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

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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: To 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

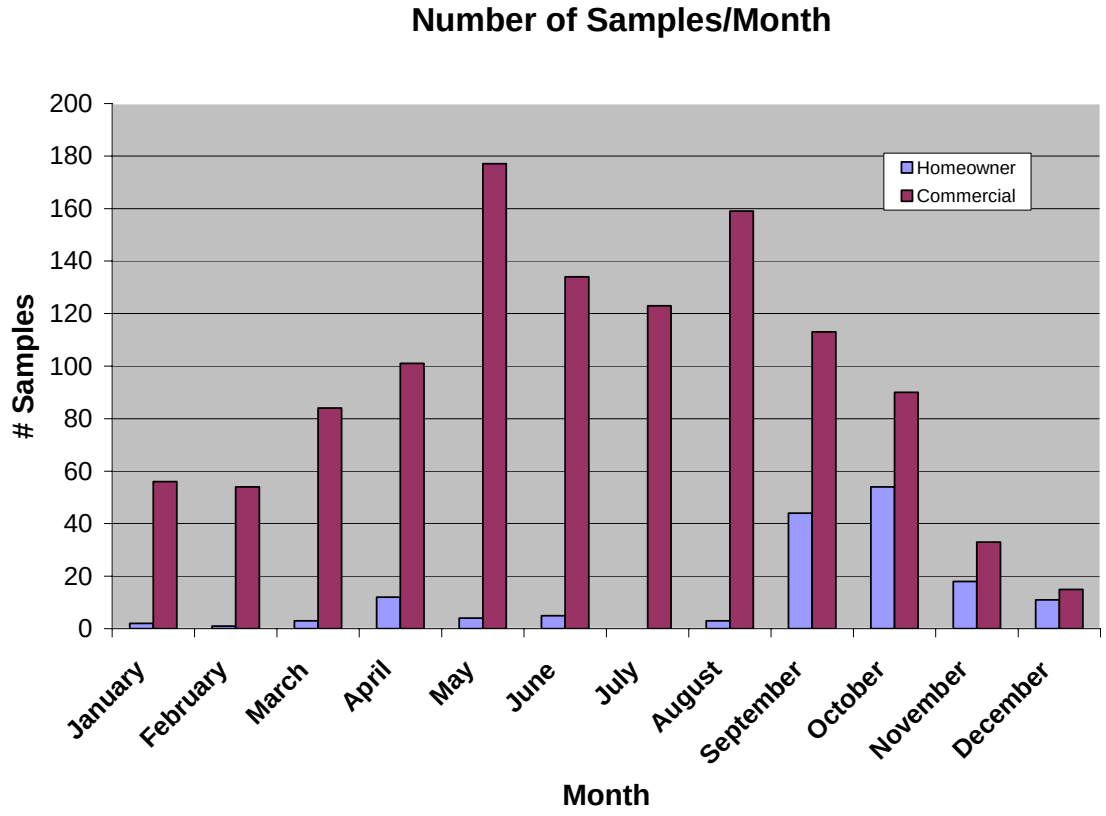
Crop	Commercial Samples	Homeowner IPM Samples	Total
Field Crops	178	2	180
Vegetables	292	6	298
Fruits & Nuts	98	8	106
Herbaceous Ornamentals	188	22	210
Woody Ornamentals	170	47	217
Trees	129	21	150
Turf	358	83	441
Miscellaneous	15	7	22
Total*	**1428**	**196**	**1624**

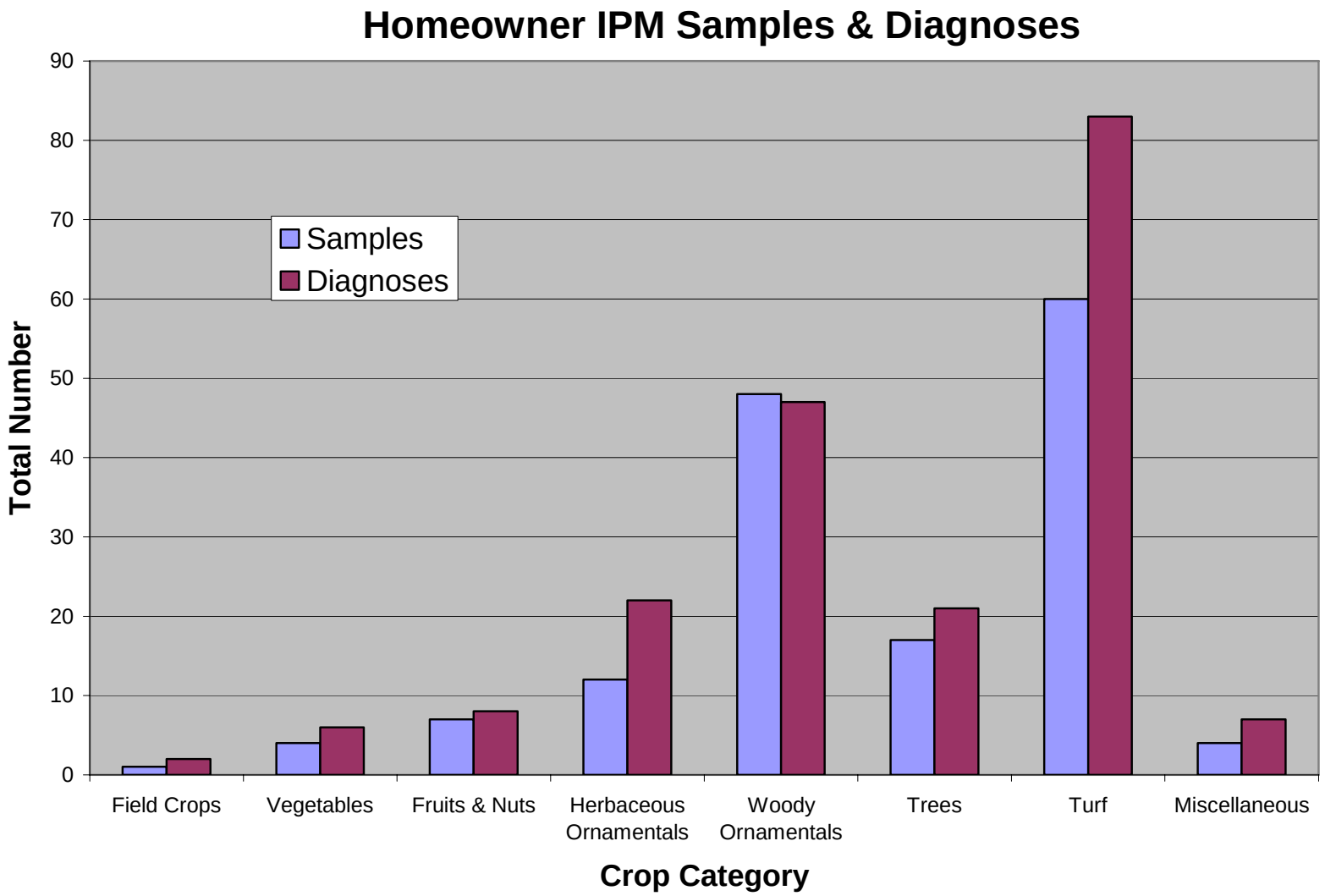
*The total number of diagnoses shown here is larger than the number of samples received (shown by Monthly Sample Submission) because some samples have more than one problem or diagnosis.

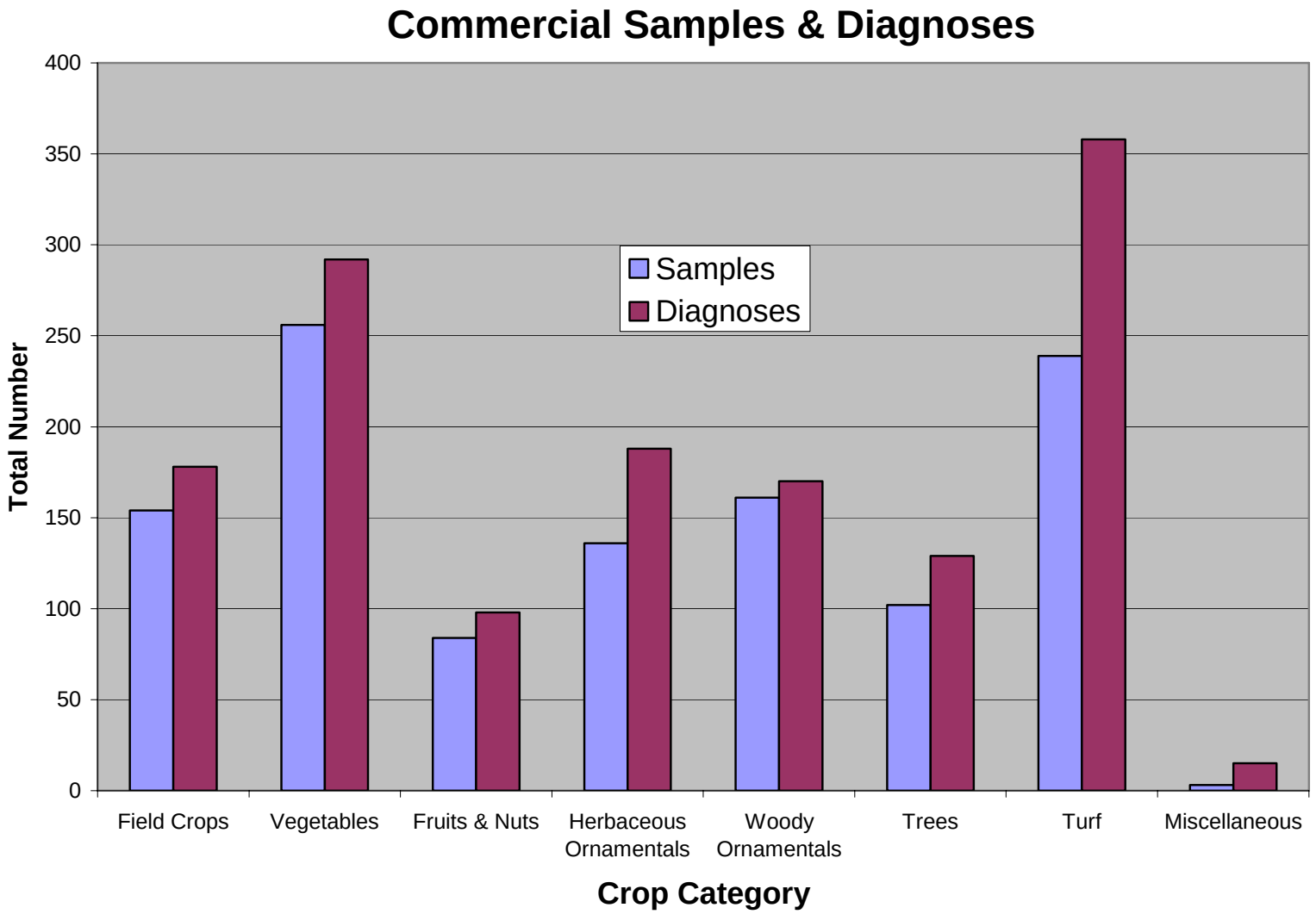
Monthly Sample Submission Summary 2006

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
200
180
160
140
120
100
80
60
40
20
0
Samples
Homeowner
Commercial
January
February
March
April
May
June
July
August
September
October
November
December
Month


Homeowner IPM Samples & Diagnoses
Total Number
90
80
70
60
50
40
30
20
10
0
Samples
Diagnoses
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Woody Ornamentals
Trees
Turf
Miscellaneous
Crop Category


Commercial Samples & Diagnoses
Total Number
400
350
300
250
200
150
100
50
0
Samples
Diagnoses
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Woody Ornamentals
Trees
Turf
Miscellaneous
Crop Category

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

CROP SUMMARIES

The following sections contain summaries of diagnosed samples organized by crop category. The following abbreviations are used throughout the summaries:
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H: Homeowner
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FIELD CROPS

(Total # Diagnoses: C = 178; H = 2)

Diagnostic Responsibilities: Tifton Clinic – Tobacco, Corn, Cotton, Soybean, Peanut
Athens Clinic – Homeowner samples

Host	Disease	Causal Organism	# Samples
Barley C = 1 H = 0	Leaf spot	Fungal (probable)	1
Bermuda-hay C = 4 H = 0	Rust 	 *Helminthosporium* sp. *Colletotrichum* sp. *Alternaria* sp.	1 1 1 1
Chilpin C = 1 H = 0	Virus	Poty virus	1
Cotton C = 21 H = 0	Leaf spot Leaf spot Unknown No disease	*Stemphylium* sp. *Cercospora* sp. *Fusarium* sp. *Rhizoctonia* sp. *Lasiodiplodia* sp.	3 2 2 1 1 4 8

Host	Disease	Causal Organism	# Samples
Fescue, seed C = 1 H = 0	No disease		1
Fescue, tall C = 5 H = 0	Seed check	*Alternaria* sp., *Cladosporium* sp., *Fusarium* sp., *Candida* sp., *Cercospora* sp., Rust	1
		Rhizoctonia 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	*Helminthosporium* sp.	2
	Virus	Barley yellow dwarf	1
	No disease		3
	LSREP		1
Peanut C = 54 H = 0	Late leaf spot	*Cercosporidium personatum*	1
	Early leaf spot	*Cercospora arachidicola*	1
	Pod rot	*Lasiodiplodia theobromae*	2
	Pod & Limb rot	*Rhizoctonia* sp.	1
	White mold	*Sclerotium rolfsii*	3
	Limb rot	*Rhizoctonia* sp.	2
	Funky leaf spot		3
	Crown rot	*Aspergillis* sp.	2
	Virus	Tomato spotted wilt	8
	Virus	Peanut stunt	1
	Cylindrocladium black rot	*Cylindrocladium* sp.	4
	Nematode damage	*Meloidogyne* sp.	2
		Rhizoctonia sp.	5
		Rhizoctonia sp. (2°)	1
		Neocosmospora sp.	2
	Unknown		3
	No disease		12
	TDTD		1
Rye C = 5 H = 0	Rust	*Pythium* sp.	1
			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	*Macrophomina* sp. *Rhizoctonia* sp. *Sclerotium rolfsii* *Cercospora* sp. *Peronospora manshurica*	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	*Thielaviopsis basicola* *Sclerotinia* sp. *Phytophthora parasitica nicotionae*(Race 1) *Phytophthora parasitica nicotionae* (Indeterminate race) *Erwinia* sp. *Sclerotium rolfsii* Cucumber mosaic Tomato spotted wilt *Rhizoctonia solani* *Pythium* sp. *Erwinia* sp.	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

VEGETABLES

(Total # Diagnoses: 298: C = 292; H = 6)

Diagnostic Responsibilities: Tifton Clinic – Commercial
Athens Clinic – Homeowner

Host	Disease	Causal Organism	# Samples
Agastache C = 1 H = 0	Root rot	*Pythium* sp.	1
Basil C = 2 H = 0	No disease		2
Bean, Fava C = 1 H = 0	LSREP		1
Bean, Snap C = 17 H = 0	Common blight Ashy stem blight Nematode damage Unknown No disease	*Xanthomonas* sp. *Meloidogyne* sp. *Pythium* sp. *Cercospora* sp.	1 1 1 6 1 2 5
Beet C = 1 H = 0		*Pythium* sp.	1
Cabbage C = 10 H = 0	Black rot Leaf spot Wire stem No disease	*Xanthomonas campestris* pv. *vesicatoria* *Cercospora* sp. *Rhizoctonia solani* *Xanthomonas* sp.	1 1 1 1 6
Cantaloupe C = 12 H = 0	 Crown decline Powdery mildew Nematode damage (possible) No disease	*Pseudomonas* sp. *Pythium* sp.	1 1 1 1 1 7

Host	Disease	Causal Organism	# Samples
Cauliflower C = 1 H = 0		*Alternaria* sp.	1
Celery C = 2 H = 0	Root rot Root rot	*Phytophthora* sp. *Rhizoctonia* sp.	1 1
Collard C = 7 H = 0	 Unknown No disease	*Xanthomonas* sp.	1 1 5
Corn C = 7 H = 0	Ear rot Southern corn leaf blight Corn smut Unknown No disease	*Fusarium* sp. *Helminthosporium maydis* *Ustilago maydis*	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 *Corynespora* 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		*Pythium* sp.	1
Okra C = 1 H = 0	TDTD		1

Host	Disease	Causal Organism	# Samples
Onion C = 22 H = 0	Neck rot Bacterial streak Leaf blight Virus Secondary organisms No disease	*Botrytis* sp. *Pseudomonas* sp. *Stemphylium* sp. IYSV *Botrytis* sp. *Pseudomonas* sp. *Pantoea* sp.	2 1 2 3 1 3 1 1 8
Parsley C = 1 H = 0	Root rot	*Rhizoctonia* sp.	1
Pea C = 9 H = 1	Charcoal rot Common blight No disease	*Macrophomina phaseolina* *Xanthomonas* sp.	1 2 7
Pepper C = 38 H = 0	White mold Bacterial leaf spot Anthracnose Virus Virus Root rot No disease TDTD	*Sclerotinia sclerotiorum* *Xanthomonas campestris* pv. *vesicatoria* Cucumber mosaic Tomato spotted wilt *Pythium* sp. *Phytophthora* sp. *Fusarium* sp. (2) *Phytophthora capsici* *Xanthomonas* sp. *Pythium* sp.	1 7 1 4 2 1 2 1 1 7 3 7 1
Potato, Irish C = 2 H = 0	Virus No disease	Tomato spotted wilt	1 1
Potato, Sweet C = 1 H = 3	Nematode damage Surface rot Unknown Cultural	*Meloidogyne* sp. *Fusarium* sp. Inconsistent watering	1 1 1 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	*Choanephora* sp. *Pseudoperonospora cubensis* *Sclerotinia* sp. *Meloidogyne* sp. *Phytophthora* sp. *Pythium* 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	*Pythium* sp. *Ralstonia solanacearum* *Alternaria solani* *Cladosporium* sp. *Meloidogyne* sp. Tomato spotted wilt *Pythium* sp. *Xanthomonas* 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 Black root rot Root rot Wilt Crown & root rot Nematode damage Crown decline Fruit blotch Virus Powdery mildew Anthracnose Stem rot Unknown No disease TDTD	*Mycosphaerella citrullina* *Thielaviopsis* sp. *Pythium* sp. *Fusarium* sp. *Pythium* sp. *Meloidogyne* sp. *Acidovorax avenae* Poty virus *Fusarium* sp. *Phytophthora capsici* *Pythium* sp. *Pseudomonas* sp. *Rhizoctonia* sp.	6 3 2 14 1 1 6 11 1 2 1 1 5 3 1 1 2 18 2
Zucchini C = 1 H = 0		*Pythium* 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 Fly speck Fire blight Bitter rot Inconclusive LSREP Sample sent to Dr. Lockwood	*Gloeodes pomigena* *Zygophiala jamaicensis* *Erwinia amylovora* *Glomerella cingulata*	1 1 1 1 1 1 1
Avocado C = 1 H = 0	No disease		1
Blackberry C = 13 H = 0	Cane & leaf rust Rust Orange rust Virus Cane blight Orange cane blotch Double blossom Various cane diseases Unknown No disease	 Tobacco ringspot *Phoma* sp. *Colletotrichum* sp.	1 1 1 1 1 2 1 1 1 1 1 1

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

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

HERBACEOUS ORNAMENTALS

(Total # Diagnoses: C = 188; H = 22)

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

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

Host	Disease	Causal Organism	# Samples
Campanula C = 1 H = 0	Root rot	*Pythium* sp.	1
Canna C = 3 H = 0	Root & Crown rot Crown rot No disease	*Pythium* sp., *Rhizoctonia* sp., *Phytophthora* sp. *Fusarium* sp.	1 1 1
Chrysanthemum C = 12 H = 0	Root rot Root rot Stem rot Wilt Stem rot & wilt No disease	*Pythium* sp. *Pythium* sp. & *Phytophthora* sp. *Fusarium* sp. *Fusarium* sp. *Fusarium* sp.	3 1 3 1 1 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 Root rot	*Fusarium* sp. *Rhizoctonia* sp.	1 1
Cyclamen C = 1 H = 1	Root rot No disease	*Pythium* sp.	1 1
Dalbergia C = 3 H = 0	No disease		3
Dahlia C = 2 H = 0	Root rot LSREP	*Pythium* sp.	1 1
Daylily C = 6 H = 3	Leaf streak Anthracnose Crown rot Root rot No disease LSREP	*Auerobasidium microstictum* *Colletotrichum* sp. *Rhizoctonia* sp. *Pythium* sp. & *Phytophthora* sp. Environmental stress	2 1 1 1 3 1

Host	Disease	Causal Organism	# Samples
Echinacea C = 5 H = 0	Root rot Aster Yellows No disease	*Pythium* sp. & *Fusarium* sp.	1 3 1
Eucomis C = 1 H = 0	No disease		1
Fern C = 1 H = 0	Root rot	*Phytophthora* sp.	1
Geranium C = 11 H = 0	Blight Root rot Stem rot Blight & Stem rot No disease LSREP	*Botrytis* sp. *Pythium* sp. & *Phytophthora* sp. *Fusarium* sp. *Botrytis* sp.	1 1 1 1 6 1
Heliopsis C = 1 H = 0	Root rot	*Pythium* sp.	1
Hosta C = 63 H = 0	Anthracnose Leaf spot Virus Virus Virus No disease TDTD	*Colletotrichum* sp. *Cercospora* 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 *Rhizoctonia* sp. & *Pythium* sp. *Cercospora* sp. *Rhizoctonia* sp. *Meloidogyne* sp.	1 1 2 1 1 2 1
Iris C = 1 H = 0	Root rot	*Pythium* sp. & *Rhizoctonia* sp.	1

Host	Disease	Causal Organism	# Samples
Ivy C = 8 H = 4	Anthracnose leaf spot Collar rot Root rot Root & Crown rot Root rot No disease LSREP Cultural	*Colletotrichum* sp. *Calonectria* sp. *Rhizoctonia* sp. *Rhizoctonia* sp. *Pythium* sp. (Oedema)	3 1 1 1 1 3 1 1
Kalanchoe C = 1 H = 0	No disease		1
Lily C = 0 H = 1	Not diagnosed		1
Liriope C = 8 H = 3	Anthracnose Anthracnose Crown rot Root rot Root & Crown rot Unable to diagnose No disease	*Colletotrichum* sp. *Guignardia* sp. *Fusarium* sp. *Pythium* sp. & *Phytophthora* sp. *Phytophthora* sp. *Phyllosticta* 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 Anthracnose	*Pythium* sp. *Colletotrichum* 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	*Pythium* sp. *Pythium* sp. *Thielaviopsis basicola*	1 3 2 1

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

Host	Disease	Causal Organism	# Samples
Zinnia C = 3 H = 1	Root rot No disease Sample not diagnosed	*Pythium* sp. *Pythium* sp.	1 1 1 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	*Pythium* sp. & *Phytophthora* sp.	1
Blackgum C = 1 H = 0	Leaf spot	*Cercospora* sp.	1
Cedar, Deodara C = 2 H = 1	Root rot Not diagnosed No disease	*Phytophthora* sp.	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	*Pythium* sp. & *Rhizoctonia* sp. *Fusarium* sp.	1 1 1
Crepe myrtle C = 3 H = 2	Sooty mold Secondary organisms LSREP	 *Alternaria* sp. & *Pestalotia* sp. *Cercospora* sp. (oedema)	1 1 1 2

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

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

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

Host	Disease	Causal Organism	# Samples
Thuja C = 1 H = 0	Tip blight	*Phomopsis* sp.	1
Unknown C = 1 H = 0	Lower stem & root rot	*Pythium* sp.	1
Willow C = 1 H = 0	Bot canker	*Sphaeropsis* sp.	1
Zelkova C = 1 H = 0	Stem rot	*Fusarium* sp. (*Nectria* 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	*Phytophthora* sp. *Fusicoccum* sp. *Cercosporidium* sp. *Pestalotia* sp. Drought stress	1 1 1 2 1 6
Aster C = 2 H = 0	Root rot No disease	*Pythium* 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	*Cephaleuros virescens* *Pleurocytospora* sp. *Gloeosporium* sp. *Pythium* sp. & *Phytophthora* sp. (cold damage)	1 1 1 1 1 1 10
Barberry C = 1 H = 0	Root rot	*Pythium* sp.	1
Bougainvillea C = 1 H = 0	Root rot	*Pythium* sp.	1

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

Host	Disease	Causal Organism	# Samples
Heather C = 1 H = 0	Stem blight	*Phoma* 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	*Thielaviopsis* sp. *Pythium* sp. *Rhizoctonia* sp. *Pythium* sp. & *Rhizoctonia* sp. *Botryosphaeria* sp. *Gloeosporium* sp. *Colletotrichum* 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	*Oidium* sp. *Pythium* sp. *Pythium* sp. & *Rhizoctonia* sp. *Cercospora* sp.	2 1 2 2 1 2 2
Jasmine C = 4 H = 4	Root rot Leaf spot LSREP No disease	*Pythium* sp. *Phoma* 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	*Leptosphaerulina* sp. *Sphaeropsis* sp. *Pythium* sp. *Rhizoctonia* sp. *Rhizoctonia* sp. *Phytophthora* sp. & *Pythium* sp. *Phomopsis* sp. *Botryosphaeria* sp.	1 1 3 1 1 1 1 1 1 1 4

Host	Disease	Causal Organism	# Samples
Kalmia C = 1 H = 0	Leaf spot	*Cercospora* sp.	1
Lantana C = 1 H = 0	Root rot	*Pythium* sp.	1
Laurel C = 2 H = 2	Shot-hole Sample not diagnosed TDTD No disease	*Cercospora* sp.	1 1 1 1
Ligustrum C = 4 H = 1	Leaf spot Slime mold Wood rotting fungi No disease	*Cercosporidium* sp.	1 1 1 2
Loropetalum C = 4 H = 0	Bot canker (*2*[8]) Root rot No diagnosis No disease		1 1 1 1
Loquat C = 1 H = 0	Unknown		1
Mandevilla C = 1 H = 0	Root rot	*Pythium* sp.	1
Nandina C = 3 H = 1	Anthracnose Unknown No disease	*Colletotrichum* sp.	1 1 2
Osmanthus C = 1 H = 0	Leaf spot	*Cercospora* sp.	1
Photinia C = 0 H = 1	Bacteria		1
Rhaphiolepis C = 4 H = 1	Root rot Sample not diagnosed LSREP No disease	*Phytophthora* sp.	1 1 1 2

Host	Disease	Causal Organism	# Samples
Rhododendron C = 8 H = 0	Leaf spot No disease	*Cercospora* sp.	2 6
Rose C = 8 H = 1	Crown gall Leaf blight Root decay Virus TDTD LSREP No disease	*Agrobacterium tumefaciens* *Macrophoma* 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	*Pythium* sp. (bacterial) *Rhizoctonia* sp. & *Phytophthora* sp. Basidiomycete *Phytophthora* sp. *Phyllosticta* sp. (oedema)	1 1 1 1 2 1 1 9
Wax myrtle C = 1 H = 2	Wilt No disease	*Fusarium* sp.	1 2
Yucca C = 2 H = 0	Leaf spot No disease	*Sphaeropsis* sp.	1 1
Misc. Hosts C = 0 H = 4	Root rot Root rot Root rot No disease	*Pythium* sp. *Phytophthora* sp. *Rhizoctonia* 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
		Rhizoctonia sp.	8
		Fusarium sp.	1
		Colletotrichum sp.	15
		Pythium sp.	8
	ETRI	*Magnaporthe poae*	2
	Slime mold		1
	Anthracnose		2
	Summer Patch	*Magnaporthe* sp.	2
	Cultural (sulfides)		2
	No disease		4
Bermuda C = 101 H = 8	Take-all	*GGG*	14
	Anthracnose	*Colletotrichum* sp.	13
	Rust	*Puccinia* sp.	2
	Dollar spot		2
	Spring Dead spot		4
		Colletotrichum sp.	7
		Helminthosporium sp.	5
		Bipolaris sp.	20
		Curvularia sp.	5
		Rhizoctonia sp.	10
		GGG	2
		Pythium 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
Bluegrass C = 0 H = 1	No disease		1
Centipede C = 55 H = 22	Take-all Brown Patch Anthracnose Stress organism Stress organism Stress Organism ETRI Large Patch Fairy Ring Nematode Damage Cultural/Environmental Stress TDTD LSREP/Cold damage LSREP Centipede Decline Not diagnosed No disease	*GGG* *Rhizoctonia* sp. *Colletotrichum* sp. *Curvularia* sp. *Colletotrichum* sp. *G. graminis* *Rhizoctonia* sp. *Helminthosporium* sp. *Rhizoctonia* sp. *Bipolaris* sp. *Pythium* sp.	16 11 5 2 1 5 2 1 1 6 1 1 1 1 1 5 1 1 2 1 12
Dallis Grass C = 1 H = 0	No diagnosis		1
Fescue C = 3 H = 2	Root rot No diagnosis Cultural TDTD No disease	*Pythium* sp.	1 1 1 1 1
Grass C = 6 H = 1	Sod Sod Anthracnose No disease	*Helminthosporium* sp. *Rhizoctonia* sp. *Rhizoctonia* sp. *Colletotrichum* sp. *Pythium* sp. & *Rhizoctonia* sp.	1 1 1 1 1 1 1

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

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

MISCELLANEOUS

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

Host	Disease	Causal Organism	# Samples
Fungus ID C = 1 H = 1	Mushroom ID Mushroom ID	*Lactaris* sp. or *Russula* sp. (Puffball) *Scleroderma* 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	 *Oidium* sp. *Cladosporium* sp. Sample sent forward to Dr. Atiles Broad Mites Bacteria and algae Structural mold *Pythium* sp. (Durante) *Rhizoctonia* sp. & *Phytophthora* sp. *Colletotrichum* sp. *Colletotrichum* sp. *Pythium* sp. 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 3