

Plant Disease Clinic Annual Report 2007



The University of Georgia
College of Agricultural and Environmental Sciences
Department of Plant Pathology
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Plant Disease Clinic Annual Report 2007

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INTRODUCTION

Ms. Jan Fowler and I present to you the 2007 Annual Plant Disease Clinic Report. Ms. Fowler helped compile the report from our diagnostic records and will continue to provide diagnostic service to the Cooperative Extension Service on a part-time basis through summer 2009.

There are two plant disease diagnostic clinics maintained by the Plant Pathology Department in The College of Agricultural and Environmental Sciences at the University of Georgia. Commercial turf, fruits, forage crops, greenhouse, ornamental nursery, and homeowner samples, are analyzed in the Plant Disease Clinic in Athens. Samples of commercial field crops, pecans, and vegetables are diagnosed at the Plant Disease Clinic in Tifton, GA. Diagnoses and management recommendations are returned to the county faculty. The clinics maintain a computerized database of samples and their diagnoses, and a reference library for use by Extension agents, specialists, researchers and students.

Extension Plant Pathology specialists also participate in digital plant diagnostics using the DDDI system. This system helps provide a more timely diagnosis and recommendation to a number of plant disease samples.

Some pathogens identified in the 'Crop Summaries' section are listed as both genus and species, whereas others are identified as the genus and "sp." Our plant disease clinic does not routinely identify plant pathogens to species because species identification is very time-consuming and often not necessary for management recommendations. In cases where only one species is known or where species are easily identifiable, the species of the pathogen is listed.

The following abbreviations are used throughout the summaries:

PDC: Plant Disease Clinic

C: Commercial

IPM: Homeowner IPM Clinic

H: Homeowner

TDTD: Too deteriorated to diagnose. This indicates that the plant sample submitted to the clinic was too deteriorated to properly diagnose.

LSREP: Lower stem, root or environmental problem. This diagnosis indicates that no pathogens were associated with the part of the plant submitted and that the origin of the problem either was occurring lower in the plant or was due to environmental/cultural conditions.

This report includes both physical samples submitted to the Plant Disease Clinics and results from analyses of digital samples submitted through the DDDI system. The DDDI database includes the samples contained herein and serves as a record keeping system for our diagnostic clinics (www.dddi.org/uga).

Addresses for submission of physical samples to the Plant Disease Clinics are:

Athens Clinic: Commercial turf, ornamentals, forestry, and fruits
Homeowner Samples

Address: Plant Disease Clinic
2106 Miller Plant Sciences Bldg.
Athens, GA 30602-4356

Tifton Clinic: Commercial vegetables, row crops, pecans

Address: Tifton Plant Disease Clinic
Room 116
4604 Research Way
Tifton, GA 31793

Information at preparation of samples for submission can be found at:
<http://plantpath.caes.uga.edu/extension/DiseaseLibrary.html>.

CLINIC SUMMARIES: 2007 PLANT SPECIMEN DIAGNOSES

Crop	Commercial Samples	Homeowner IPM Samples	Total
Field Crops	220	5	225
Vegetables	303	57	360
Fruits & Nuts	105	26	131
Herbaceous Ornamentals	87	47	134
Woody Ornamentals	148	91	239
Trees	80	84	164
Turf	400	195	595
Miscellaneous	7	8	15
Total*	1350	513	1863

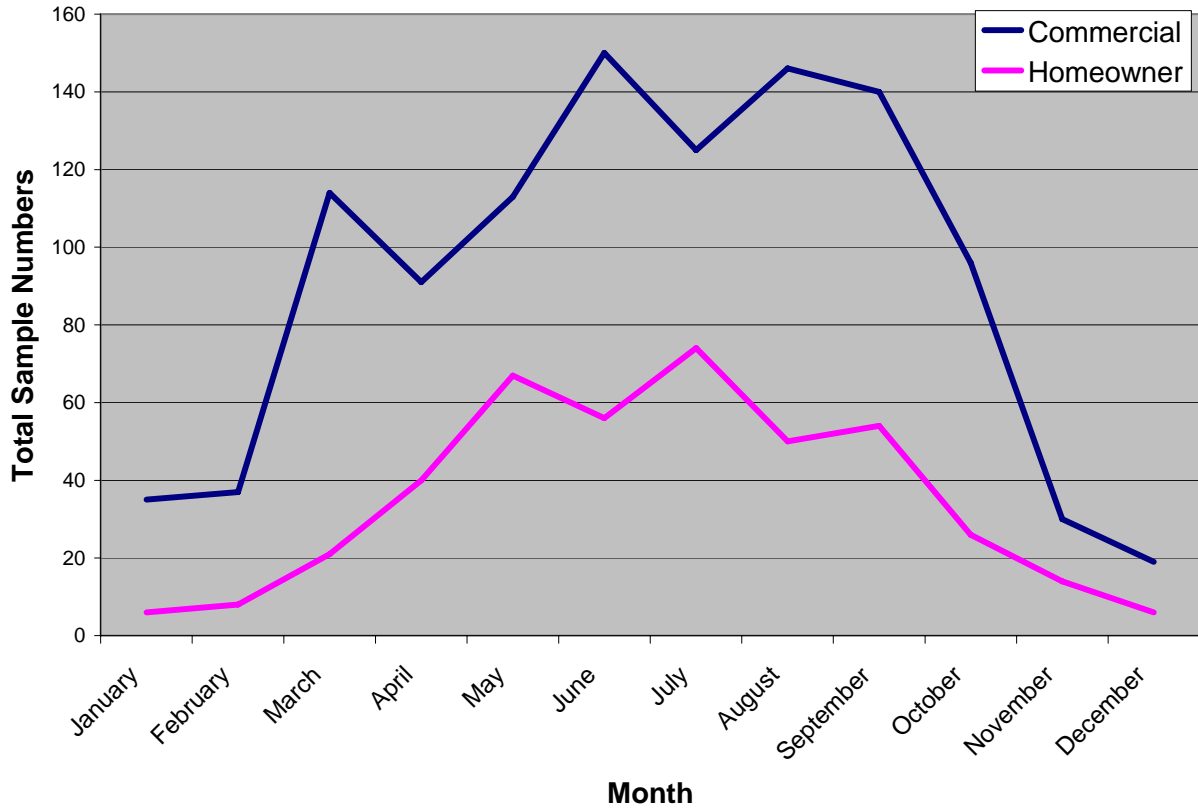
*The total number of diagnoses shown here is larger than the total number of samples received (shown by Monthly Sample Submission) because some samples have more than one problem or diagnosis.

The largest crop category received by the diagnostic clinics for both Commercial and Homeowner samples is turfgrass, followed by vegetables (Commercial) and Woody Ornamentals (Homeowner).

Monthly Sample Submission Summary 2007

Month	# Samples	
	Commercial	Homeowner
January	35	6
February	37	8
March	114	21
April	91	40
May	113	67
June	150	56
July	125	74
August	146	50
September	140	54
October	96	26
November	30	14
December	19	6
Total	1096	422

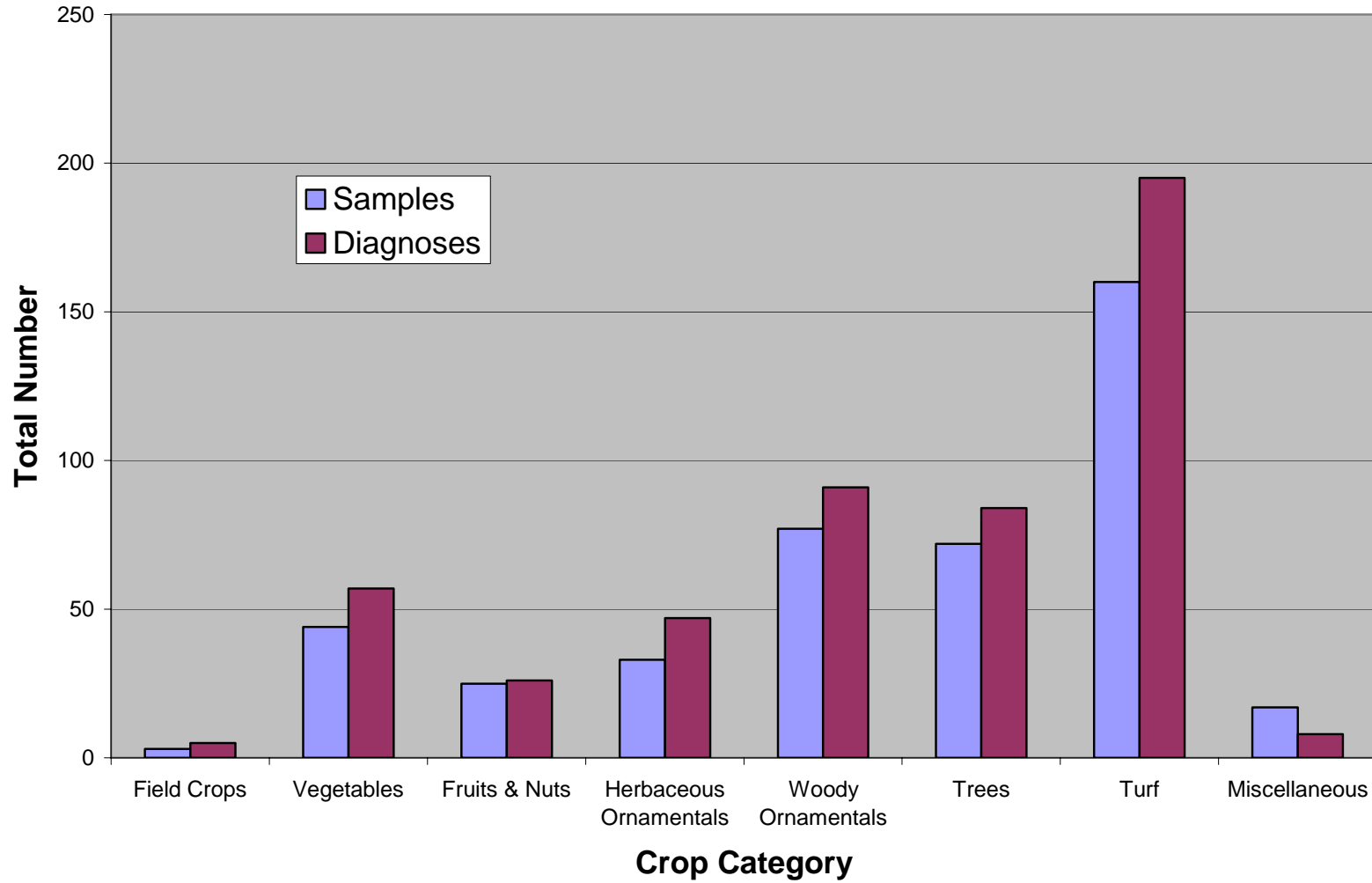
Monthly Sample Submission (Commercial & Homeowner)



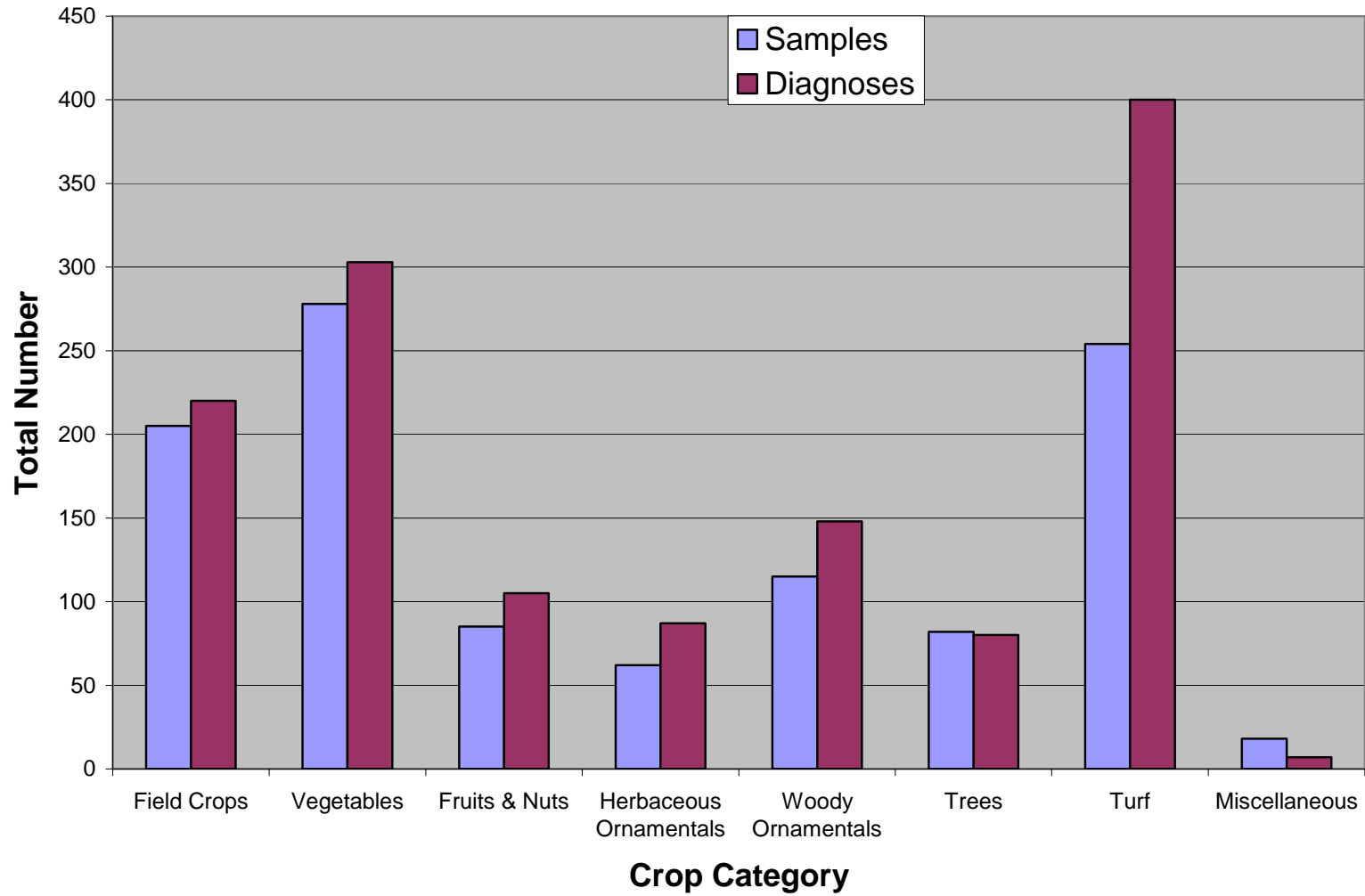
As is shown above, our busiest months in the diagnostic clinics are March and June through October. Sample numbers decrease dramatically during the winter months for obvious reasons.

Comparisons of the number of samples submitted to the clinic to the number of diagnoses made are shown below (pages 3-4) for both homeowner and commercial samples. The numbers oftentimes differ due to the fact that some plant samples have multiple pathogenic organisms contributing to the death of the plant. This is especially true for turfgrasses samples and diseases.

Homeowner IPM Samples & Diagnoses



Commercial Samples & Diagnoses



Distribution of HOMEOWNER Samples by County 2007

County	# of Samples
Appling	1
Atkinson	2
Bacon	1
Baker	4
Baldwin	2
Banks	1
Barrow	4
Bartow	9
Berrien	5
Bibb	31
Bryan	1
Burke	1
Camden	1
Candler	3
Carroll	13
Chatham	6
Cherokee	6
Clarke	21
Clayton	1
Cobb	5
Coffee	1
Columbia	3
Cook	1
Coweta	16
Crawford	1
Crisp	2
Dade	2
Decatur	2
DeKalb	6
Dooly	3
Dougherty	16
Douglas	2
Echols	2
Effingham	2
Elbert	1
Evans	1
Fannin	2
Fayette	28
Floyd	1
Forsyth	3
Franklin	1

County	# of Samples
Fulton	4
Gilmer	1
Glynn	1
Gordon	1
Grady	7
Greene	3
Gwinnett	17
Hall	1
Harris	8
Henry	5
Houston	2
Jackson	9
Jeff Davis	3
Jefferson	3
Jenkins	7
Johnson	1
Laurens	1
Lee	10
Lincoln	1
Long	2
Lowndes	2
Lumpkin	3
Macon	2
Madison	4
Miller	1
Mitchell	1
Monroe	20
Morgan	10
Muscogee	9
NA	4
Newton	7
Oconee	2
Paulding	2
Pickens	1
Pierce	8
Pulaski	3
Rabun	3
Randolph	1
Richmond	3
Rockdale	4
Schley	6

County	# of Samples
Stephens	4
Thomas	1
Toombs	4
Troup	2
Union	1
Upson	1
Walker	2
Walton	1
Ware	15
Webster	1
Whitfield	3
Wilkes	3

Distribution of COMMERCIAL Samples by County 2007

County	# of Samples
Appling	5
Atkinson	2
Bacon	17
Banks	1
Barrow	1
Bartow	2
Berrien	38
Bibb	5
Bleckley	1
Brantley	2
Brooks	1
Bulloch	10
Burke	18
Butts	1
Calhoun	2
Camden	3
Candler	1
Carroll	4
Catoosa	1
Chatham	5
Cherokee	3
Clarke	28
Clay	1
Clinch	7
Cobb	16
Coffee	15
Colquitt	13
Columbia	20
Cook	13
Coweta	3
Crisp	5
Dade	1
Dawson	2
Decatur	7
DeKalb	12
Dodge	8
Dooly	10
Dougherty	13
Douglas	5
Early	3
Echols	17

County	# of Samples
Effingham	8
Emanuel	11
Evans	7
Fayette	5
Floyd	8
Forsyth	10
Fulton	7
Gilmer	2
Glynn	1
Gordon	6
Grady	20
Gwinnett	8
Habersham	3
Hall	3
Harris	7
Hart	2
Henry	2
Houston	5
Irwin	9
Jasper	1
Jeff Davis	12
Jefferson	5
Jenkins	2
Lamar	7
Lanier	8
Laurens	7
Lee	2
Liberty	1
Lincoln	1
Lowndes	58
Lumpkin	2
Macon	18
Madison	2
Marion	1
McDuffie	48
Meriwether	1
Miller	19
Mitchell	11
Monroe	1
Montgomery	4
Morgan	12

County	# of Samples
NA	223
Newton	2
Oconee	13
Oglethorpe	1
Paulding	1
Peach	1
Pickens	1
Pierce	20
Polk	2
Pulaski	9
Quitman	1
Rabun	3
Randolph	1
Richmond	35
Rockdale	7
Schley	2
Screven	6
Seminole	11
Spalding	1
Stephens	1
Sumter	4
Tattnall	7
Telfair	2
Tift	23
Troup	1
Turner	12
Union	3
Walker	2
Walton	6
Ware	2
Washington	2
Wayne	5
Webster	7
Wheeler	5
White	1
Wilcox	15
Worth	11

Host	Disease	Causal Organism	# Samples
Clover C = 1 H = 2	Black/Sooty Blotch No disease Unknown		1 1 1
Corn C = 14 H = 0	Southern Corn Leaf Blight Southern Rust Ear Rot Smut No disease	<i>Bipolaris maydis</i> <i>Puccinia polysora</i> <i>Fusarium</i> sp. <i>Ustilago maydis</i> <i>Helminthosporium</i> sp.	2 2 2 1 1 6
Cotton C = 14 H = 0	Rhizoctonia Soreshin Fusarium Wilt Leaf spot Leaf spot No disease	<i>Rhizoctonia solani</i> <i>Rhizoctonia</i> sp. <i>Fusarium</i> sp. <i>Stemphylium</i> sp. <i>Alternaria</i> sp.	1 1 1 7 2 2
Fescue, Tall C = 2 H = 0	Rust	<i>Bipolaris</i> sp.	1 1
Grain, small C = 1 H = 0	Powdery Mildew		1
Millet C = 3 H = 0	Leaf Spot	<i>Pyricularia</i> sp.	3
Oat C = 5 H = 0	Virus No disease LSREP	Barley yellow dwarf	3 1 1

Host	Disease	Causal Organism	# Samples
Peanut C = 45 H = 0	Crown Rot	<i>Aspergillus</i> sp.	3
	Leaf Scorch	<i>Leptosphaerulina crassiasca</i>	1
	Limb Rot	<i>Rhizoctonia</i> sp.	1
	Early Leaf Spot	<i>Cercospora arachidicola</i>	3
	Late Leaf Spot	<i>Cercosporidium personatum</i>	1
	Funky Leaf Spot		1
	Virus	Tomato spotted wilt	7
	Collar Rot	<i>Diplodia</i> sp.	2
	White Mold	<i>Sclerotium rolfsii</i>	2
	Cylindrocladium Black Rot	<i>Cylindrocladium crotalariae</i>	1
	Nematode Damage	<i>Meloidogyne</i> sp.	1
	Unknown		2
		<i>Rhizoctonia</i> sp.	1
		<i>Neocosmospora</i> sp.	3
	<i>Rhizoctonia solani</i>	2	
	No disease	14	
Rye C = 3 H = 0	No disease		3
Sorghum C = 3 H = 0	Gray Leaf Spot	<i>Cercospora</i> sp.	1
		<i>Rhizoctonia</i> sp.	1
	No disease		1
Soybean C = 70 H = 1	Charcoal Rot	<i>Macrophomina</i> sp.	4
	Rust	<i>Phakopsora pachyrhizi</i>	1
	Bacterial Disease		1
	Downy Mildew	<i>Peronospora manshurica</i>	13
	Root Rot	<i>Rhizoctonia</i> sp.	1
	Stem Blight	<i>Phomopsis</i> sp.	1
	Wilt	<i>Fusarium</i> sp.	1
	Stem Canker/Lesion	<i>Phomopsis</i> / <i>Diaporthe</i> sp.	1
	White Mold	<i>Sclerotium rolfsii</i>	1
	Leaf Spot	<i>Cercospora</i> sp.	1
		<i>Neocosmospora</i> sp.	1
	No disease		41
	TDTD		1
Unknown		3	

Host	Disease	Causal Organism	# Samples
Tobacco C = 43 H = 0	Collar Rot	<i>Sclerotinia sclerotiorum</i>	2
	Brown Spot	<i>Alternaria</i> sp.	2
	Black Shank	<i>Phytophthora nicotianae</i> var.	6
	Black Shank Race-1	<i>parasitica</i>	
	Stem Rot	<i>Phytophthora nicotianae</i> var.	4
	Stalk Rot	<i>parasitica</i>	
	Virus	<i>Sclerotium rolsii</i>	1
	Virus	<i>Erwinia</i> sp.	1
		Tomato spotted wilt	6
		Tobacco mosaic	1
		<i>Rhizoctonia</i> sp.	1
		<i>Rhizoctonia solani</i>	5
		<i>Pythium</i> sp.	3
		<i>Pseudomonas</i> sp.	1
	No Disease	8	
	TDTD	1	
	LSREP	1	
Wheat C = 5 H = 0	Virus	Soil-borne wheat	1
	No Disease		2
	LSREP		2

Host	Disease	Causal Organism	# Samples
Collard C = 7 H = 3	Root Rot Nematode Damage Downy Mildew No Disease LSREP	<i>Pythium</i> sp. possible <i>Peronospora parasitica</i> <i>Alternaria</i> sp.	1 1 1 1 5 1
Corn, Sweet C = 8 H = 1	Common Rust Purple Sheath Northern Corn Leaf Blight No Disease Undetermined	<i>Puccinia sorghi</i> <i>Exserohilum turicum</i>	1 1 1 5 1
Cucumber C = 14 H = 0	Virus Gummy Stem Blight Downy Mildew Phytophthora Blight No Disease TDTD	Cucumber mosaic <i>Mycosphaerella citrullina</i> <i>Pseudoperonospora cubensis</i> <i>Pythium</i> sp. <i>Phytophthora capsici</i>	1 1 2 1 1 7 1
Eggplant C = 2 H = 0	Anthraco nose	<i>Phomopsis</i> sp.	1 1
Gourd C = 1 H = 0	Leaf Spot	<i>Alternaria</i> sp.	1
Greens, Mustard C = 1 H = 1	Leaf Spot LSREP	<i>Cercospora</i> sp.	1 1
Greens, Turnip Greens, Micro C = 7 H = 4	Virus Virus Root rot Leaf Spot No Disease LSREP TDTD	Gemini <i>Rhizoctonia</i> sp. <i>Cercospora</i> sp. <i>Pythium</i> sp. &/or <i>Phytophthora</i> sp.	1 1 1 2 1 2 1 2
Kale C = 0 H = 3	LSREP TDTD	<i>Pythium</i> sp. &/or <i>Rhizoctonia</i> sp.	1 1 1

Host	Disease	Causal Organism	# Samples
Okra C = 2 H = 0	Wilt	possible <i>Fusarium</i> sp.	1
	No Disease		1
Onion C = 11 H = 0	Stem Lesion	<i>Botrytis</i> sp.	1
	Leaf Blight	<i>Stemphylium</i> sp.	1
	Basal Plate Rot	<i>Fusarium</i> sp.	1
	Sour Skin	<i>Burkholderia cepacia</i>	1
	Neck Rot	<i>Botrytis</i> sp.	1
	Bacteria		1
		<i>Botrytis allii</i>	1
		probable <i>Pantoea</i> sp.	1
		probable <i>Erwinia</i> sp.	1
	No Disease TDTD		1
Parsley C = 0 H = 1	Crown Rot	<i>Sclerotinia sclerotiorum</i>	1
Pea C = 2 H = 2	Stems	<i>Rhizoctonia</i> sp.	1
	Stems	<i>Pythium</i> sp.	1
		<i>Fusarium</i> sp.	1
	Unknown		1
Pepper C = 33 H = 1	Virus	Tomato spotted wilt	2
	Fruit Rot	Possibly <i>Erwinia</i> sp.	1
	Leaf Spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i> (copper sensitive)	5
	Leaf Spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i> (copper insensitive)	1
	Stem Lesions	<i>Erwinia</i> sp.	1
	Anthraxnose		1
	Leaf Spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>	1
	Root and Stem Rot	Possibly <i>Pythium</i> sp.	3
	Roots	<i>Phytophthora</i> sp.	1
		<i>Pythium</i> sp.	5
		<i>Xanthomonas</i> sp.	3
	LSREP		1
	No Disease		7
	Unknown	Sunscald	1
TDTD		1	

Host	Disease	Causal Organism	# Samples
Potato, Irish C = 3 H = 1	Leaf Spot	Bacterial <i>Fusarium</i> sp. (possibly) <i>Erwinia</i> sp.	1 1 1 1
	No Disease		1
Pumpkin C = 0 H = 3	Blossom / Fruit Blight	<i>Choanephora</i> sp.	1
	Crown Decline		1
	No Disease		1
Rape C = 0 H = 1	Root rot	<i>Pythium</i> sp. &/or <i>Rhizoctonia</i> sp.	1
Spinach C = 2 H = 0	Root Rot	<i>Pythium</i> sp.	1
	Virus	Cucumber mosaic	1
Squash C = 5 H = 2	Virus	Squash mosaic	1
	Virus	Cucumber mosaic	1
	Phytophthora Blight	<i>Phytophthora capsici</i>	1
		<i>Xanthomonas</i> sp.	1
		<i>Pythium</i> sp.	1
	Downy Mildew	<i>Pseudoperonospora cubensis</i>	1
No Disease		2	
Tomato C = 42 H = 27	Leaf Mold	<i>Fulvia fulva</i>	1
	Early Blight	<i>Alternaria</i> sp.	1
	Leaf Spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>	2
	Virus	Tomato spotted wilt	22
	Virus	Cucumber mosaic	1
	Virus	Tobacco mosaic	1
	Virus (possibly)	Tomato yellow leaf curl	1
		<i>Pythium</i> sp.	2
		<i>Xanthomonas</i> sp.	2
	Blossom End Rot		3
	Cat Facing		1
	No Disease		20
	Unknown		5
	LSREP		2
	TDTD		3
	Insufficient Sample		2

Host	Disease	Causal Organism	# Samples
Unknown Multiple Samples C = 0 H = 1	No Disease	Herbicide Damage	1
Watermelon C = 115 H = 1	Gummy Stem Blight Fruit Blotch Fusarium Wilt (probable) Virus Nematode Damage Crown Decline Powdery Mildew Virus Cottony Leak No Disease Unknown Insufficient Sample	<i>Mycosphaerella citrullina</i> <i>Acidovorax avenae</i> subsp. <i>citrulli</i> <i>Fusarium</i> sp. Poty <i>Meloidogyne</i> sp. <i>Pythium</i> sp. <i>Fusarium</i> sp. <i>Erwinia</i> sp. <i>Rhizoctonia solani</i> <i>Pythium</i> sp.	3 19 17 3 1 2 4 1 1 3 1 1 2 56 1 1
Zucchini C = 1 H = 0	Downy Mildew	<i>Pseudoperonospora cubensis</i>	1

FRUITS AND NUTS

(Total # Diagnoses: C = 105; H= 26)

Diagnostic Responsibilities: Athens Clinic – Fruit (Commercial & Homeowner)
 Tifton Clinic – Commercial Nuts
 Athens Clinic – Homeowner Nuts

Host	Disease	Causal Organism	# Samples
Apple C = 3 H = 4	White Rot	<i>Botryosphaeria</i> sp.	1
	Bot Canker	<i>Botryosphaeria</i> sp.	1
	Leaf Spot	<i>Botryosphaeria</i> sp.	1
	Galling	Unknown	1
		<i>Alternaria</i> sp.	1
	No disease		2
Blackberry C = 6 H = 4	Cane Blotch	<i>Cephaleuros virescens</i>	1
	Fire Blight	<i>Erwinia amylovora</i>	1
	White Rot		1
	Cane & Leaf Rust	<i>Kuehneola uredinis</i>	2
	Virus	Tomato ringspot	1
		<i>Fusicoccum</i> sp.	1
	No Disease		1
Unknown		2	
Blueberry C = 56 H = 2	Twig Blight	<i>Phomopsis</i> sp.	1
	Root Rot	<i>Pythium</i> sp.	4
	Canker	<i>Sphaeropsis</i> sp.	1
	Root Rot	<i>Phytophthora</i> sp.	2
	Root Rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	Root Rot		4
		<i>Rhizoctonia</i> sp.	1
		<i>Pythium</i> sp.	4
		<i>Phytophthora</i> sp.	3
		<i>Pythium</i> & <i>Phytophthora</i> sp.	1
		<i>Alternaria</i> sp.	1
		<i>Phyllosticta</i> sp.	1
	Xyellela (questionable)	(<i>Xyellela fastidiosa</i>)	1
	No Disease		5
	Unknown		13
LSREP		15	
Cherry C = 0 H = 1	Shot Hole	<i>Blumeriella jaapi</i>	1

Host	Disease	Causal Organism	# Samples
Citrus C = 3 H = 1	No Disease No sample sent	<i>Cercospora</i> sp.	1 2 1
Fig C = 0 H = 3	Anthrachnose Secondary Organisms LSREP		1 1 1
Grape, wine C = 5 H = 1	Bitter Rot No Disease	<i>Melanconium fuligineum</i> <i>Botrytis</i> sp.	1 1 4
Muscadine C = 2 H = 1	Root Rot No Disease	<i>Pythium</i> sp. <i>Phytophthora</i> sp.	1 1 1
Peach C = 1 H = 1	Brown Rot No Disease	<i>Monilinia fructicola</i>	1 1
Pear, Pineapple C = 0 H = 1	LSREP		1
Pecan C = 5 H = 0	Unknown No Disease		2 3
Persimmon C = 3 H = 0	Leaf Spot No Disease Unknown	<i>Cercospora</i> sp.	1 1 1
Plum C = 0 H = 3	Canker Shot Hole LSREP	<i>Blumeriella jaapi</i>	1 1 1
Pomegranate C = 2 H = 3	Fruit Rot Heart Rot LSREP	<i>Pestalotia</i> sp.	2 1 1 1
Ribes C = 0 H = 1	LSREP		1

Host	Disease	Causal Organism	# Samples	
Strawberry C = 19 H = 0	Leaf Spot	<i>Mycosphaerella</i> sp.	1	
	Root Rot	<i>Phytophthora</i> sp.	2	
	Root Rot	<i>Pythium</i> sp.	1	
	Root Rot		1	
	Crown Rot	<i>Phytophthora</i> sp.	2	
	Leaf Spot, bacterial	<i>Xanthomonas</i> sp.	1	
	Root & Crown Rot	<i>Rhizoctonia</i> sp.	1	
	Seedling & Basal Stem Rot	<i>Rhizoctonia</i> sp.	1	
	Rot		1	
	Anthracnose (Possible)		<i>Phomopsis</i> sp.	2
			<i>Pythium</i> sp.	1
			<i>Botrytis</i> sp.	1
		<i>Phytophthora</i> sp.	1	
	No Disease		2	
LSREP		1		

HERBACEOUS ORNAMENTALS

(Total # Diagnoses: C = 87; H = 47)

Diagnostic Responsibilities: Athens Clinic – All Samples (Commercial & Homeowner)

Host	Disease	Causal Organism	# Samples
Agapanthus C = 1 H = 0	Soft Rot, bacterial	<i>Erwinia carotovora</i>	1
Agalinis C = 1 H = 0	No Disease		1
Ajuga C = 2 H = 0	Crown & Root Rot Crown Rot	<i>Phoma</i> sp. <i>Phoma</i> sp.	1 1
Amaryllis C = 0 H = 1	No Disease		1
Argyranthemum C = 1 H = 0	Crown Gall	<i>Agrobacterium tumefaciens</i>	1
Acorus C = 0 H = 1	No Disease		1
Begonia C = 2 H = 2	Stem & Root Rot Root Rot No Disease	<i>Fusarium</i> sp. <i>Pythium</i> sp. <i>Pythium</i> sp.	1 1 1 1
Bromeliad C = 0 H = 1	Insufficient Sample		1
Cactus C = 0 H = 3	Sooty Mold No Disease LSREP		1 1 1
Calibrochoa C = 1 H = 0		<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1

Host	Disease	Causal Organism	# Samples
Callicarpa C = 1 H = 0	No Disease		1
Clematis C = 0 H = 1	No Disease		1
Chrysanthemum C = 6 H = 0	Root Rot Stem Rot No Disease	<i>Pythium</i> sp. <i>Fusarium</i> sp.	2 1 3
Coleus C = 0 H = 1	Downy Mildew	<i>Peronospora</i> sp.	1
Dahlia C = 1 H = 0	Stem Rot	<i>Rhizoctonia</i> sp.	1
Daylily C = 2 H = 1	Crown Rot Root Rot No Disease	<i>Rhizoctonia</i> sp. <i>Pythium</i> sp. & <i>Fusarium</i> sp.	1 1 1
Euphorbia C = 1 H = 0	Root Rot	<i>Pythium</i> sp.	1
Fern C = 1 H = 2	No Disease		3
Geranium C = 2 H = 0	No Disease		2
Helleborus C = 1 H = 2	Crown Rot Downy Mildew	<i>Phytophthora</i> sp. <i>Peronospora pulveracea</i> <i>Cladosporium</i> sp.	1 1 1
Heuchera C = 2 H = 0	Root Rot No Disease	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1 1
Hollyhock C = 0 H = 2	Rust	<i>Puccinia malvacearum</i>	2

Host	Disease	Causal Organism	# Samples
Hosta C = 14 H = 0	Anthraco	<i>Colletotrichum</i> sp.	1
	Virus	Tomato spotted wilt	1
	Virus	Hosta virus X	6
	No Disease		6
Houseplants, misc. C = 0 H = 1	No Disease		1
Impatiens C = 6 H = 0	Crown Rot	<i>Rhizoctonia</i> sp.	1
	Root Rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1
	Nematode Damage	<i>Meloidogyne</i> sp.	1
	No Disease		3
Iris C = 2 H = 3	Leaf Spot	<i>Heterosporium iridis</i>	1
	Virus	Tobacco ringspot	1
	Virus	Poty	1
	Virus	possible	1
	LSREP		1
Ivy C = 1 H = 5	Leaf spot, bacterial	<i>Xanthomonas campestris</i> pv. <i>hedera</i>	1
	Anthraco		1
	Root Rot	<i>Colletotrichum</i> sp.	1
		<i>Phytophthora</i> sp.	1
		<i>Macrophoma</i> sp.	1
		<i>Pythium</i> sp.	1
Clamp Fungi		1	
Kalanchoe C = 1 H = 0	No Disease		1
Kale, Ornamental C = 1 H = 0	Wire Stem	<i>Rhizoctonia</i> sp.	1
Liriope C = 7 H = 2	Crown Rot	<i>Fusarium</i> sp.	2
	Anthraco	<i>Colletotrichum</i> sp.	2
	Crown Rot	<i>Fusarium</i> sp. & <i>Rhizoctonia</i> sp.	1
	Crown Rot	<i>Phytophthora palmivora</i>	1
	Root Rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	No Disease		2
Miscanthus C = 0 H = 1	No Disease		1

Host	Disease	Causal Organism	# Samples
Mondo Grass C = 2 H = 0	Anthraxnose No Disease	<i>Colletotrichum</i> sp.	1 1
Monkey Face C = 0 H = 1	No Disease		1
Orchid C = 4 H = 0	Crown & Root Rot Root Rot Root Rot No Disease	<i>Fusarium</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. <i>Pythium</i> sp.	1 1 1 1
Osteospermum C = 1 H = 0	Crown Rot	<i>Rhizoctonia</i> sp.	1
Pachysandra C = 0 H = 3	Stem Lesion Leaf Spot Unknown	<i>Rhizoctonia</i> sp. <i>Volutella</i> sp.	1 1 1
Panicum C = 1 H = 0	Leaf Rust	<i>Puccinia</i> sp.	1
Pansy C = 5 H = 1	Crown & Stem Rot Black Root Rot No Disease	<i>Botrytis</i> sp. <i>Thielaviopsis</i> sp.	1 2 3
Penta C = 2 H = 0	Root Rot No Disease	<i>Phytophthora</i> sp.	1 1
Petunia C = 1 H = 3	Blight Root Rot	<i>Botrytis</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. <i>Rhizoctonia</i> sp. <i>Pythium</i> sp.	1 1 1 1
Phlox C = 1 H = 0	No Disease		1
Poinsettia C = 3 H = 0	Stem Rot No Disease	<i>Phytophthora</i> sp.	1 2

Host	Disease	Causal Organism	# Samples
Sansevieria C = 1 H = 0	Crown Rot	<i>Fusarium</i> sp.	1
Sarracenia C = 2 H = 0	No Disease	<i>Penicillium</i> sp.	1 1
Scaveola C = 1 H = 0	Root Rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
Schefflera C = 0 H = 1	Bacterial or viral	possible	1
Snapdragon C = 1 H = 1	Rust Root Rot	<i>Puccinia</i> sp. <i>Pythium</i> sp.	1 1
Streptocarpus C = 2 H = 0	No Disease		2
Tulip C = 0 H = 3	LSREP	<i>Botrytis</i> sp. <i>Penicillium</i> sp. Cold Damage	1 1 1
Thrift C = 0 H = 1	Web Blight	<i>Rhizoctonia</i> sp.	1
Verbena C = 1 H = 0	No Disease		1
Vinca C = 2 H = 1	Black Root Rot Root & Stem Rot No Disease	<i>Thielaviopsis</i> sp.	1 1 1
Zinnia C = 0 H = 3	Stem Rot Root Rot Virus	<i>Alternaria</i> sp. <i>Pythium</i> sp. Tomato spotted wilt	1 1 1

TREES

(Total # Diagnoses: C = 80; H= 84)

Diagnostic responsibilities: Athens Clinic – All Samples (Commercial & Homeowner)

Host	Disease	Causal Organism	# Samples
Birch C = 1 H = 0	LSREP		1
Cedar, Deodara C = 1 H = 0	LSREP		1
Cherry C = 0 H = 2	LSREP Unknown		1 1
Conifer C = 0 H = 1	LSREP		1
Cordyline C = 1 H = 0	No Disease		1
Crape Myrtle C = 1 H = 3	Sooty Mold No Disease LSREP		1 1 2
Cryptomeria C = 15 H = 16	Twig Blight Bot Canker Secondary Organisms No Disease LSREP	<i>Cercosporidium</i> sp. <i>Fusicoccum</i> sp. <i>Colletotrichum</i> sp. <i>Alternaria</i> sp.	1 1 1 1 4 16 7
Cypress, Leyland C = 11 H = 8	Canker Root Rot Root Rot Needle Blight Bot Canker No Disease LSREP	<i>Seiridium</i> or Bot (possible) <i>Pythium</i> sp. <i>Cercosporidium</i> sp. <i>Sphaeropsis</i> sp.	5 1 1 2 1 8 1

Host	Disease	Causal Organism	# Samples
Cupressus C = 1 H = 0	No Disease		1
Dogwood C = 0 H = 2	No Disease LSREP		1 1
Ehretia C = 1 H = 0	No Disease		1
Fagus C = 0 H = 1	Heart/Root Rot &/or Slime Flux		1
Ficus C = 1 H = 0	Leaf spot	<i>Corynespora</i> sp.	1
Hardwoods, Misc. C = 0 H = 2		Algae Bacteria	1 1
Hemlock C = 0 H = 1	No Disease		1
Magnolia C = 9 H = 5	Algal Leaf Spot Powdery Mildew Root & Stem Rot No Disease LSREP LSREP Unknown	<i>Cephaleuros</i> sp. <i>Fusarium</i> sp. Transplant Shock	2 2 1 5 1 2 1
Maple C = 14 H = 15	Tar Spot Leaf Spot Anthracnose Leaf Spot Bot Canker Root Rot No Disease LSREP Unknown	<i>Rhytisma</i> sp. bacterial <i>Gloeosporium</i> sp. <i>Cristulariella</i> sp. <i>Sphaeropsis</i> sp. <i>Phytophthora</i> sp. Coenocytic hyphae	2 1 1 1 1 1 1 17 3 1

Host	Disease	Causal Organism	# Samples
Metasequoia C = 1 H = 0	Charcoal rot	<i>Macrophomina phaseoli</i>	1
Myrtle C = 1 H = 0	No Disease		1
Oak C = 7 H = 13	Canker Canker Leaf Spot Wetwood No Disease LSREP LSREP Sample Sent Forward	<i>Endothiella</i> sp. <i>Nectria</i> sp. <i>Phyllosticta</i> sp. bacterial <i>Cordyceps</i> spp. Lightning damage To Entomology	1 1 1 1 1 7 1 6 1
Palm C = 2 H = 1	LSREP No Disease	<i>Pythium</i> sp. Transplant Shock	1 1 1
Pear C = 0 H = 2	No Disease LSREP		1 1
Pine C = 5 H = 3	Crown Rot Root Rot Root Rot No Disease LSREP	<i>Pythium</i> sp. <i>Phytophthora</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. Algae Bacteria Air Pollution	1 1 1 1 1 3 1
Poplar C = 0 H = 2	LSREP Unable to Diagnose		1 1
Prunus C = 1 H = 0	No Disease		1
Redbud C = 0 H = 1	No Disease		1

Host	Disease	Causal Organism	# Samples
Spruce C = 0 H = 2	LSREP	<i>Calonectria</i> sp.	1 1
Thuja C = 5 H = 1	Bot Canker Root Rot Needle Blight No Disease LSREP	<i>Botryosphaeria</i> sp. <i>Cercosporidium</i> sp.	1 1 1 2 1
Unknown C = 1 H = 2	No Disease Unable to Diagnose		2 1
Vitex C = 1 H = 0	Root & Crown Rot	<i>Phytophthora</i> sp. & <i>Rhizoctonia</i> sp.	1
Yew C = 0 H = 1	LSREP		1

WOODY ORNAMENTALS

(Total # Diagnoses: C = 148; H = 91)

Diagnostic Responsibilities: Athens Clinic – All Samples (Commercial & Homeowner)

Host	Disease	Causal Organism	# Samples
Althea C = 1 H = 0	No Disease		1
Arborvitae C = 5 H = 1	Root Rot No Disease	<i>Phytophthora</i> sp.	1 5
Aucuba C = 3 H = 1	Anthraxnose No Disease LSREP		1 1 2
Azalea C = 15 H = 5	Dieback Root rot Root Decline Powdery Mildew Root Rot Root Rot Anthraxnose Anthraxnose Root Rot Leaf Spot No Disease LSREP	<i>Botryosphaeria</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp. Unknown Fungi <i>Microsphaera azaleae</i> <i>Pythium</i> sp. <i>Phytophthora</i> sp. <i>Colletotrichum</i> sp. <i>Gloeosporium</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. Basidiomycete <i>Cylindrocladium</i> sp.	1 3 1 1 2 1 1 1 1 1 1 4 2
Barberry C = 1 H = 0	TDTD		1
Bougainvillea C = 0 H = 1	No Disease		1

Host	Disease	Causal Organism	# Samples
Boxwood C = 8 H = 8	Volutella Blight Root Rot Boxwood Decline Root Rot Root Rot No disease Unknown	<i>Volutella buxi</i> <i>Pythium</i> sp. <i>Phytophthora</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp.	4 2 1 1 2 5 1
Camellia C = 18 H = 10	Bot Canker Leaf Spot Root Rot Anthracnose Leaf Spot Dieback Leaf Gall No Disease LSREP Unknown	<i>Botryosphaeria</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. <i>Gloeosporium</i> sp. <i>Phyllosticta</i> sp. <i>Leptosphaeria</i> sp. <i>Exobasidium</i>	1 1 1 1 1 1 1 17 3 1
Chamaecyparis C = 0 H = 2	Twig Blight No Disease	<i>Phomopsis</i> sp.	1 1
Chionanthus C = 0 H = 1	Slime Flux/ Wetwood		1
Cleyera C = 1 H = 1	No Disease		2
Daphne C = 0 H = 1	No Disease		1
Duranta C = 0 H = 1	Slime Mold		1
Elaeagnus C = 2 H = 0	Trunk Rot No Disease	<i>Phytophthora cactorum</i>	1 1
Euonymus C = 1 H = 1	Slime Mold No Disease		1 1

Host	Disease	Causal Organism	# Samples
Illicium C = 4 H = 0	Leaf Spot	<i>Cercospora</i> sp.	1
	Leaf Spot	<i>Gloeosporium</i> sp.	1
	Bot Canker	<i>Sphaeropsis</i> sp.	1
	No Disease		1
Jasmine C = 2 H = 4	Leaf Spot, Bacterial	(Possible)	1
	Southern Blight	<i>Sclerotium rolfsii</i>	1
	Root Rot	<i>Pythium</i> sp.	1
	Root Rot	<i>Rhizoctonia</i> sp.	1
	LSREP	<i>Rhizoctonia</i> sp. (Possible)	1
Juniper C = 6 H = 6	Aerial Blight	<i>Rhizoctonia</i> sp.	1
		<i>Verticillium</i> sp.	1
	Root Rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	Twig Blight	<i>Pestalotia</i> sp.	1
	Canker (Possible)		1
	No Disease		5
	LSREP		1
Unknown		1	
Kolkwitzia C = 1 H = 0	Root Rot	<i>Pythium</i> sp.	1
Hypericum C = 2 H = 0	Black Root Rot	<i>Thielaviopsis</i> sp.	1
	Root Rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1
Lantana C = 1 H = 1	Nematode Damage	<i>Meloidogyne</i> sp.	1
	No Disease		1
Laurel, Cherry C = 0 H = 2	Black Root rot	<i>Thielaviopsis basicola</i>	1
	Shot Hole	<i>Scolytus rugulosus</i>	1
Lavandula C = 1 H = 0	Root Rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1
Leucothoe C = 1 H = 2	Root Rot	<i>Pythium</i> sp.	1
	Powdery Mildew	<i>Erysiphe vaccinii</i>	1
	LSREP		1

Host	Disease	Causal Organism	# Samples
Ligustrum C = 4 H = 3	Leaf spot Wood rotting fungi Sooty Mold No Disease LSREP	<i>Cercospora</i> sp. <i>Armillaria</i> sp.	1 1 1 3 1
Loropetalum C = 1 H = 0	TDTD		1
Mahonia C = 1 H = 0	Root Rot	<i>Pythium</i> sp.	1
Nandina C = 3 H = 0	Stem & Root Rot Root Rot Leaf Spot	<i>Rhizoctonia</i> sp. <i>Pythium</i> sp. <i>Cercospora</i> sp.	1 1 1
Physocarpus C = 1 H = 0	No Disease		1
Pieris C = 2 H = 0	Black Root Rot Root Rot	<i>Thielaviopsis basicola</i> <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1 1
Pittosporum C = 1 H = 0		Coenocytic hyphae	1
Rhaphiolepis C = 3 H = 3	Leaf Spot Leaf Spot Root Rot No Disease TDTD	<i>Entomosporium</i> sp. <i>Cercospora</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp.	2 1 1 1 1
Rhododendron C = 2 H = 2	Root Rot No Disease		1 3

Host	Disease	Causal Organism	# Samples
Rose C = 12 H = 9	Root Rot	<i>Armillaria</i> (possible)	1
	Black Spot	<i>Marssonina rosea</i>	2
	Leaf Spot	<i>Cercospora</i> sp.	1
	Wilt	<i>Verticillium dahliae</i>	2
	Root Rot	<i>Rhizoctonia</i> sp.	1
	Root Rot	<i>Phytophthora</i> sp.	1
	Downy Mildew	<i>Peronospora sparsa</i>	1
		<i>Alternaria</i> sp.	1
	No Disease		7
	LSREP		3
Unknown		1	
Spirea C = 0 H = 1	TDTD		1
Tea Olive C = 1 H = 0	No Disease		1
Unknown C = 0 H = 2	No Disease		1
	LSREP	Transplant shock	1
Viburnum C = 6 H = 3	Root Rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	No Disease		7
	LSREP		1

TURF & FORAGE GRASSES

(Total # Diagnoses: C = 400; H = 195)

Diagnostic Responsibilities: Athens Clinic – all samples (Commercial & Homeowner)

Host	Disease	Causal Organism	# Samples
Bentgrass C = 80 H = 0	Anthracnose (basal rot)	<i>Colletotrichum</i> sp.	23
	ETRI		2
	ETRI	<i>Magnaporthe poae</i> or GGG	3
	Summer Patch	<i>Magnaporthe</i> sp.	1
		<i>Pythium</i> sp.	21
		<i>Rhizoctonia</i> sp.	8
		Algae	3
		GGG	1
	Nematode Damage	Suspect or recommend check	8
	Sulfides/Anaerobic Conditions		5
No Disease		5	
Bermuda C = 88 H = 23	Brown Patch	<i>Rhizoctonia</i> sp.	3
	Large Patch	<i>Rhizoctonia</i> sp.	4
	Rust	<i>Puccinia</i> sp.	2
	ETRI		7
	Take-all	GGG	24
	Dollar Spot	<i>Sclerotinia homeocarpa</i>	1
	SDS	(possible)	1
	Bermuda Decline		3
	Rust	<i>Puccinia cynodontis</i>	1
		<i>Helminthosporium</i> sp.	4
		<i>Pythium</i> sp.	12
		<i>Rhizoctonia</i> sp.	16
		<i>Bipolaris</i> sp.	9
		<i>Colletotrichum</i> sp.	3
		<i>Curvularia</i> sp.	4
		<i>Cladosporium</i> sp.	1
	<i>Sclerotinia homeocarpa</i>	1	
Saprophyte		1	
No Disease		9	
Insufficient Sample		1	
TDTD		4	
Bluegrass C = 0 H = 1	ETRI		1

Host	Disease	Causal Organism	# Samples
Centipede C = 66 H = 57	Take-all	GGG	42
	Fairy Ring	(possible)	10
	Large Patch	<i>Rhizoctonia</i> sp.	5
	ETRI		2
	Root Rot	<i>Rhizoctonia</i> sp.	2
	Gray Leaf Spot	<i>Pyricularia</i> sp.	1
	Anthracnose	<i>Colletotrichum</i> sp.	1
	Fairy Ring		1
		<i>Curvularia</i> sp.	7
		<i>Colletotrichum</i> sp.	4
		<i>Rhizoctonia</i> sp.	17
		<i>Bipolaris</i> sp.	2
		<i>Pythium</i> sp.	4
		Clamp Fungi	1
	No Disease	21	
	LSREP	1	
	Insufficient Sample	1	
	TDTD	1	
Fescue C = 8 H = 4	Brown Patch	<i>Rhizoctonia</i> sp.	1
	ETRI		1
	Nematode Damage		1
		<i>Rhizoctonia</i> sp.	2
		<i>Pythium</i> sp.	3
		<i>Colletotrichum</i> sp.	1
	No Disease	2	
	Unable to Diagnose	1	
Grass C = 1 H = 16	Rust	<i>Puccinia</i> sp.	1
	Take-all	GGG	8
	Anthracnose	<i>Gloeosporium</i> sp.	1
	Large Patch	<i>Rhizoctonia</i> sp.	1
		<i>Rhizoctonia</i> sp.	1
		<i>Curvularia</i> sp.	3
		No Disease	1
	TDTD	1	
Greens C = 28 H = 0	Summer Patch		2
	ETRI		3
		<i>Rhizoctonia</i> sp.	3
		<i>Pythium</i> sp.	12
		<i>Magnaporthe poae</i>	3
		<i>Colletotrichum</i> sp.	4
	Nematode Damage	1	

Host	Disease	Causal Organism	# Samples
Lawn C = 0 H = 7	Earth Stars	Gasteromycetes	1
	Take-all	GGG	2
		<i>Drechslera</i> sp.	1
		Clamp Fungi	1
	No Disease LSREP		1
Paspalum, Seashore C = 16 H = 0	Anthracnose	<i>Rhizoctonia</i> sp.	1
		GGG	7
		<i>Curvularia</i> sp.	4
		<i>Bipolaris</i> sp.	1
Ryegrass C = 2 H = 0		<i>Pythium</i> sp.	3
St. Augustine C = 50 H = 49	Take-all	GGG	61
	Slime Mold		1
	Root Rot	<i>Pythium</i> sp.	1
	Root Rot	<i>Rhizoctonia</i> sp.	1
	Large Patch	<i>Rhizoctonia</i> sp.	4
	ETRI-mycelium		1
	Anthracnose	<i>Colletotrichum</i> sp.	2
	Fairy Ring		2
		<i>Curvularia</i> sp.	5
		<i>Bipolaris</i> sp.	3
		<i>Pythium</i> sp.	4
		<i>Rhizoctonia</i> sp.	7
		<i>Drechslera</i> sp.	1
		Fungal mass	1
No Disease Unable to Determine Insufficient Sample		3	
		1	
		2	
Sod C = 1 H = 0		Basidiomycete	1

Host	Disease	Causal Organism	# Samples
Turf C = 3 H = 9	Large Patch Take-all	<i>Rhizoctonia</i> sp.	3
		GGG	4
	Nematode Damage No Disease	<i>Curvularia</i> sp.	1
		<i>Pythium</i> sp.	1
		(Suspect)	1
3			
Unknown C = 0 H = 2	Take-all	GGG	1
		<i>Curvularia</i> sp.	1
Zoysia C = 57 H = 27	Large Patch Rust Take-all ETRI Root Rot Fairy Ring	<i>Rhizoctonia</i> sp.	5
		<i>Puccinia zoysia</i>	2
		GGG	12
		<i>Pythium</i> sp.	3
			2
		<i>Rhizoctonia</i> sp.	5
		<i>Bipolaris</i> sp.	11
		<i>Curvularia</i> sp.	6
		<i>Colletotrichum</i> sp.	8
		<i>Rhizoctonia solani</i>	3
	<i>Pythium</i> sp.	1	
	Clamp Fungi	2	
	Stress Fungi	1	
	1		
	No Disease		17
	Unknown		1
	Insufficient Sample		1
TDTD		3	

MISCELLANEOUS

(Total Diagnoses: C = 7; H = 8)

Host	Disease	Causal Organism	# Samples
Fungal ID C = 1 H = 2	Conk Mushroom Id of fungi on soil surface	Wood Rot Fungi <i>Fuligo septica</i> <i>Chromelosporium</i> sp.	1 1 1
Misc. Unknown C = 6 H = 4	Various cuttings Unknown Wood Leaf Spot No Disease Unknown TDTD	LSREP Cold/Drought Stress Insect galls <i>Stemonitis</i> sp. <i>Cercospora</i> sp.	1 1 1 4 1 1 1
Plant ID C = 0 H = 2	Plant ID Plant ID	<i>Zoysia</i> sp. <i>Sida rhombifolia</i>	1 1

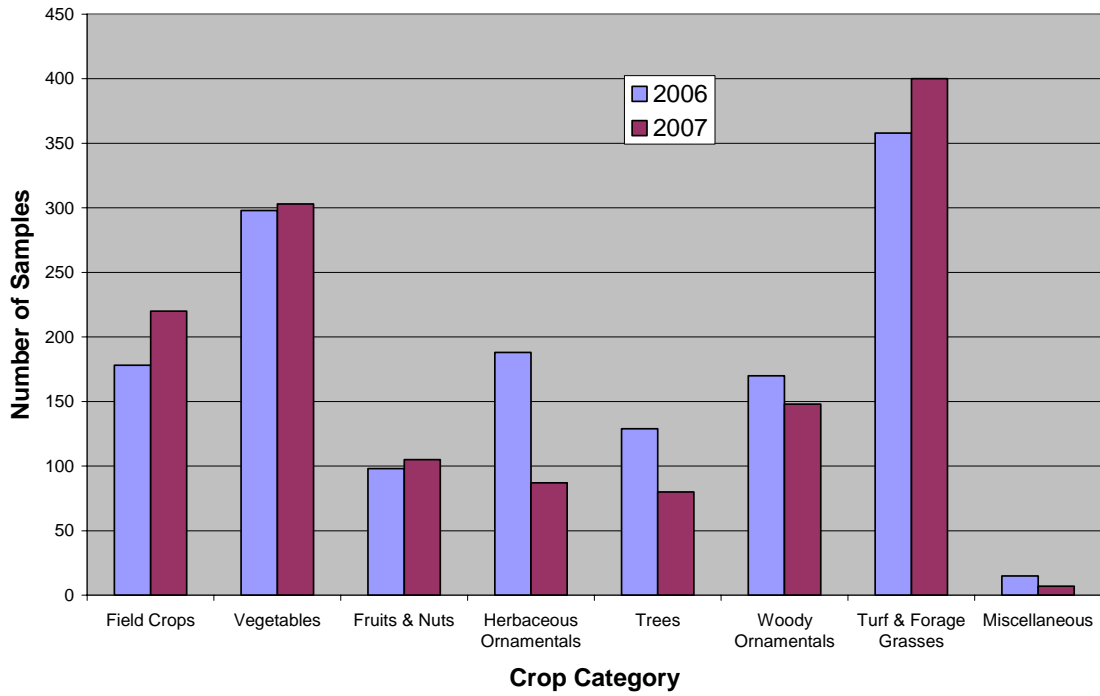
Lastly, I decided to compare sample numbers for the last two years that I have been employed as the diagnostician (2006-07). I made several comparisons (shown below):

- 2006 vs. 2007 numbers by crop category for commercial samples
- 2006 vs. 2007 numbers by crop category for homeowner samples
- 2007 numbers of Commercial vs. Homeowner samples.

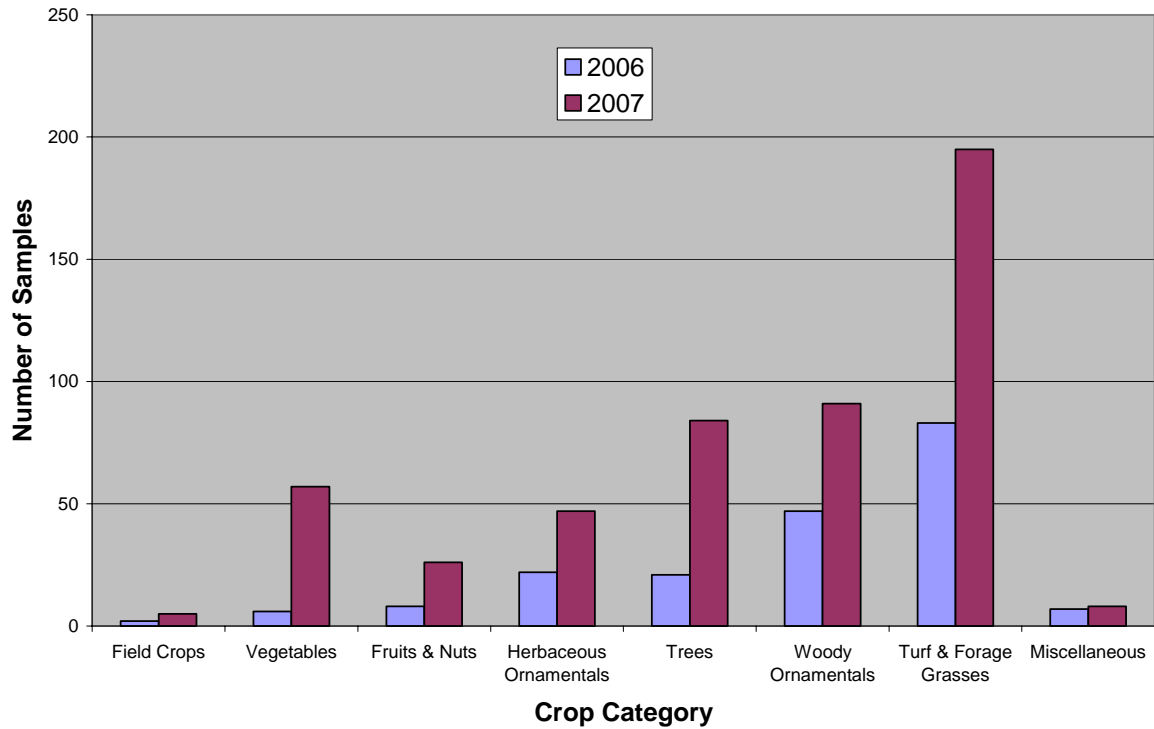
It is interesting to see which sample categories have increased or decreased over the last two years. For instance, commercial herbaceous ornamental samples decreased by half from 2006 to 2007. Could this be a factor of the severe drought? On the other hand, turfgrass sample submission has increased over the last year.

In addition, homeowner sample numbers have really 'bounced' back from 2006 (when the diagnostic clinic was closed for over half the year) in almost every crop category.

2006 vs. 2007 Commerical Sample Totals



2006 vs. 2007 Homeowner Sample Totals



2007 Commercial vs. Homeowner Sample Numbers

