Sorghum
38	Hay Mixed
78	Hay Small Grain
50	Pasture Grass
3	Earlage
199	Silage Corn
41	Silage Sorghum
20	Silage Legume
125	Silage Small Grain
40	Silage Grass
5	Gluten
1	High Moisture Barley
4	Grain Corn
4	Grain Oats
2	Grain Wheat
2	Grain Triticale
8	Grain Mixed
23	Mixed Ration-Corn
3	Mixed Ration-Sm Grain
2	Mixed Ration - Legume
2	Hominy
363	Other
76	Complete Feed
2	Distillers Grain
1	Soybean Hulls

Total Number of Feed and Forage Analyses 2008



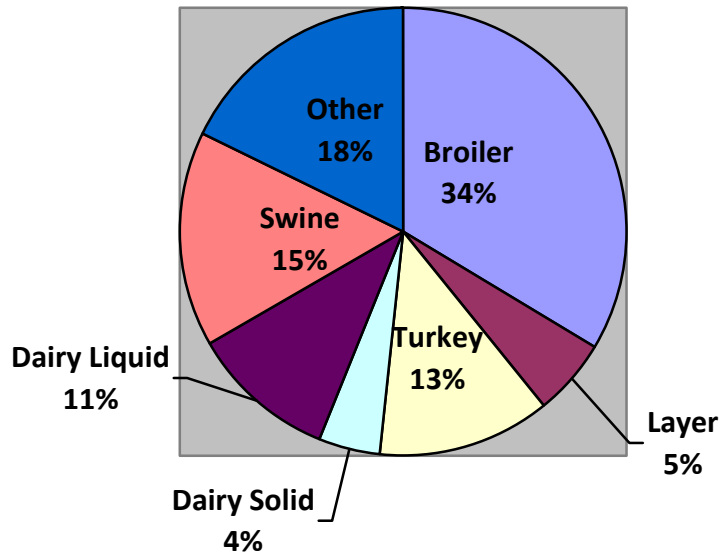
Min includes phosphorus, potassium, calcium, magnesium, zinc, copper, manganese, iron, and sulfur

Animal Waste

Counties	Total
Abbeville	8
Aiken	42
Allendale	1
Anderson	5
Bamberg	10
Beaufort	2
Barnwell	19
Calhoun	12
Charleston	1
Cherokee	5
Chester	14
Chesterfield	44
Clarendon	24
Colleton	1
Darlington	13
Dillon	36
Dorchester	14
Edgefield	5
Florence	4
Georgetown	1
Greenwood	4
Hampton	9
Horry	14
Kershaw	33

Lancaster	22
Laurens	15
Lee	68
Lexington	88
Marion	4
Marlboro	23
McCormick	2
Newberry	73
Oconee	26
Orangeburg	52
Richland	1
Saluda	35
Spartanburg	7
Sumter	7
Williamsburg	4
York	6
Sub Total	754
Prepaid	130
Accounts	146
Research	48
Virginia Contract	904
Total Samples Analyzed	1982

Animal Waste 2008



In State Animal Waste Analyses 2008	Total
Routine	1065
Nitrate Nitrogen	59
Arsenic	24
CCE	20
pH	142
Soluble P	118

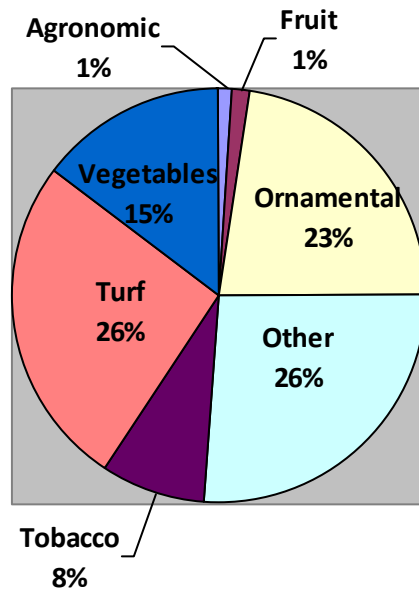
Irrigation Water

Counties	Total
Aiken	4
Anderson	1
Beaufort	5
Berkeley	4
Charleston	61
Clarendon	3
Colleton	1
Darlington	3
Dillon	2
Dorchester	3
Edgefield	3
Florence	1
Georgetown	31
Greenville	5
Horry	46
Jasper	2
Kershaw	1
Laurens	2
Lee	1
Lexington	1
Marion	2
Newberry	3
Pickens	1
Richland	2

Saluda	6
Spartanburg	2
Sumter	2
Williamsburg	12
Sub Total	212
PrePaid	20
Accounts	79
Research	93
Total Samples Analyzed	404

Irrigation Water Analyses 2007	Total
Special (pH, EC, P, K, Ca, Mg, Fe, Zn, Cu, Mn, Na, Cl, B, S, NO3-N, HCO3, and CO3)	341
Standard (pH plus EC)	63

Irrigation Water 2008

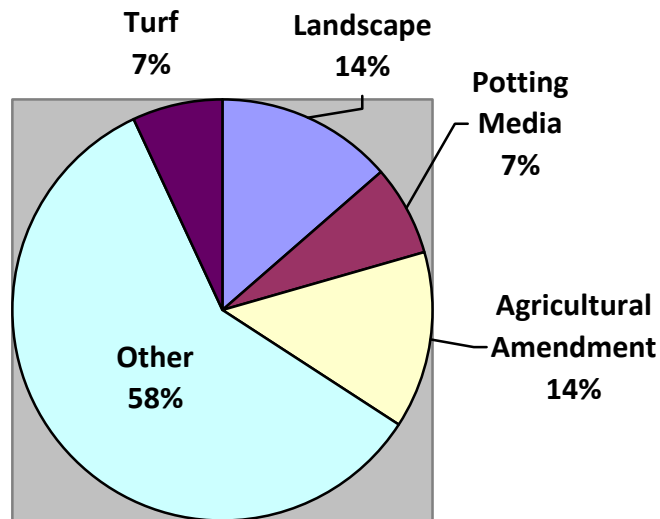


Compost

	Total
PrePaid	9
Accounts	4
County	25
Research	38
Total	76

Compost Analyses 2008	Total
Standard (Moisture, N, C, pH, OM, EC)	30
Special (Moisture, N, C, pH, OM, EC, NH4-N, P, K, Ca, Mg, S, Zn, Cu, Mn, Fe, Na)	37
Carbon/Nitrogen	12
Bulk Density	1
Nitrate Nitrogen	18

Compost 2008



Other

Sample Type	Total Samples	Various Analyses
Prepaid	28	P, K, Ca, Mg, Zn, Cu, Mn, Fe, S, Al, B, Cd, Cr, Se, Mo, Ni, As, Hg, Si, Ag, NH4-N, TKN, Ash, other
Accounts	1872	
Research	4981	
Total solutions and other materials	6881	

National Exchange Programs

- A. The National Forage Testing Association (NFTA) submits one sample quarterly for analysis of dry matter, protein, minerals, acid detergent fiber, and neutral detergent fiber. The lab is certified for forage testing through NFTA.
- B. The Association of American Feed Control Officials submits one sample monthly for analysis of protein, minerals, fat, ash, acid detergent fiber and neutral detergent fiber.
- C. The National Manure Analysis Proficiency Program submits samples quarterly for analysis of NH₄-N, total N, minerals, and dry matter. The Ag Service Lab is a certified manure testing lab.
- D. The Agricultural Service Laboratory is a member and certified as a participant of the North American Proficiency Testing Program for Soil, Plant, and Water Analysis Laboratories which provides quarterly exchanges of plant, soil, and water samples.

Publications

“Does Current Management of Storm Water Runoff Adequately Protect Water Resources in Developing Catchments?” Jin Hur, Mark A. Schlautman, Scott R. Templeton, Tanju Karanfil, Christopher J. Post, John A. Smink, Hocheol Song, Megan A. Goddard, Stephen J. Klaine and John C. Hayes, *J. Soil Water Conserv.* **2008**, 63(2), 77-90.

“Evaluating the Collective Performance of Best Management Practices in Catchments Undergoing Active Land Development.” Mark A. Schlautman and John A. Smink, *J. Soil Water Conserv.* **2008**, 63(2), 54A-55A.

“Solarization for the Control of *Pueraria montana* (kudzu).” Casey H. Newton, Larry R. Nelson, Saara J. DeWalt, Elena A. Mikhailova, Christopher J. Post, Mark A. Schlautman, S. Knight Cox, William C. Bridges and Karen C. Hall, *Weed Res.* **2008**, 48, 394-397.

“Impacts of Land Disturbance on Aquatic Ecosystem Health: Quantifying the Cascade of Events.” Katherine L. Sciera, John A. Smink, John C. Morse, Christopher J. Post, Jeremy W. Pike, William R. English, Tanju Karanfil, John C. Hayes, Mark A. Schlautman and Stephen J. Klaine, *Integr. Environ. Assess. Manag.* **2008** (in press).

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performance for lagoon sludges and liquid animal manures dewatering. Transactions of the ASABE , Vol. 51(3) .

Chastain, J.P., and A. Coloma-del Valle. 2008. Opportunities and Issues Associated with Using Broiler Litter for Bioenergy: Energy Content and Ash Composition. Presented at the 2008 ASABE Annual International Meeting. Paper No. 084112. ASABE, 2950 Niles Rd., St. Joseph, MI 49085-9659.

Chastain, J.P. 2008. Development of Litter Management Parameters to Reduce Odor Production on Poultry Farms: Analysis of Data Collected at The Davis Brothers Broiler Farm (pp 11). Submitted to Amick Farms, and Jeffery and Dwight Davis, Monetta, SC. May 1.

Differential Nitrogen and Phosphorus Recovery by Five Aquatic Garden Species in Laboratory-scale Subsurface-constructed Wetlands, Robert F. Polomski, Douglas G. Bielenberg, Ted Whitwell, Milton D. Taylor, William C. Bridges, Stephen J. Klaine, HORTSCIENCE 43(3):868–874. 2008.

Nitrogen and Phosphorus Remediation by Three Floating Aquatic Macrophytes in Greenhouse-Based Laboratory-Scale Subsurface Constructed Wetlands, Robert F. Polomski, Milton D. Taylor, Douglas G. Bielenberg, William C. Bridges, Stephen J. Klaine, Ted Whitwell, Received: 13 February 2008 / Accepted: 15 July 2008, # Springer Science + Business Media B.V. 2008, Water Air Soil Pollut DOI 10.1007/s11270-008-9805-x

“Storm Water Export of Nitrogen, Phosphorous, and Carbon from Developing Catchments in the Upper Piedmont Physiographic Province.” Laura K. Reid, *M.S. Thesis*, Clemson University, Clemson, SC, May 2008.

“Nutrient Flushes in Stormwater Runoff from Developing Catchments in an Upper Piedmont Watershed.” Laura K. Reid, Mark A. Schlautman, Tanju Karanfil, John Smink, John C. Hayes, Steve Klaine, Sule Kaplan and Meric Selbes, Proceedings of the American Water Works Association Annual Conference & Exposition, Atlanta, GA, June 2008.

Kelly, S.M., E.A. Mikhailova, C.J. Post, J.L. Sharp, S.K. Cox, and D.C. Guynn. 2009. Evaluation of nutritive value of *Pueraria montana* (kudzu) during the growing season. 106th Annual Meeting of Southern Association of Agricultural Scientists. Atlanta, GA, January 31-February 03.

“The Moore-Sikora Buffer for Lime Requirement Determinations.” F. J. Sikora, K. P. Moore. SSSAJ: Volume 72: Number 4. July – August 2008.