

Plant Disease Clinic Annual Report 2006



The University of Georgia
College of Agricultural and Environmental Sciences
Department of Plant Pathology
Compiled by Jan Fowler and Holly Thornton

Plant Disease Clinic Annual Report 2006

Table of Contents

Introduction.....	ii
Plant Disease Clinic Summaries	
Plant Sample Diagnoses.....	1
Monthly Sample Submission.....	1
Homeowner Samples and Diagnoses (Graph).....	3
Commercial Samples and Diagnoses (Graph).....	4
Commercial Sample Submission by County.....	5
Homeowner Sample Submission by County.....	7
Summary of Diagnoses by Crop	
Field Crop.....	8
Vegetable.....	11
Fruits & Nuts.....	16
Herbaceous Ornamentals.....	19
Tree.....	25
Woody Ornamentals.....	30
Turf and Forage.....	35
Miscellaneous.....	39

INTRODUCTION

The efforts of Ms. Jan Fowler were instrumental in the development of the 2006 Annual Plant Disease Clinic Report. Ms. Fowler compiled the report from our diagnostic records and continues to provide diagnostic service to the Cooperative Extension Service on a part-time basis since her retirement.

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 only physical samples submitted to the Plant Disease Clinics, and does not include results from analysis of samples submitted through the DDDI system. Submissions to the DDDI system can be accessed at: www.dddi.org/uga. That database also includes the samples contained herein.

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: 2006 PLANT SPECIMEN DIAGNOSES

Crop	Commercial Samples	Homeowner IPM Samples	Total
Field Crops	178	2	180
Vegetables	292	6	298
Fruits & Nuts	98	8	106
Herbaceous Ornamentals	190	20	210
Woody Ornamentals	170	47	217
Trees	129	21	150
Turf	358	83	441
Miscellaneous	15	7	22
Total*	1430	194	1624

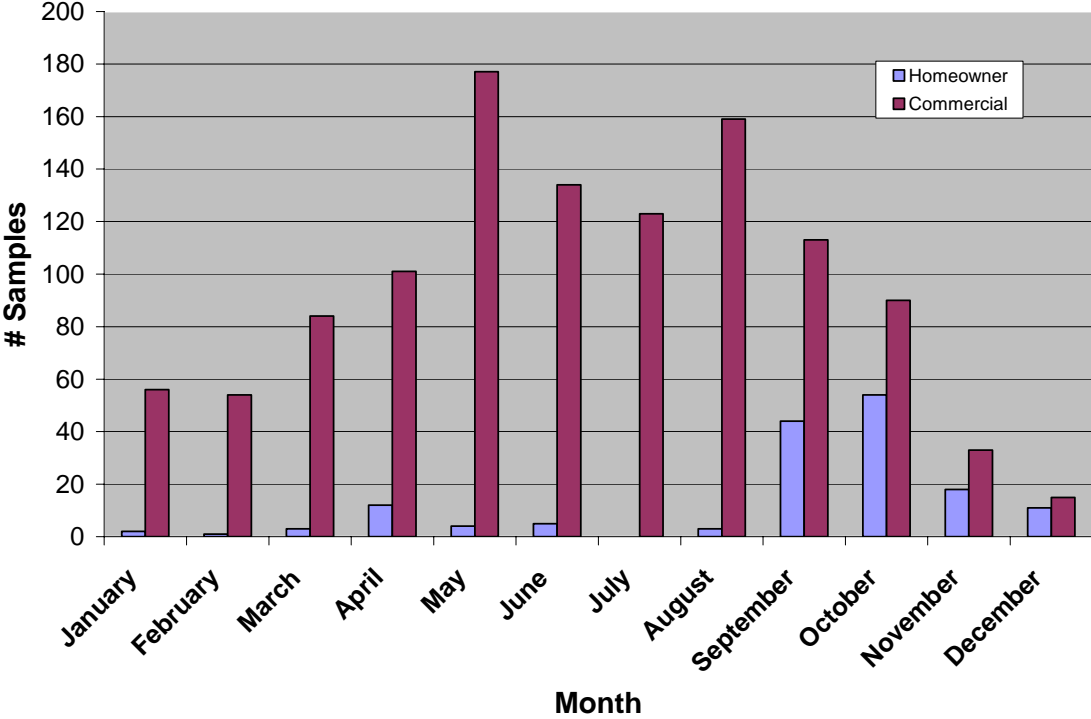
*The total number of diagnoses shown here is larger than the number of samples received (shown by Monthly Sample Submission) because some samples have more than one problem or diagnosis.

Monthly Sample Submission Summary 2006

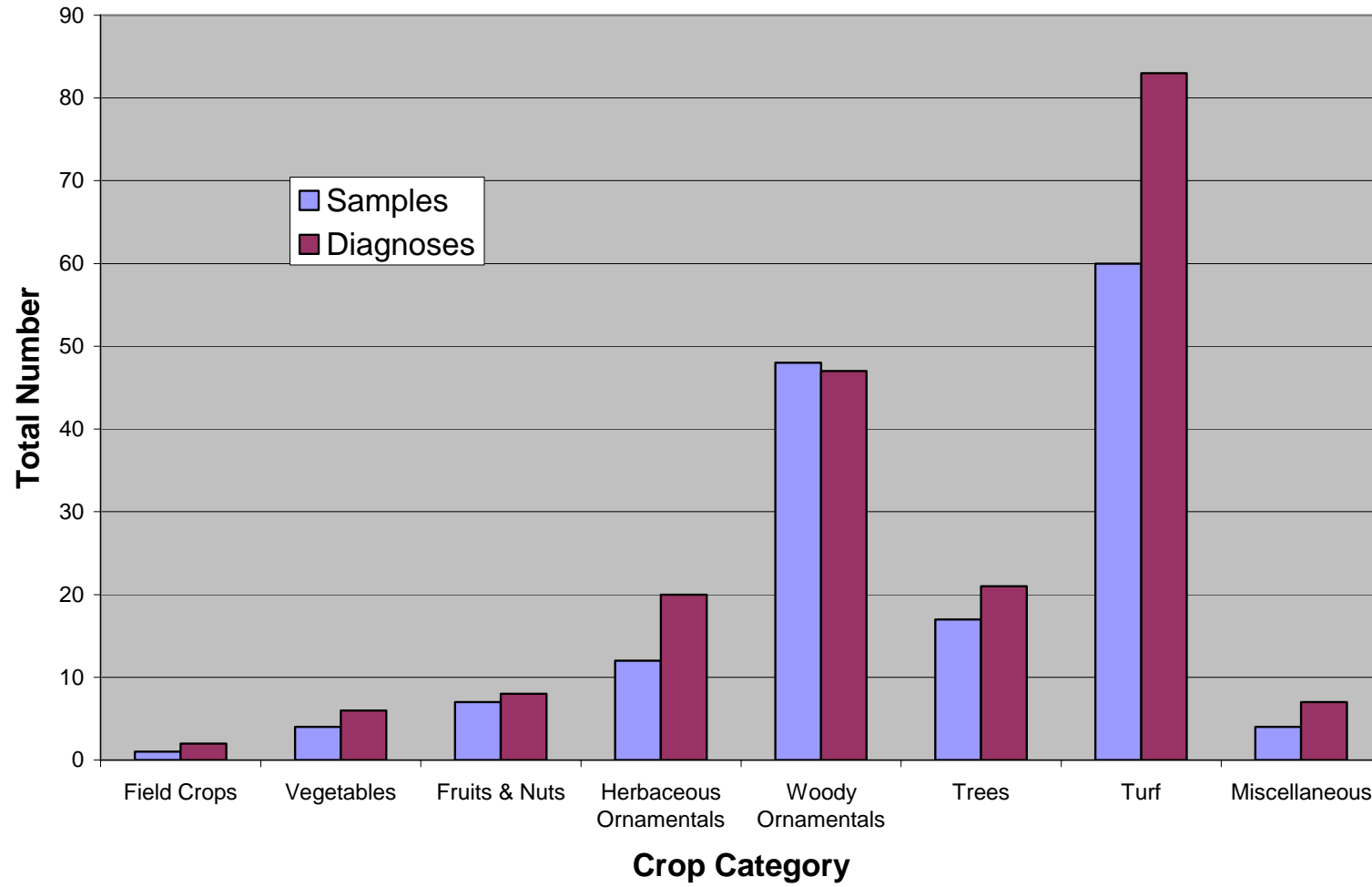
Month	# Samples	
	Commercial	Homeowner*
January	56	2
February	54	1
March	84	3
April	101	12
May	177	4
June	134	5
July	123	0
August	159	3
September	113	44
October	90	54
November	33	18
December	15	11
Total	1139	157

*The Homeowner IPM Clinic was closed from January – August 2006.

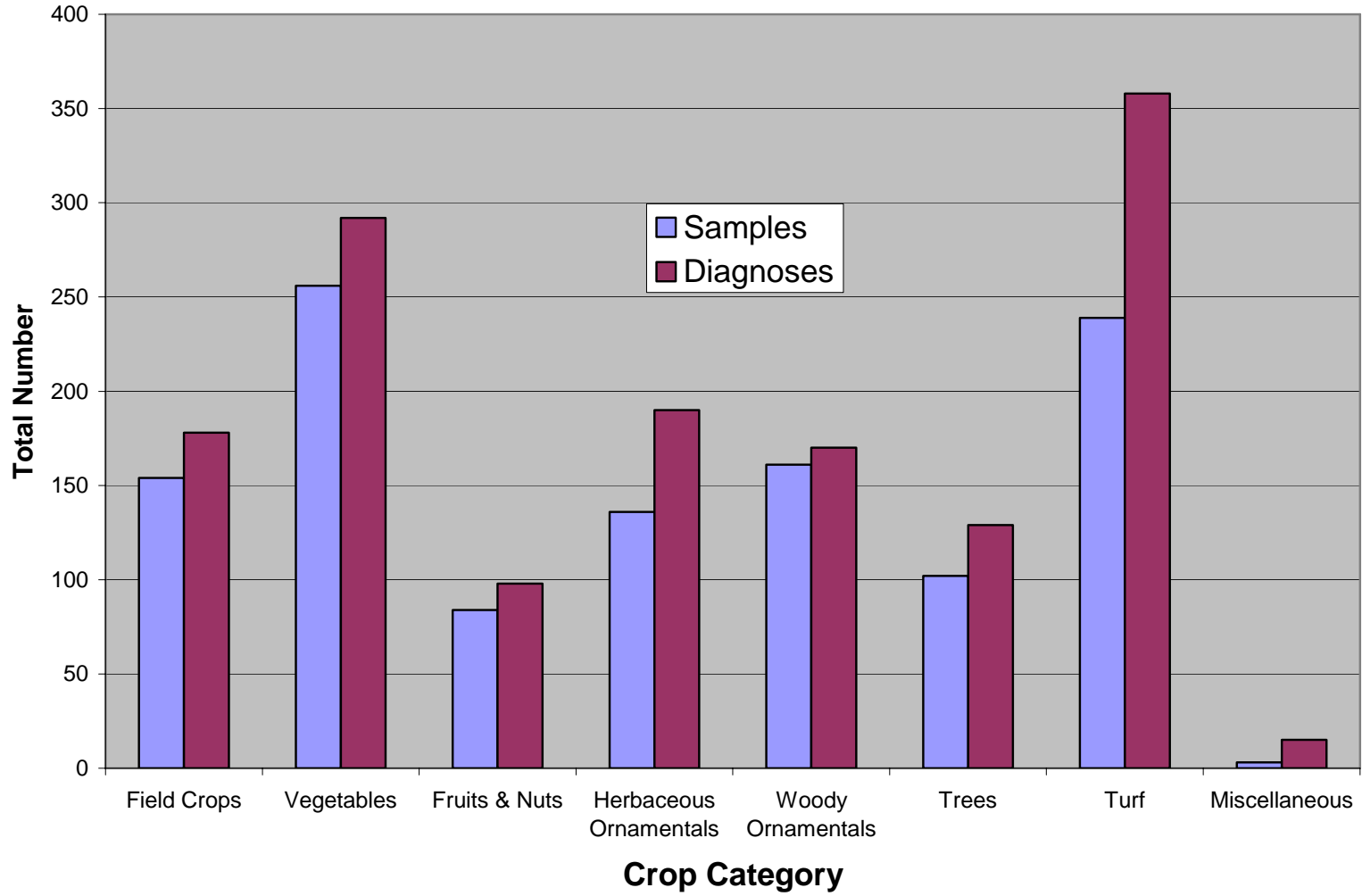
Number of Samples/Month



Homeowner IPM Samples & Diagnoses



Commercial Samples & Diagnoses



Distribution of COMMERCIAL Samples by County 2006

County	# of Samples
Appling	9
Atkinson	4
Bacon	21
Baldwin	1
Barrow	1
Bartow	1
Ben Hill	1
Berrien	15
Brantley	3
Brooks	4
Bulloch	1
Burke	3
Butts	1
Candler	1
Chatham	1
Chattooga	3
Cherokee	10
Clarke	23
Clay	1
Clinch	3
Cobb	34
Coffee	15
Colquitt	23
Columbia	11
Cook	28
Coweta	5
Crawford	1
Crisp	5
Dade	3
Dawson	3
Decatur	10
DeKalb	34
Dodge	5
Dooly	5
Dougherty	16
Douglas	3
Echols	8
Effingham	3
Elbert	1
Emanuel	7
Evans	4

County	# of Samples
Fayette	8
Floyd	2
Forsyth	5
Franklin	1
Fulton	27
Gilmer	1
Glynn	1
Gordon	8
Grady	38
Greene	4
Gwinnett	5
Habersham	1
Hall	14
Harris	18
Hart	2
Houston	5
Irwin	8
Jackson	1
Jasper	2
Jeff Davis	8
Jefferson	3
Jenkins	2
Johnson	1
Jones	2
Lamar	8
Lanier	6
Laurens	5
Lee	2
Lowndes	30
Lumpkin	2
Macon	6
Madison	2
Marion	4
McDuffie	54
Meriwether	4
Miller	7
Mitchell	11
Monroe	1
Morgan	3
Muscogee	12
NA	230

County	# of Samples
Newton	1
Oconee	15
Paulding	2
Peach	2
Pickens	4
Pike	1
Pulaski	7
Quitman	1
Rabun	2
Randolph	5
Richmond	11
Rockdale	19
Schley	4
Screven	5
Spalding	6
Stephens	1
Sumter	5
Tattnall	12
Telfair	5
Terrell	2
Thomas	2
Tift	28
Toombs	5
Turner	16
Twiggs	3
Upson	4
Walker	6
Walton	11
Ware	7
Washington	6
Wayne	11
Webster	7
Wheeler	5
White	1
Wilcox	16
Wilkes	2
Worth	16

Distribution of HOMEOWNER Samples by County 2006

County	# of Samples
Appling	1
Bartow	4
Berrien	1
Bibb	11
Brantley	1
Bulloch	2
Butts	1
Camden	5
Candler	3
Carroll	2
Charlton	1
Cherokee	2
Clarke	6
Clinch	1
Cobb	3
Columbia	3
Cook	3
Coweta	3
Crisp	1
Decatur	1
DeKalb	7
Dougherty	8
Evans	1
Fayette	2
Fulton	6
Gordon	4
Grady	1
Gwinnett	1
Harris	3
Jasper	4
Jefferson	3
Johnson	1
Jones	2
Lee	2
Lowndes	1
Monroe	4
Morgan	8
Muscogee	4
NA	7
Newton	2
Putnam	2

County	# of Samples
Rabun	1
Randolph	3
Richmond	4
Rockdale	3
Spalding	3
Walton	1
Ware	11
Webster	3
Wilkes	1
Worth	1

Host	Disease	Causal Organism	# Samples
Fescue, seed C = 1 H = 0	No disease		1
Fescue, tall C = 5 H = 0	Seed check	<i>Alternaria</i> sp., <i>Cladosporium</i> sp., <i>Fusarium</i> sp., <i>Candida</i> sp., <i>Cercospora</i> sp., Rust <i>Rhizoctonia</i> sp.	1
	Nematode damage		1
	No disease		1
	LSREP		1
Grain, small C = 2 H = 0	Rust	Stripe (possible)	1
	No disease		1
Oat C = 5 H = 2	Leaf spot	<i>Helminthosporium</i> sp.	2
	Virus	Barley yellow dwarf	1
	No disease		3
	LSREP		1
Peanut C = 54 H = 0	Late leaf spot	<i>Cercosporidium personatum</i>	1
	Early leaf spot	<i>Cercospora arachidicola</i>	1
	Pod rot	<i>Lasiodiplodia theobromae</i>	2
	Pod & Limb rot	<i>Rhizoctonia</i> sp.	1
	White mold	<i>Sclerotium rolfsii</i>	3
	Limb rot	<i>Rhizoctonia</i> sp.	2
	Funky leaf spot		3
	Crown rot	<i>Aspergillus</i> sp.	2
	Virus	Tomato spotted wilt	8
	Virus	Peanut stunt	1
	Cylindrocladium black rot	<i>Cylindrocladium</i> sp.	4
	Nematode damage	<i>Meloidogyne</i> sp.	2
		<i>Rhizoctonia</i> sp.	5
		<i>Rhizoctonia</i> sp. (2 ^o)	1
		<i>Neocosmospora</i> sp.	2
	Unknown		3
	No disease		12
	TDTD		1
Rye C = 5 H = 0	Rust		1
		<i>Pythium</i> sp.	1
	No disease		1
	LSREP		2

Host	Disease	Causal Organism	# Samples
Sorghum C = 1 H = 0	Scald (possible)		1
Soybean C = 29 H = 0	Charcoal rot Seedling blight Stem rot Bacterial leaf blight Rust Leaf spot Downy mildew Slime mold Unknown No disease TDTD	<i>Macrophomina</i> sp. <i>Rhizoctonia</i> sp. <i>Sclerotium rolfsii</i> <i>Cercospora</i> sp. <i>Peronospora manshurica</i>	2 1 1 1 1 1 1 1 4 15 1
Tobacco C = 41 H = 0	Black root rot Collar rot Brown spot Black shank Black shank Hollow stalk Southern blight Virus Virus Unknown No disease LSREP	<i>Thielaviopsis basicola</i> <i>Sclerotinia</i> sp. <i>Phytophthora parasitica nicotionae</i> (Race 1) <i>Phytophthora parasitica nicotionae</i> (Indeterminate race) <i>Erwinia</i> sp. <i>Sclerotium rolfsii</i> Cucumber mosaic Tomato spotted wilt <i>Rhizoctonia solani</i> <i>Pythium</i> sp. <i>Erwinia</i> sp. Unknown	1 1 1 12 2 1 1 1 1 4 6 2 1 5 2
Wheat C = 8 H = 0	Powdery mildew Virus Rust Unknown No disease	Soil-borne mosaic	3 1 2 1 1

Host	Disease	Causal Organism	# Samples
Cauliflower C = 1 H = 0		<i>Alternaria</i> sp.	1
Celery C = 2 H = 0	Root rot Root rot	<i>Phytophthora</i> sp. <i>Rhizoctonia</i> sp.	1 1
Collard C = 7 H = 0	Unknown No disease	<i>Xanthomonas</i> sp.	1 1 5
Corn C = 7 H = 0	Ear rot Southern corn leaf blight Corn smut Unknown No disease	<i>Fusarium</i> sp. <i>Helminthosporium maydis</i> <i>Ustilago maydis</i>	1 2 1 1 2
Cucumber C = 14 H = 0	Crown decline Bacterial leaf spot (possible) Anthracnose Downy mildew Virus No disease TDTD	Cucumber mosaic <i>Corynespora</i> sp.	1 1 1 5 1 1 3 1
Eggplant C = 1 H = 0	No disease		1
Herbs C = 1 H = 0	No disease		1
Kale C = 1 H = 0		<i>Pythium</i> sp.	1
Okra C = 1 H = 0	TDTD		1

Host	Disease	Causal Organism	# Samples
Onion C = 22 H = 0	Neck rot	<i>Botrytis</i> sp.	2
	Bacterial streak	<i>Pseudomonas</i> sp.	1
	Leaf blight	<i>Stemphylium</i> sp.	2
	Virus	IYSV	3
	Secondary organisms		1
		<i>Botrytis</i> sp.	3
		<i>Pseudomonas</i> sp.	1
		<i>Pantoea</i> sp.	1
	No disease		8
Parsley C = 1 H = 0	Root rot	<i>Rhizoctonia</i> sp.	1
Pea C = 9 H = 1	Charcoal rot	<i>Macrophomina phaseolina</i>	1
	Common blight	<i>Xanthomonas</i> sp.	2
	No disease		7
Pepper C = 38 H = 0	White mold	<i>Sclerotinia sclerotiorum</i>	1
	Bacterial leaf spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>	7
	Anthracnose		1
	Virus	Cucumber mosaic	4
	Virus	Tomato spotted wilt	2
	Root rot	<i>Pythium</i> sp.	1
		<i>Phytophthora</i> sp.	2
		<i>Fusarium</i> sp. (2)	1
		<i>Phytophthora capsici</i>	1
		<i>Xanthomonas</i> sp.	7
		<i>Pythium</i> sp.	3
	No disease		7
	TDTD		1
Potato, Irish C = 2 H = 0	Virus	Tomato spotted wilt	1
	No disease		1
Potato, Sweet C = 1 H = 3	Nematode damage	<i>Meloidogyne</i> sp.	1
	Surface rot	<i>Fusarium</i> sp.	1
	Unknown		1
	Cultural	Inconsistent watering	1
Pumpkin C = 1 H = 0	Virus	Poty virus	1

Host	Disease	Causal Organism	# Samples
Rice C = 1 H = 0	No disease		1
Squash C = 11 H = 0	Fruit rot Downy mildew White mold Nematode damage No disease LSREP	<i>Choanephora</i> sp. <i>Pseudoperonospora cubensis</i> <i>Sclerotinia</i> sp. <i>Meloidogyne</i> sp. <i>Phytophthora</i> sp. <i>Pythium</i> sp.	1 1 1 1 1 1 4 1
Tomato C = 38 H = 1	Root rot Bacterial wilt Early blight Leaf mold Bacterial leaf spot Nematode damage Virus Anthracnose Unknown No disease LSREP	<i>Pythium</i> sp. <i>Ralstonia solanacearum</i> <i>Alternaria solani</i> <i>Cladosporium</i> sp. <i>Meloidogyne</i> sp. Tomato spotted wilt <i>Pythium</i> sp. <i>Xanthomonas</i> sp.	1 2 2 1 4 1 5 1 2 4 1 14 1
Tomatillo C = 1 H = 0	Virus	Cucumber mosaic	1
Turnip, greens C = 6 H = 1	Virus No disease LSREP	 Possible cold damage	1 4 2

Host	Disease	Causal Organism	# Samples
Watermelon C = 81 H = 0	Gummy stem blight	<i>Mycosphaerella citrullina</i>	6
	Black root rot	<i>Thielaviopsis</i> sp.	3
	Root rot	<i>Pythium</i> sp.	2
	Wilt	<i>Fusarium</i> sp.	14
	Crown & root rot	<i>Pythium</i> sp.	1
	Nematode damage	<i>Meloidogyne</i> sp.	1
	Crown decline		6
	Fruit blotch	<i>Acidovorax avenae</i>	11
	Virus	Poty virus	1
	Powdery mildew		2
	Anthracnose		1
	Stem rot	<i>Fusarium</i> sp.	1
		<i>Phytophthora capsici</i>	5
		<i>Pythium</i> sp.	3
		<i>Pseudomonas</i> sp.	1
		<i>Rhizoctonia</i> sp.	1
	Unknown	2	
	No disease	18	
	TDTD	2	
Zucchini C = 1 H = 0		<i>Pythium</i> sp.	1

FRUITS AND NUTS

(Total # Diagnoses: C = 98; H= 8)

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

Host	Disease	Causal Organism	# Samples
Apple C = 4 H = 3	Sooty blotch	<i>Gloeodes pomigena</i>	1
	Fly speck	<i>Zygothiala jamaicensis</i>	1
	Fire blight	<i>Erwinia amylovora</i>	1
	Bitter rot	<i>Glomerella cingulata</i>	1
	Inconclusive		1
	LSREP		1
	Sample sent to Dr. Lockwood		1
	Avocado C = 1 H = 0	No disease	
Blackberry C = 13 H = 0	Cane & leaf rust		1
	Rust		1
	Orange rust		1
	Virus	Tobacco ringspot	1
	Cane blight		1
	Orange cane blotch		2
	Double blossom		1
	Various cane diseases		1
		<i>Phoma</i> sp.	1
		<i>Colletotrichum</i> sp.	1
Unknown		1	
No disease		1	

Host	Disease	Causal Organism	# Samples	
Blueberry C = 38 H = 1	Orange cane blotch	<i>Phytophthora</i> sp.	1	
	Anthracnose		1	
	Root problems		1	
	Ripe rot (anthracnose)		1	
	Root rot		2	
	Leaf spot/stem diseases		1	
	Root rot		1	
			<i>Rhizoctonia</i> sp.	1
			<i>Pythium</i> sp.	6
			<i>Phytophthora</i> sp.	2
	<i>Alternaria</i> sp.	1		
	<i>Rhizoctonia</i> sp.	4		
	Unknown	9		
	No disease	1		
	LSREP	8		
Grape, wine C = 4 H = 0	Pierce's Disease	<i>Xylella fastidiosa</i>	1	
	Unknown		1	
	No disease		1	
	LSREP		1	
Muscadine C = 12 H = 1	Root rot	<i>Pythium</i> sp.	1	
	Bitter rot	<i>Greeneria uvicola</i>	2	
	Secondary		1	
		<i>Pythium</i> sp. &/or <i>Phytophthora</i> sp.	1	
		<i>Pythium</i> sp.	2	
		<i>Phomopsis</i> sp.	1	
		<i>Phytophthora</i> sp.	1	
		<i>Cylindrocladium</i> sp.	1	
	No disease	3		
Peach C = 4 H = 0	Canker	<i>Leucostoma</i> sp.	2	
	Bacterial spot		2	
Pecan C = 11 H = 2	Scab	<i>Fusicladium</i> sp.	1	
	Sooty mold		1	
	Unknown		5	
	Water split		1	
	No disease		5	
Persimmon C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1	

Host	Disease	Causal Organism	# Samples
Strawberry C = 10 H = 0	Angular leaf spot	<i>Xanthomonas</i> sp.	1
	Angular leaf spot (possible)	<i>Xanthomonas</i> sp.	1
	Root rot	<i>Pythium</i> sp. (Possible)	4
	Leaf blight	<i>Phomopsis</i> sp.	1
		<i>Botrytis</i> sp.	1
	Insect damage	<i>Pythium</i> sp.	1
Walnut, black C = 0 H = 1	Sample sent forward		1

HERBACEOUS ORNAMENTALS

(Total # Diagnoses: C = 190; H = 20)

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

Host	Disease	Causal Organism	# Samples
Acorus C = 1 H = 0	No diagnosis		1
Agapanthus C = 1 H = 0	Crown/root rot	<i>Pythium</i> sp. & <i>Fusarium</i> sp.	1
Ajuga C = 1 H = 3	Crown & Root rot Cultural	<i>Phoma</i> sp. <i>Pythium</i> sp. <i>Rhizoctonia</i> sp.	1 1 1 1
Argyranthemum C = 1 H = 0	Nematode damage	<i>Meloidogyne</i> sp.	1
Armeria C = 3 H = 0	Root rot Leaf spot Blight	<i>Pythium</i> sp. <i>Cercospora</i> sp. <i>Botrytis</i> sp.	1 1 1
Astilbe C = 2 H = 0	Leaf spot Nematode damage	<i>Cercospora</i> sp. <i>Meloidogyne</i> sp.	1 1
Baptista C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Begonia C = 2 H = 3	Root rot No disease	<i>Pythium</i> sp. <i>Pythium</i> sp. <i>Rhizoctonia</i> sp.	1 1 2 1
Callistephus C = 1 H = 0	Stem canker	<i>Phomopsis</i> sp.	1

Host	Disease	Causal Organism	# Samples
Campanula C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Canna C = 3 H = 0	Root & Crown rot	<i>Pythium</i> sp., <i>Rhizoctonia</i> sp., <i>Phytophthora</i> sp.	1
	Crown rot	<i>Fusarium</i> sp.	1
	No disease		1
Chrysanthemum C = 12 H = 0	Root rot	<i>Pythium</i> sp.	3
	Root rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	Stem rot	<i>Fusarium</i> sp.	3
	Wilt	<i>Fusarium</i> sp.	1
	Stem rot & wilt	<i>Fusarium</i> sp.	1
	No disease		3
Clitoria C = 1 H = 0	No disease		1
Coleus C = 1 H = 0	Downy mildew		1
Coreopsis C = 2 H = 0	Crown/Stem rot	<i>Fusarium</i> sp.	1
	Root rot	<i>Rhizoctonia</i> sp.	1
Cyclamen C = 1 H = 1	Root rot	<i>Pythium</i> sp.	1
	No disease		1
Dalbergia C = 3 H = 0	No disease		3
Dahlia C = 2 H = 0	Root rot	<i>Pythium</i> sp.	1
	LSREP		1
Daylily C = 6 H = 3	Leaf streak	<i>Auerobasidium microstictum</i>	2
	Anthraxnose	<i>Colletotrichum</i> sp.	1
	Crown rot	<i>Rhizoctonia</i> sp.	1
	Root rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	No disease		3
	LSREP	Environmental stress	1

Host	Disease	Causal Organism	# Samples
Echinacea C = 5 H = 0	Root rot Aster Yellows No disease	<i>Pythium</i> sp. & <i>Fusarium</i> sp.	1 3 1
Eucomis C = 1 H = 0	No disease		1
Fern C = 1 H = 0	Root rot	<i>Phytophthora</i> sp.	1
Geranium C = 11 H = 0	Blight Root rot Stem rot Blight & Stem rot No disease LSREP	<i>Botrytis</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp. <i>Fusarium</i> sp. <i>Botrytis</i> sp.	1 1 1 1 6 1
Heliopsis C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Hosta C = 63 H = 0	Anthraco nose Leaf spot Virus Virus Virus No disease TDTD	<i>Colletotrichum</i> sp. <i>Cercospora</i> sp. Hosta virus X Tomato spotted wilt Alfalfa mosaic	2 1 18 1 1 39 1
Impatiens C = 8 H = 1	Virus Stem & Root rot Leaf spot Root & Crown rot Nematode damage No disease Unable to diagnose	Impatiens necrotic spot <i>Rhizoctonia</i> sp. & <i>Pythium</i> sp. <i>Cercospora</i> sp. <i>Rhizoctonia</i> sp. <i>Meloidogyne</i> sp.	1 1 2 1 1 2 1
Iris C = 1 H = 0	Root rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1

Host	Disease	Causal Organism	# Samples
Ivy C = 8 H = 4	Anthraco nose leaf spot Collar rot Root rot Root & Crown rot Root rot No disease LSREP Cultural	<i>Colletotrichum</i> sp. <i>Calonectria</i> sp. <i>Rhizoctonia</i> sp. <i>Rhizoctonia</i> sp. <i>Pythium</i> sp. (Oedema)	3 1 1 1 1 3 1 1
Kalanchoe C = 1 H = 0	No disease		1
Lily C = 1 H = 0	Not diagnosed		1
Liriope C = 8 H = 3	Anthraco nose Anthraco nose Crown rot Root rot Root & Crown rot Unable to diagnose No disease	<i>Colletotrichum</i> sp. <i>Guignardia</i> sp. <i>Fusarium</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp. <i>Phytophthora</i> sp. <i>Phyllosticta</i> sp.	3 1 1 1 1 1 1 2
Lysimachia C = 1 H = 0	No disease		1
Mondo grass C = 2 H = 0	Root rot Anthraco nose	<i>Pythium</i> sp. <i>Colletotrichum</i> sp.	1 1
Nasturtium C = 2 H = 0	No disease		2
Orchid C = 2 H = 0	Sooty mold No disease		1 1
Pansy C = 6 H = 1	Crown & Root rot Root rot Black root rot No disease	<i>Pythium</i> sp. <i>Pythium</i> sp. <i>Thielaviopsis basicola</i>	1 3 2 1

Host	Disease	Causal Organism	# Samples
Petunia C = 3 H = 0	Black root rot Root rot Stem/root rot	<i>Thielaviopsis</i> sp. <i>Pythium</i> sp. <i>Rhizoctonia</i> sp. & <i>Pythium</i> sp.	1 1 1
Poinsettia C = 2 H = 0	No disease		2
Sabatia C = 2 H = 0	Leaf blight Root rot	<i>Cercospora</i> sp. <i>Rhizoctonia</i> sp.	1 1
Salvia C = 2 H = 1	Leaf spot No disease	Bacterial	1 2
Saponaria C = 1 H = 0	Southern blight	<i>Sclerotium rolfsii</i>	1
Scabiosa C = 1 H = 0	White mold	<i>Sclerotinia sclerotiorum</i>	1
Scaevola C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Silene C = 1 H = 0	Root rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
Snapdragon C = 3 H = 0	Root rot No disease	<i>Pythium</i> sp.	1 2
Streptocarpus C = 1 H = 0	No disease		1
Vinca C = 2 H = 0	Root rot Root rot	<i>Rhizoctonia</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1 1
Viola C = 1 H = 0	Crown & Root rot	<i>Pythium</i> sp.	1

Host	Disease	Causal Organism	# Samples
Zinnia C = 3 H = 1	Root rot	<i>Pythium</i> sp.	1
		<i>Pythium</i> sp.	1
	No disease		1
	Sample not diagnosed		1

TREES

(Total # Diagnoses: C = 129; H= 21)

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

Host	Disease	Causal Organism	# Samples
Acacia C = 1 H = 0	No disease		1
Aesculus C = 1 H = 0	Root rot	<i>Pythium sp.</i> & <i>Phytophthora sp.</i>	1
Blackgum C = 1 H = 0	Leaf spot	<i>Cercospora sp.</i>	1
Cedar, Deodara C = 2 H = 1	Root rot Not diagnosed No disease	<i>Phytophthora sp.</i>	1 1 1
Cedar, Red C = 2 H = 0	LSREP No disease		1 1
Cherry C = 1 H = 0	No disease		1
Cordyline C = 3 H = 0	Root rot Crown rot No disease	<i>Pythium sp.</i> & <i>Rhizoctonia sp.</i> <i>Fusarium sp.</i>	1 1 1
Crepe myrtle C = 3 H = 2	Sooty mold Secondary organisms LSREP	<i>Alternaria sp.</i> & <i>Pestalotia sp.</i> <i>Cercospora sp.</i> (oedema)	1 1 1 2

Host	Disease	Causal Organism	# Samples
Cryptomeria C = 12 H = 0	Root rot	<i>Phytophthora</i> sp.	1
	Canker	<i>Seiridium</i> sp.	1
	Needle blight	<i>Cercosporidium</i> sp.	2
	Root rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1
	Branch canker	<i>Phomopsis</i> sp.	1
	Secondary organism	<i>Sphaeropsis</i> sp.	1
	Secondary organism	<i>Pestalotia</i> sp.	1
	No disease	Coenocytic hyphae	1
			3
Cypress C = 1 H = 0	No disease		1
Cypress, Leyland C = 27 H = 4	Needle blight	<i>Cercosporidium</i> sp.	13
	Canker	<i>Seiridium</i> sp.	2
	Bot canker	<i>Fusicoccum</i> sp.	1
	Root rot	<i>Phytophthora</i> sp.	3
	Not diagnosed		2
	LSREP		1
	No disease		9
Dogwood C = 4 H = 0	Leaf spot		1
	Powdery mildew		1
	LSREP		1
	No disease		1
Elm C = 1 H = 2	LSREP	(cold damage)	1
	No disease		2
Hackberry C = 1 H = 0	Root rot	<i>Armillaria</i> sp.	1
Hemlock C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Jatropha C = 1 H = 0	No disease		1

Host	Disease	Causal Organism	# Samples
Magnolia C = 5 H = 3	Algal leaf spot	<i>Cephaleuros virescens</i>	4
	Leaf spot	<i>Kellermania</i> sp.	1
	Root-fungi	<i>Fusarium</i> sp.	1
	No disease		2
Maple C = 13 H = 4	Bot canker	<i>Sphaeropsis</i> sp.	2
	Canker	<i>Coniothyrium</i> sp.	1
	Bot canker	<i>Fusicoccum</i> sp.	1
	Leaf spot	<i>Cristulariella</i> sp.	1
	Root rot	<i>Pythium</i> sp.	1
	Anthraxnose	<i>Gloeosporium</i> sp.	1
	Leaf spot	bacterial	1
	Stem rot	<i>Fusarium</i> sp.	1
		<i>Rhizoctonia</i> sp.	1
		<i>Pythium</i> sp.	1
	Powdery mildew		1
	Unknown		1
	Cultural		1
No disease		3	
Oak C = 7 H = 2	Bacterial scorch	<i>Xylella fastidiosa</i>	2
	Root decay		1
	Anthraxnose		1
	TDTD		1
	No disease		4
Palm C = 6 H = 1	Anthraxnose	<i>Colletotrichum</i> sp.	1
	Crown rot	<i>Fusarium</i> sp.	1
	Unknown		2
	No disease		3
Pear C = 2 H = 1	Fire blight	<i>Erwinia amylovora</i>	1
	Canker	<i>Libertella</i> sp. (<i>Eutypa</i>)	1
	Wood rot (mushroom)	Polypore	1
Philadelphus C = 1 H = 0	Leaf spot (bacterial)	<i>Pseudomonas viridiflava</i>	1

Host	Disease	Causal Organism	# Samples
Pine C = 20 H = 0	Root rot	<i>Phytophthora</i> sp. & <i>Rhizoctonia</i> sp.	1
	Root rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	Root rot	<i>Pythium</i> sp.	1
	Root rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	2
	Root rot	<i>Phytophthora</i> sp.	2
	Root rot	<i>Fusarium</i> sp.	1
	Tip blight	<i>Sphaeropsis</i> sp.	1
	Needle blight	<i>Lophodermium</i> sp.	1
	Needle blight	<i>Dothistroma</i> sp.	3
	Needle cast	<i>Lophodermium</i> sp. (<i>Leptostroma</i> sp.)	1
	Pitch canker	<i>Fusarium</i> sp.	1
	Sooty mold		1
	Unable to determine		1
	No disease		3
Poplar C = 2 H = 0	Bot canker (2 ^o)		1
	LSREP	(Freeze/cold injury)	1
Prunus C = 3 H = 0	No disease		3
Redbud C = 1 H = 0	No disease		1
Redwood C = 1 H = 0	No disease		1
Spruce C = 1 H = 0	Needle drop	<i>Setomelanomma holmii</i>	1
Sugarberry C = 1 H = 0	Root rot	<i>Armillaria</i> sp.	1
Sweetgum C = 4 H = 0		<i>Cladosporium</i> sp.	1
		<i>Gloeosporium</i> sp.	1
	No disease		2

Host	Disease	Causal Organism	# Samples
Thuja C = 1 H = 0	Tip blight	<i>Phomopsis</i> sp.	1
Unknown C = 1 H = 0	Lower stem & root rot	<i>Pythium</i> sp.	1
Willow C = 1 H = 0	Bot canker	<i>Sphaeropsis</i> sp.	1
Zelkova C = 1 H = 0	Stem rot	<i>Fusarium</i> sp. (<i>Nectria</i> sp.)	1

WOODY ORNAMENTALS

(Total # Diagnoses: C = 170; H = 47)

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

Host	Disease	Causal Organism	# Samples
Akebia C = 1 H = 0	No disease		1
Arborvitae C = 9 H = 3	Crown & root rot Bot canker Needle blight LSREP No disease	<i>Phytophthora</i> sp. <i>Fusicoccum</i> sp. <i>Cercosporidium</i> sp. <i>Pestalotia</i> sp. Drought stress	1 1 1 2 1 6
Aster C = 2 H = 0	Root rot No disease	<i>Pythium</i> sp.	1 1
Aucuba C = 2 H = 1	No disease		3
Azalea C = 13 H = 3	Algal leaf spot Stem canker Anthracnose Root rot Unknown LSREP No disease	<i>Cephaleuros virescens</i> <i>Pleurocytopora</i> sp. <i>Gloeosporium</i> sp. <i>Pythium</i> sp. & <i>Phytophthora</i> sp. (cold damage)	1 1 1 1 1 1 10
Barberry C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Bougainvillea C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1

Host	Disease	Causal Organism	# Samples
Boxwood C = 13 H = 3	Root rot	<i>Pythium</i> sp.	2
	Blight	<i>Volutella</i> sp.	2
	Root rot	<i>Pythium</i> sp. & <i>Rhizoctonia</i> sp.	1
		<i>Phytophthora</i> sp.	1
		Algae	1
	Cultural		1
	Sample not diagnosed		1
	LSREP		1
	No disease		6
Camellia C = 15 H = 2	Anthraxnose	<i>Gloeosporium</i> sp.	5
	Anthraxnose	<i>Colletotrichum</i> sp.	1
	Leaf blight	<i>Calonectria</i> sp.	1
	Root rot	<i>Phytophthora</i> sp.	1
	Root & Crown rot	<i>Phytophthora</i> sp.	1
	LSREP		1
	No disease		7
Clethra C = 1 H = 0	No disease		1
Cleyera C = 1 H = 0	No disease		1
Daphne C = 0 H = 2	Root/crown rot	<i>Pythium</i> sp. & <i>Phytophthora</i> sp.	1
	No disease		1
Euonymus C = 4 H = 0	Anthraxnose	<i>Colletotrichum</i> sp.	1
	Powdery mildew		1
	No disease		2
Forsythia C = 2 H = 0	Root rot	<i>Pythium</i> sp.	1
	Anthraxnose	<i>Gloeosporium</i> sp.	1
Gardenia C = 1 H = 0	No disease		1
Gelsemium C = 2 H = 0	LSREP	(oedema)	1
	No disease		1

Host	Disease	Causal Organism	# Samples
Heather C = 1 H = 0	Stem blight	<i>Phoma</i> sp.	1
Hibiscus C = 0 H = 1	No disease		1
Holly C = 20 H = 6	Black root rot Root rot Root rot Root rot Bot canker Anthracnose Stem anthracnose Unknown Not diagnosed LSREP No disease	<i>Thielaviopsis</i> sp. <i>Pythium</i> sp. <i>Rhizoctonia</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. <i>Botryosphaeria</i> sp. <i>Gloeosporium</i> sp. <i>Colletotrichum</i> sp.	3 5 2 1 1 1 1 2 2 2 6
Hydrangea C = 8 H = 4	Powdery mildew Root rot Root rot Leaf spot Sample not diagnosed Unable to diagnose No disease	<i>Oidium</i> sp. <i>Pythium</i> sp. <i>Pythium</i> sp. & <i>Rhizoctonia</i> sp. <i>Cercospora</i> sp.	2 1 2 2 1 2 2
Jasmine C = 4 H = 4	Root rot Leaf spot LSREP No disease	<i>Pythium</i> sp. <i>Phoma</i> sp.	3 1 1 3
Juniper C = 14 H = 2	Root rot (?) Bot canker Root rot Aerial blight Limb rot Root rot Tip blight Bot canker LSREP Sample not diagnosed No disease	<i>Leptosphaerulina</i> sp. <i>Sphaeropsis</i> sp. <i>Pythium</i> sp. <i>Rhizoctonia</i> sp. <i>Rhizoctonia</i> sp. <i>Phytophthora</i> sp. & <i>Pythium</i> sp. <i>Phomopsis</i> sp. <i>Botryosphaeria</i> sp.	1 1 3 1 1 1 1 1 1 1 4

Host	Disease	Causal Organism	# Samples
Kalmia C = 1 H = 0	Leaf spot	<i>Cercospora</i> sp.	1
Lantana C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Laurel C = 2 H = 2	Shot-hole Sample not diagnosed TDTD No disease	<i>Cercospora</i> sp.	1 1 1 1
Ligustrum C = 4 H = 1	Leaf spot Slime mold Wood rotting fungi No disease	<i>Cercosporidium</i> sp.	1 1 1 2
Loropetalum C = 4 H = 0	Bot canker (2) Root rot No diagnosis No disease		1 1 1 1
Loquat C = 1 H = 0	Unknown		1
Mandevilla C = 1 H = 0	Root rot	<i>Pythium</i> sp.	1
Nandina C = 3 H = 1	Anthrachnose Unknown No disease	<i>Colletotrichum</i> sp.	1 1 2
Osmanthus C = 1 H = 0	Leaf spot	<i>Cercospora</i> sp.	1
Photinia C = 0 H = 1	Bacteria		1
Rhaphiolepis C = 4 H = 1	Root rot Sample not diagnosed LSREP No disease	<i>Phytophthora</i> sp.	1 1 1 2

Host	Disease	Causal Organism	# Samples
Rhododendron C = 8 H = 0	Leaf spot No disease	<i>Cercospora</i> sp.	2 6
Rose C = 8 H = 1	Crown gall Leaf blight Root decay Virus TDTD LSREP No disease	<i>Agrobacterium tumefaciens</i> <i>Macrophoma</i> sp. Rose rosette	1 1 1 1 1 1 3
Viburnum C = 13 H = 4	Root rot Leaf spot Root rot Fungus LSREP No disease	<i>Pythium</i> sp. (bacterial) <i>Rhizoctonia</i> sp. & <i>Phytophthora</i> sp. Basidiomycete <i>Phytophthora</i> sp. <i>Phyllosticta</i> sp. (oedema)	1 1 1 1 2 1 1 9
Wax myrtle C = 1 H = 2	Wilt No disease	<i>Fusarium</i> sp.	1 2
Yucca C = 2 H = 0	Leaf spot No disease	<i>Sphaeropsis</i> sp.	1 1
Misc. Hosts C = 0 H = 4	Root rot Root rot Root rot No disease	<i>Pythium</i> sp. <i>Phytophthora</i> sp. <i>Rhizoctonia</i> sp.	1 1 1 1

TURF & FORAGE GRASSES
 (Total # Diagnoses: C = 358; H = 83)

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

Host	Disease	Causal Organism	# Samples
Bentgrass C = 52 H = 0	Dollar spot		1
	Brown patch		2
	ETRI		4
		<i>Rhizoctonia</i> sp.	8
		<i>Fusarium</i> sp.	1
		<i>Colletotrichum</i> sp.	15
		<i>Pythium</i> sp.	8
	ETRI	<i>Magnaporthe poae</i>	2
	Slime mold		1
	Anthracnose		2
	Summer Patch	<i>Magnaporthe</i> sp.	2
Cultural (sulfides)		2	
No disease		4	
Bermuda C = 101 H = 8	Take-all	GGG	14
	Anthracnose	<i>Colletotrichum</i> sp.	13
	Rust	<i>Puccinia</i> sp.	2
	Dollar spot		2
	Spring Dead spot		4
		<i>Colletotrichum</i> sp.	7
		<i>Helminthosporium</i> sp.	5
		<i>Bipolaris</i> sp.	20
		<i>Curvularia</i> sp.	5
		<i>Rhizoctonia</i> sp.	10
		GGG	2
		<i>Pythium</i> sp.	4
	Anthracnose		1
	ETRI		7
	Algae		1
	Cultural/LSREP		1
	Cultural/Stress		2
TDTD		2	
No disease		5	
Insufficient sample		1	
Bermuda Decline		1	

Host	Disease	Causal Organism	# Samples
Lawn C = 0 H = 2	Take-all	GGG	2
Paspalum, Seashore C = 9 H = 0	Anthracnose	<i>Colletotrichum</i> sp.	4
	Dollar spot	<i>Rhizoctonia</i> sp.	2
		<i>Bipolaris</i> sp.	1
	No disease		1
Ryegrass C = 11 H = 0	Anthracnose		4
	Algae	<i>Rhizoctonia</i> sp.	1
		<i>Colletotrichum</i> sp.	2
	No disease	<i>Curvularia</i> sp.	1
St. Augustine C = 21 H = 34	Take-all	GGG	30
	Large patch	<i>Rhizoctonia</i> sp.	5
	Gray Leaf Spot	<i>Pyricularia grisea</i>	1
		<i>Curvularia</i> sp.	4
		<i>Pythium</i> sp.	1
		<i>Colletotrichum</i> sp.	4
		<i>Rhizoctonia</i> sp.	1
	Gray Leaf spot		1
	Magnaporthe		2
	Stress Related Pathogens		1
Cultural		1	
ETRIF		1	
No disease		3	
Turf C = 5 H = 5	Take-all patch	GGG	3
	Root rot	<i>Pythium</i> sp.	1
	Root rot	<i>Rhizoctonia</i> sp.	2
	Anthracnose	<i>Colletotrichum</i> sp.	1
	Brown patch		1
	Dollar spot		1
	Porous basidiomycete		1

Host	Disease	Causal Organism	# Samples
Unknown C = 14 H = 0	ETRI	GGG	3
	Possible Summer Patch		1
	Cultural		1
	Green 3	<i>Colletotrichum</i> sp.	1
	Green 13	<i>Colletotrichum</i> sp.	1
	Green 9	<i>Colletotrichum</i> sp.	1
	Green G2	<i>Rhizoctonia</i> sp.	1
		<i>Pythium</i> sp.	3
	GGG	2	
Zoysia C = 78 H = 8	Take-all	GGG	2
	Large Patch	<i>Rhizoctonia</i> sp.	5
	Dollar Spot	<i>Sclerotinia</i> sp.	5
	Rust		2
		<i>Rhizoctonia</i> sp.	23
		<i>Curvularia</i> sp.	5
		<i>Helminthosporium</i> sp.	1
		<i>Bipolaris</i> sp.	11
		<i>Pythium</i> sp.	1
		<i>Colletotrichum</i> sp.	8
	Basidiomycete		1
	Fairy Ring		1
	Anthracnose		5
	Stress Organisms		1
ETRI		2	
Cultural		6	
Unknown		1	
No Disease		6	

MISCELLANEOUS

(Total Diagnoses: C =15; H = 7)

Host	Disease	Causal Organism	# Samples
Fungus ID C = 1 H = 1	Mushroom ID Mushroom ID	<i>Lactaris</i> sp. or <i>Russula</i> sp. (Puffball) <i>Scleroderma</i> sp.	1 1
Unknown C = 14 H = 6	Unknown Powdery mildew Secondary Organisms Identify Insect Dollar Spot Fairy Ring Structural Substance Mold Root rot Root rot Anthracnose Vascular Fungus Insect Infestation Poor quality sample No disease	<i>Oidium</i> sp. <i>Cladosporium</i> sp. Sample sent forward to Dr. Atiles Broad Mites Bacteria and algae Structural mold <i>Pythium</i> sp. (Durante) <i>Rhizoctonia</i> sp. & <i>Phytophthora</i> sp. <i>Colletotrichum</i> sp. <i>Colletotrichum</i> sp. <i>Pythium</i> sp.	1 3