Annual Plant Disease Clinic Summary 2007

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Table of Contents

Introduction

The Plant Pathology Department at the University of Georgia's College of Agricultural and Environmental Sciences maintains two plant disease diagnostic clinics—one in Athens, Ga., and one in Tifton, Ga. Commercial turf, fruits, forage crops, greenhouse, ornamental nursery and homeowner samples are analyzed at the Plant Disease Clinic in Athens. Samples of commercial field crops, pecans and vegetables are diagnosed at the Plant Disease Clinic in Tifton. Diagnoses and management recommendations are returned to 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, which helps provide a more timely diagnosis and recommendation for a number of plant disease samples.

Some pathogens identified in the "Crop Summaries" section are listed by both genus and species, whereas others are identified as the genus or "species." Our plant disease clinic does not routinely identify plant pathogens by 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.
ETRI: Ectotrophic root-infecting fungi (similar to *G*. *graminis*)
GGG: *Gaeumannomyces graminis* var. *graminis*
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 on the plant or was due to environmental or 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).

Finally, 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. This could 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 bounced back from 2006, when the diagnostic clinic was closed for over half the year.

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

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

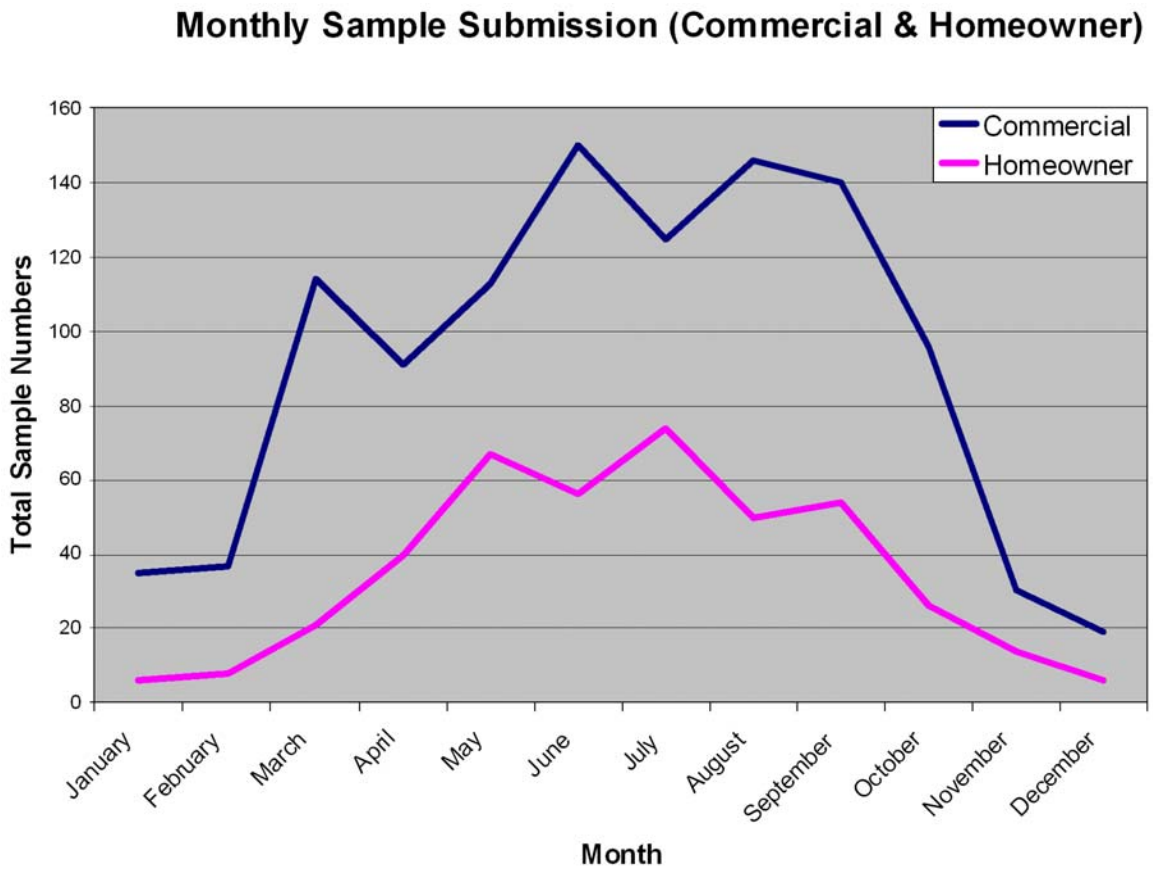
Plant Disease Clinic Summaries:

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	95	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 in the table below) because some samples had more than one problem or diagnosis.

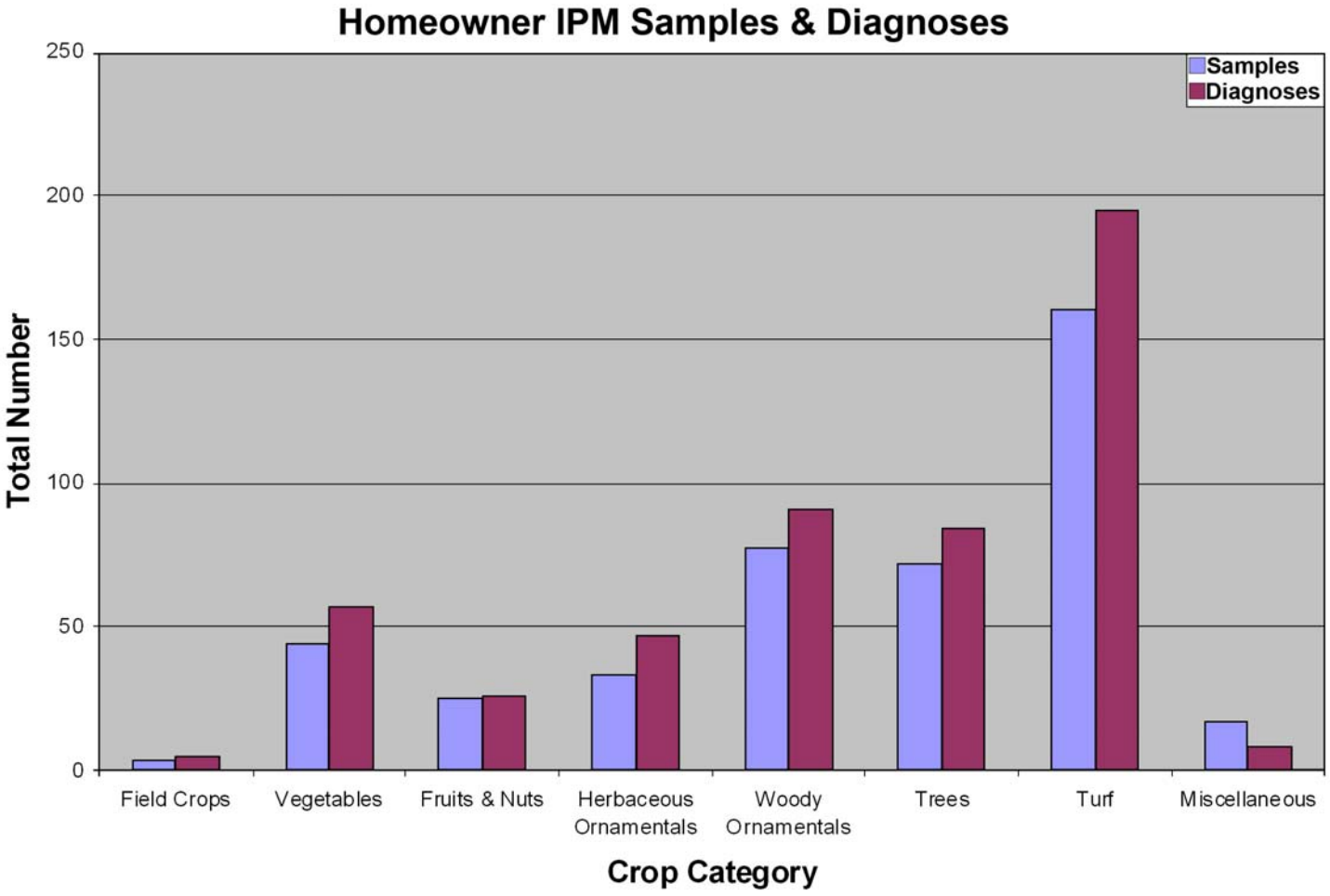
The largest crop category received by the diagnostic clinics for both commercial and homeowner samples was turfgrass, followed by vegetables (commercial) and woody ornamentals (homeowner).

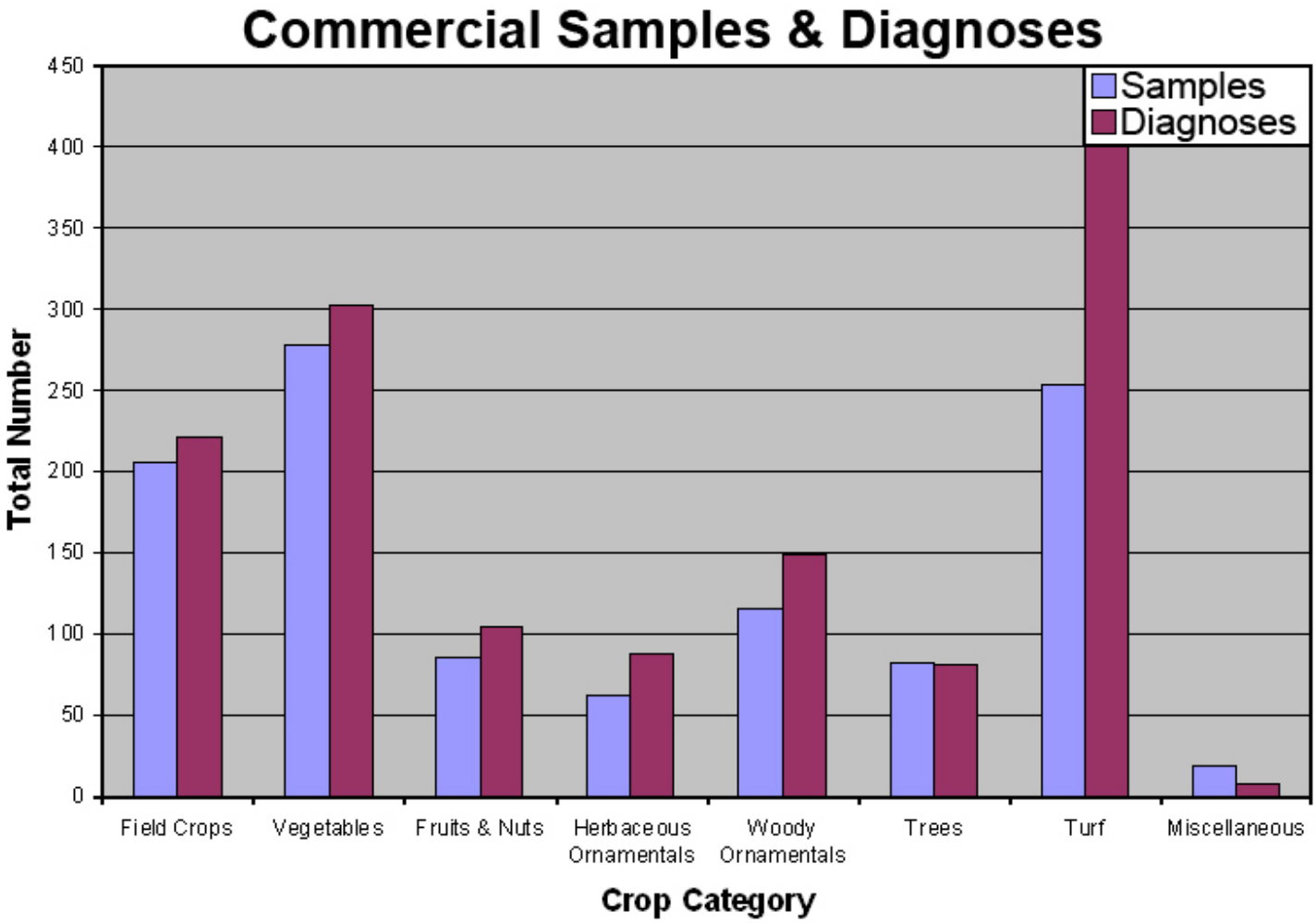
2007 Monthly Sample Submission Summary		
	Samples	
Month	**Commercial**	**Homeowner**
January	35	6
February	37	8
March	114	21
April	91	40
May	113	67
June	150	56
July	125	74
August	146	50
September	140	54
October	96	26
November	30	14
December	19	6
Total	**1,096**	**422**



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

Comparisons between the number of samples submitted to the clinic and the number of diagnoses made are shown on pages 3 and 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 turfgrass samples and diseases.


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


Commercial Samples & Diagnoses
Samples
Diagnoses
Total Number
450
400
350
300
250
200
150
100
50
0
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Woody Ornamentals
Trees
Turf
Miscellaneous
Crop Category

Distribution of Homeowner Samples by County

County	Samples		County	Samples
Appling	1		Gwinnett	17
Atkinson	2		Hall	1
Bacon	1		Harris	8
Baker	4		Henry	5
Baldwin	2		Houston	2
Banks	1		Jackson	9
Barrow	4		Jeff Davis	3
Bartow	9		Jefferson	3
Berrien	5		Jenkins	7
Bibb	31		Johnson	1
Bryan	1		Laurens	1
Burke	1		Lee	10
Camden	1		Lincoln	1
Candler	3		Long	2
Carroll	13		Lowndes	2
Chatham	6		Lumpkin	3
Cherokee	6		Macon	2
Clarke	21		Madison	4
Clayton	1		Miller	1
Cobb	5		Mitchell	1
Coffee	1		Monroe	20
Columbia	3		Morgan	10
Cook	1		Muscogee	9
Coweta	16		Newton	7
Crawford	1		Oconee	2
Crisp	2		Paulding	2
Dade	2		Pickens	1
Decatur	2		Pierce	8
DeKalb	6		Pulaski	3
Dooly	3		Rabun	3
Dougherty	16		Randolph	1
Douglas	2		Richmond	3
Echols	2		Rockdale	4
Effingham	2		Schley	6
Elbert	1		Stephens	4
Evans	1		Thomas	1
Fannin	2		Toombs	4
Fayette	28		Troup	2
Floyd	1		Union	1
Forsyth	3		Upson	1
Franklin	1		Walker	2
Fulton	4		Walton	1
Gilmer	1		Ware	15
Glynn	1		Webster	1
Gordon	1		Whitfield	3
Grady	7		Wilkes	3
Greene	3		NA*	4
* Samples were submitted without indicating a county of origin.				

Distribution of Commercial Samples by County

County	Samples		County	Samples
Appling	5		Gilmer	2
Atkinson	2		Glynn	1
Bacon	17		Gordon	6
Banks	1		Grady	20
Barrow	1		Gwinnett	8
Bartow	2		Habersham	3
Berrien	38		Hall	3
Bibb	5		Harris	7
Bleckley	1		Hart	2
Brantley	2		Henry	2
Brooks	1		Houston	5
Bulloch	10		Irwin	9
Burke	18		Jasper	1
Butts	1		Jeff Davis	12
Calhoun	2		Jefferson	5
Camden	3		Jenkins	2
Candler	1		Lamar	7
Carroll	4		Lanier	8
Catoosa	1		Laurens	7
Chatham	5		Lee	2
Cherokee	3		Liberty	1
Clarke	28		Lincoln	1
Clay	1		Lowndes	58
Clinch	7		Lumpkin	2
Cobb	16		Macon	18
Coffee	15		Madison	2
Colquitt	13		Marion	1
Columbia	20		McDuffie	48
Cook	13		Meriwether	1
Coweta	3		Miller	19
Crisp	5		Mitchell	11
Dade	1		Monroe	1
Dawson	2		Montgomery	4
Decatur	7		Morgan	12
DeKalb	12		Newton	2
Dodge	8		Oconee	13
Dooly	10		Oglethorpe	1
Dougherty	13		Paulding	1
Douglas	5		Peach	1
Early	3		Pickens	1
Echols	17		Pierce	20
Effingham	8		Polk	2
Emanuel	11		Pulaski	9
Evans	7		Quitman	1
Fayette	5		Rabun	3
Floyd	8		Randolph	1
Forsyth	10		Richmond	35
Fulton	7		Rockdale	7

County	Samples		County	Samples
Schley	2		Walker	2
Screven	6		Walton	6
Seminole	11		Ware	2
Spalding	1		Washington	2
Stephens	1		Wayne	5
Sumter	4		Webster	7
Tattnall	7		Wheeler	5
Telfair	2		White	1
Tift	23		Wilcox	15
Troup	1		Worth	11
Turner	12		NA*	223
Union	3			
* Samples were submitted without indicating a county of origin.				

Summary of Diagnoses by Crop

Field Crops

(Total Diagnoses: C = 220; H = 5)

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

Host	Disease	Causal Organism	Samples
Alecia, Hay C = 1 H = 0	Rust		1
Alfalfa C = 4 H = 0	Wilt Crown and Stem Rot Crown and Stem Rot No Disease	Undetermined *Sclerotinia* sp. *Sclerotinia trifoliorum*	1 1 1 1
Amaranth C = 2 H = 0	Root Rot LSREP	*Pythium* sp.	1 1
Bahia Grass C = 2 H = 2	Head Blight Anthracnose	*Fusarium* sp. *Colletotrichum* sp. *Helminthosporium* sp. *Sclerotinia* sp.	1 1 1 1
Bermuda, Hay C = 2 H = 0		*Helminthosporium* sp. *Colletotrichum* sp.	1 1
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	*Bipolaris maydis* *Puccinia polysora* *Fusarium* sp. *Ustilago maydis* *Helminthosporium* sp.	2 2 2 1 1 6
Cotton C = 14 H = 0	 Rhizoctonia Soreshin Fusarium Wilt Leaf Spot Leaf Spot No Disease	*Rhizoctonia solani* *Rhizoctonia* sp. *Fusarium* sp. *Stemphylium* sp. *Alternaria* sp.	1 1 1 7 2 2
Fescue, Tall C = 2 H = 0	Rust	 *Bipolaris* sp.	1 1
Grain, Small C = 1 H = 0	Powdery Mildew		1
Millet C = 3 H = 0	Leaf Spot	*Pyricularia* 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 Leaf Scorch Limb Rot Early Leaf Spot Late Leaf Spot Funky Leaf Spot Virus Collar Rot White Mold Cylindrocladium Black Rot Nematode Damage Unknown No Disease	*Aspergillus* sp. *Leptosphaerulina crassiasca* *Rhizoctonia* sp. *Cercospora arachidicola* *Cercosporidium personatum* Tomato Spotted Wilt *Diplodia* sp. *Sclerotium rolfsii* *Cylindrocladium crotalariae* *Meloidogyne* sp. *Rhizoctonia* sp. *Neocosmospora* sp. *Rhizoctonia solani*	3 1 1 3 1 1 7 2 2 1 1 2 1 3 2 14
Rye C = 3 H = 0	No Disease		3
Sorghum C = 3 H = 0	Gray Leaf Spot No Disease	*Cercospora* sp. *Rhizoctonia* sp.	1 1 1
Soybean C = 70 H = 1	Charcoal Rot Rust Bacterial Disease Downy Mildew Root Rot Stem Blight Wilt Stem Canker/Lesion White Mold Leaf Spot No Disease TDTD Unknown	*Macrophomina* sp. *Phakopsora pachyrhizi* *Peronospora manshurica* *Rhizoctonia* sp. *Phomopsis* sp. *Fusarium* sp. *Phomopsis* /*Diaporthe* sp. *Sclerotium rolfsii* *Cercospora* sp. *Neocosmospora* sp.	4 1 1 13 1 1 1 1 1 1 1 41 1 3
Tobacco C = 43 H = 0	Collar Rot Brown Spot Black Shank Black Shank Race-1 Stem Rot Stalk Rot Virus Virus No Disease TDTD LSREP	*Sclerotinia sclerotiorum* *Alternaria* sp. *Phytophthora nicotianae* var. *parasitica* *Phytophthora nicotianae* var. *parasitica* *Sclerotium rolfsii* *Erwinia* sp. Tomato Spotted Wilt Tobacco Mosaic *Rhizoctonia* sp. *Rhizoctonia solani* *Pythium* sp. *Pseudomonas* sp.	2 2 6 4 1 1 6 1 1 5 3 1 8 1 1
Wheat C = 5 H = 0	Virus No Disease LSREP	Soil-Borne Wheat	1 2 2

Vegetables

(Total Diagnoses: C = 303; H = 57)

Diagnostic Responsibilities: Tifton Clinic: Commercial
Athens Clinic: Homeowner

Host	Disease	Causal Organism	Samples
Arugula C = 1 H = 0	Root Rot	*Pythium* sp.	1
Basil C = 2 H = 0	Root Rot Stem and Leaf Blight	*Pythium* sp. *Phytophthora* sp.	1 1
Bean, Lima C = 1 H = 1	Unknown No Disease		1 1
Bean, Snap C = 14 H = 4	Ashy Stem Blight Cottony Leak Leaf Spot/Blight No Disease LSREP Unknown TDTD	*Macrophomina phaseolina* *Pythium* sp. Bacterial *Rhizoctonia solani* *Pythium* sp.	1 1 1 2 1 9 1 1 1
Cabbage C = 9 H = 0	Root Rot LSREP No Disease Unknown	*Pythium* sp. *Rhizoctonia* sp. *Rhizoctonia solani* Cold Injury	1 1 1 1 1 4
Cantaloupe C = 17 H = 0	Gummy Stem Blight Root Rot Powdery Mildew Virus Crown Decline No Disease	*Mycosphaerella citrullina* *Pythium* sp. Poty	2 2 2 3 1 7
Carrot C = 1 H = 0		*Rhizoctonia solani*	1
Collard C = 7 H = 3	Root Rot Nematode Damage Downy Mildew No Disease LSREP	*Pythium* sp. Possible *Peronospora parasitica* *Alternaria* sp.	1 1 1 1 5 1
Corn, Sweet C = 8 H = 1	Common Rust Purple Sheath Northern Corn Leaf Blight No Disease Undetermined	*Puccinia sorghi* *Exserohilum turicum*	1 1 1 5 1
Cucumber C = 14 H = 0	Virus Gummy Stem Blight Downy Mildew Phytophthora Blight No Disease TDTD	Cucumber Mosaic *Mycosphaerella citrullina* *Pseudoperonospora cubensis* *Pythium* sp. *Phytophthora capsici*	1 1 2 1 1 7 1

Host	Disease	Causal Organism	Samples
Eggplant	Anthracnose		1
C = 2		*Phomopsis* sp.	1
H = 0			
Gourd	Leaf Spot	*Alternaria* sp.	1
C = 1			
H = 0			
Greens, Mustard	Leaf Spot	*Cercospora* sp.	1
C = 1	LSREP		1
H = 1			
Greens, Turnip	Virus	Gemini	1
Greens, Micro	Virus		1
C = 7	Root Rot	*Rhizoctonia* sp.	1
H = 4	Leaf Spot	*Cercospora* sp.	2
		Pythium and/or *Phytophthora* sp.	1
	No Disease		2
	LSREP		1
	TDTD		2
Kale		*Pythium* and/or *Rhizoctonia* sp.	1
C = 0	LSREP		1
H = 3	TDTD		1
Okra	Wilt	Possible *Fusarium* sp.	1
C = 2	No Disease		1
H = 0			
Onion	Stem Lesion	*Botrytis* sp.	1
C = 11	Leaf Blight	*Stemphylium* sp.	1
H = 0	Basal Plate Rot	*Fusarium* sp.	1
	Sour Skin	*Burkholderia cepacia*	1
	Neck Rot	*Botrytis* sp.	1
	Bacteria		1
		Botrytis allii	1
		Probable *Pantoea* sp.	1
		Probable *Erwinia* sp.	1
	No Disease		1
	TDTD		1
Parsley	Crown Rot	*Sclerotinia sclerotiorum*	1
C = 0			
H = 1			
Pea	Stems	*Rhizoctonia* sp.	1
C = 2	Stems	*Pythium* sp.	1
H = 2		*Fusarium* sp.	1
	Unknown		1

Host	Disease	Causal Organism	Samples
Pepper C = 33 H = 1	Virus Fruit Rot Leaf Spot Leaf Spot Stem Lesions Anthracnose Leaf Spot Root and Stem Rot Roots LSREP No Disease Unknown TDTD	Tomato Spotted Wilt Possible *Erwinia* sp. *Xanthomonas campestris* pv. *vesicatoria* (Copper Sensitive) *Xanthomonas campestris* pv. *vesicatoria* (Copper Insensitive) *Erwinia* sp. *Xanthomonas campestris* pv. *vesicatoria* Possible *Pythium* sp. *Phytophthora* sp. *Pythium* sp. *Xanthomonas* sp. Sunscald 	2 1 5 1 1 1 1 3 1 5 3 1 7 1 1
Potato, Irish C = 3 H = 1	Leaf Spot No Disease	Bacterial *Fusarium* sp. Possible *Erwinia* sp. 	1 1 1 1
Pumpkin C = 0 H = 3	Blossom / Fruit Blight Crown Decline No Disease	*Choanephora* sp. 	1 1 1
Rape C = 0 H = 1	Root Rot	*Pythium* and/or *Rhizoctonia* sp.	1
Spinach C = 2 H = 0	Root Rot Virus	*Pythium* sp. Cucumber Mosaic	1 1
Squash C = 5 H = 2	Virus Virus Phytophthora Blight Downy Mildew No Disease	Squash Mosaic Cucumber Mosaic *Phytophthora capsici* *Xanthomonas* sp. *Pythium* sp. *Pseudoperonospora cubensis* 	1 1 1 1 1 1 2
Tomato C = 42 H = 27	Leaf Mold Early Blight Leaf Spot Virus Virus Virus Virus (Possible) Blossom End Rot Cat Facing No Disease Unknown LSREP TDTD Insufficient Sample	*Fulvia fulva* *Alternaria* sp. *Xanthomonas campestris* pv. *vesicatoria* Tomato Spotted Wilt Cucumber Mosaic Tobacco Mosaic Tomato Yellow Leaf Curl *Pythium* sp. *Xanthomonas* sp. 	1 1 2 22 1 1 1 2 2 3 1 20 5 2 3 2
Unknown Multiple Samples C = 0 H = 1	No Disease	Herbicide Damage	1

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

Fruits and Nuts

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

Diagnostic Responsibilities: Tifton Clinic: Commercial Nuts
Athens Clinic: Fruit (Commercial and Homeowner), Homeowner Nuts

Host	Disease	Causal Organism	Samples
Apple C = 3 H = 4	White Rot Bot Canker Leaf Spot Galling No Disease	*Botryosphaeria* sp. *Botryosphaeria* sp. *Botryosphaeria* sp. Unknown *Alternaria* sp.	1 1 1 1 1 2
Blackberry C = 6 H = 4	Cane Blotch Fire Blight White Rot Cane & Leaf Rust Virus No Disease Unknown	*Cephaleuros virescens* *Erwinia amylovora* *Kuehneola uredinis* Tomato Ringspot *Fusicoccum* sp.	1 1 1 2 1 1 1 2
Blueberry C = 56 H = 2	Twig Blight Root Rot Canker Root Rot Root Rot Root Rot Xyellela (questionable) No Disease Unknown LSREP	*Phomopsis* sp. *Pythium* sp. *Sphaeropsis* sp. *Phytophthora* sp. *Pythium* sp. & *Phytophthora* sp. *Rhizoctonia* sp. *Pythium* sp. *Phytophthora* sp. *Pythium* & *Phytophthora* sp. *Alternaria* sp. *Phyllosticta* sp. *Xyellela fastidiosa*	1 4 1 2 1 4 1 4 3 1 1 1 1 5 13 15
Cherry C = 0 H = 1	Shot Hole	*Blumeriella jaapii*	1
Citrus C = 3 H = 1	 No Disease No Sample Sent	*Cercospora* sp.	1 2 1
Fig C = 0 H = 3	Anthracnose Secondary Organisms LSREP		1 1 1
Grape, Wine C = 5 H = 1	Bitter Rot No Disease	*Melanconium fuligineum* *Botrytis* sp.	1 1 4
Muscadine C = 2 H = 1	Root Rot No Disease	*Pythium* sp. *Phytophthora* sp.	1 1 1
Peach C = 1 H = 1	Brown Rot No Disease	*Monilinia fructicola*	1 1
Pear, Pineapple C = 0 H = 1	LSREP		1

Host	Disease	Causal Organism	Samples
Pecan C = 5 H = 0	Unknown No Disease		2 3
Persimmon C = 3 H = 0	Leaf Spot No Disease Unknown	*Cercospora* sp.	1 1 1
Plum C = 0 H = 3	Canker Shot Hole LSREP	 *Blumeriella jaapii*	1 1 1
Pomegranate C = 2 H = 3	Fruit Rot Heart Rot LSREP	 *Pestalotia* sp.	2 1 1 1
Ribes C = 0 H = 1	LSREP		1
Strawberry C = 19 H = 0	Leaf Spot Root Rot Root Rot Root Rot Crown Rot Leaf Spot, Bacterial Root & Crown Rot Seedling & Basal Stem Rot Anthracnose (Possible) No Disease LSREP	*Mycosphaerella* sp. *Phytophthora* sp. *Pythium* sp. *Phytophthora* sp. *Xanthomonas* sp. *Rhizoctonia* sp. *Rhizoctonia* sp. *Phomopsis* sp. *Pythium* sp. *Botrytis* sp. *Phytophthora* sp.	1 2 1 1 2 1 1 1 1 2 1 1 1 2 1

Herbaceous Ornamentals
(Total Diagnoses: C = 87; H = 47)

Diagnostic Responsibilities: Athens Clinic: All Samples (Commercial and Homeowner)

Host	Disease	Causal Organism	Samples
Agapanthus C = 1 H = 0	Soft Rot, Bacterial	*Erwinia carotovora*	1
Agalinis C = 1 H =0	No Disease		1
Ajuga C = 2 H = 0	Crown & Root Rot Crown Rot	*Phoma* sp. *Phoma* sp.	1 1
Amaryllis C = 0 H = 1	No Disease		1
Argyranthemum C = 1 H = 0	Crown Gall	*Agrobacterium tumefaciens*	1
Acorus C = 0 H = 1	No Disease		1
Begonia C = 2 H = 2	Stem & Root Rot Root Rot No Disease	*Fusarium* sp. *Pythium* sp. *Pythium* 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		*Pythium* sp. & *Rhizoctonia* sp.	1
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	*Pythium* sp. *Fusarium* sp.	2 1 3
Coleus C = 0 H = 1	Downy Mildew	*Peronospora* sp.	1
Dahlia C = 1 H = 0	Stem Rot	*Rhizoctonia* sp.	1
Daylily C = 2 H = 1	Crown Rot Root Rot No Disease	*Rhizoctonia* sp. *Pythium* sp. & *Fusarium* sp.	1 1 1

Host	Disease	Causal Organism	Samples
Euphorbia C = 1 H = 0	Root Rot	*Pythium* 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	*Phytophthora* sp. *Peronospora pulveracea* *Cladosporium* sp.	1 1 1
Heuchera C = 2 H = 0	Root Rot No Disease	*Pythium* sp. & *Phytophthora* sp.	1 1
Hollyhock C = 0 H = 2	Rust	*Puccinia malvacearum*	2
Hosta C = 14 H = 0	Anthracnose Virus Virus No Disease	*Colletotrichum* sp. Tomato Spotted Wilt Hosta Virus X	1 1 6 6
Houseplants, Misc. C = 0 H = 1	No Disease		1
Impatiens C = 6 H = 0	Crown Rot Root Rot Nematode Damage No Disease	*Rhizoctonia* sp. *Pythium* sp. & *Rhizoctonia* sp. *Meloidogyne* sp.	1 1 1 3
Iris C = 2 H = 3	Leaf Spot Virus Virus Virus LSREP	*Heterosporium iridis* Tobacco Ringspot Poty Possible	1 1 1 1 1
Ivy C = 1 H = 5	Leaf Spot, Bacterial Anthracnose Root Rot	*Xanthomonas campestris pv. hedera* *Colletotrichum* sp. *Phytophthora* sp. *Macrophoma* sp. *Pythium* sp. and Clamp Fungi	1 1 1 1 1
Kalanchoe C = 1 H = 0	No Disease		1
Kale, Ornamental C = 1 H = 0	Wire Stem	*Rhizoctonia* sp.	1
Liriope C = 7 H = 2	Crown Rot Anthracnose Crown Rot Crown Rot Root Rot No Disease	*Fusarium* sp. *Colletotrichum* sp. *Fusarium* sp. & *Rhizoctonia* sp. *Phytophthora palmivora* *Pythium* sp. & *Phytophthora* sp.	2 2 1 1 1 2
Miscanthus C = 0 H = 1	No Disease		1

Host	Disease	Causal Organism	Samples
Mondo Grass C = 2 H = 0	Anthracnose No Disease	*Colletotrichum* 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	*Fusarium* sp. *Pythium* sp. & *Rhizoctonia* sp. *Pythium* sp.	1 1 1 1
Osteospermum C = 1 H = 0	Crown Rot	*Rhizoctonia* sp.	1
Pachysandra C = 0 H = 3	Stem Lesion Leaf Spot Unknown	*Rhizoctonia* sp. *Volutella* sp.	1 1 1
Panicum C = 1 H = 0	Leaf Rust	*Puccinia* sp.	1
Pansy C = 5 H = 1	Crown & Stem Rot Black Root Rot No Disease	*Botrytis* sp. *Thielaviopsis* sp.	1 2 3
Penta C = 2 H = 0	Root Rot No Disease	*Phytophthora* sp.	1 1
Petunia C = 1 H = 3	Blight Root Rot	*Botrytis* sp. *Pythium* sp. & *Rhizoctonia* sp. *Rhizoctonia* sp. *Pythium* sp.	1 1 1 1
Phlox C = 1 H = 0	No Disease		1
Poinsettia C = 3 H = 0	Stem Rot No Disease	*Phytophthora* sp.	1 2
Sansevieria C = 1 H = 0	Crown Rot	*Fusarium* sp.	1
Sarracenia C = 2 H = 0	 No Disease	*Penicillium* sp.	1 1
Scaveola C = 1 H = 0	Root Rot	*Pythium* sp. & *Phytophthora* sp.	1
Schefflera C = 0 H = 1	Bacterial or Viral (Possible)		1
Snapdragon C = 1 H = 1	Rust Root Rot	*Puccinia* sp. *Pythium* sp.	1 1
Streptocarpus C = 2 H = 0	No Disease		2
Tulip C = 0 H = 3	 LSREP	*Botrytis* sp. *Penicillium* sp. Cold Damage	1 1 1

Host	Disease	Causal Organism	Samples
Thrift C = 0 H = 1	Web Blight	*Rhizoctonia* sp.	1
Verbena C = 1 H = 0	No Disease		1
Vinca C = 2 H = 1	Black Root Rot Root & Stem Rot No Disease	*Thielaviopsis* sp.	1 1 1
Zinnia C = 0 H = 3	Stem Rot Root Rot Virus	*Alternaria* sp. *Pythium* sp. Tomato Spotted Wilt	1 1 1

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

Diagnostic responsibilities: Athens Clinic: All Samples (Commercial and 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	*Cercosporidium* sp. *Fusicoccum* sp. *Colletotrichum* sp. *Alternaria* 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	Possible *Seiridium* or Bot *Pythium* sp. *Cercosporidium* sp. *Sphaeropsis* sp.	5 1 1 2 1 8 1
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 and/or Slime Flux		1
Ficus C = 1 H = 0	Leaf Spot	*Corynespora* sp.	1
Hardwoods, Misc. C = 0 H = 2		Algae Bacteria	1 1

Host	Disease	Causal Organism	Samples
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	*Cephaleuros* sp. *Fusarium* 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	*Rhytisma* sp. Bacterial *Gloeosporium* sp. *Cristulariella* sp. *Sphaeropsis* sp. *Phytophthora* sp. *Coenocytic hyphae* (Possible Oomycete) 	2 1 1 1 1 1 1 17 3 1
Metasequoia C = 1 H = 0	Charcoal Rot	*Macrophomina phaseoli*	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	*Endothiella* sp. *Nectria* sp. *Phyllosticta* sp. Bacterial *Cordyceps* sp. Lightning Damage To Entomology	1 1 1 1 1 7 1 6 1
Palm C = 2 H = 1	 LSREP No Disease	*Pythium* 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	*Pythium* sp. *Phytophthora* sp. *Pythium* sp. & *Rhizoctonia* 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	*Calonectria* sp.	1 1
Thuja C = 5 H = 1	Bot Canker Root Rot Needle Blight No Disease LSREP	*Botryosphaeria* sp. *Cercosporidium* 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	*Phytophthora* sp. & *Rhizoctonia* sp.	1
Yew C = 0 H = 1	LSREP		1

Woody Ornamentals

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

Diagnostic Responsibilities: Athens Clinic: All Samples (Commercial and Homeowner)

Host	Disease	Causal Organism	Samples
Althea C = 1 H = 0	No Disease		1
Arborvitae C = 5 H = 1	Root Rot No Disease	*Phytophthora* sp.	1 5
Aucuba C = 3 H = 1	Anthracnose No Disease LSREP		1 1 2
Azalea C = 15 H = 5	Dieback Root Rot Root Decline Powdery Mildew Root Rot Root Rot Anthracnose Anthracnose Root Rot Leaf Spot No Disease LSREP	*Botryosphaeria* sp. *Pythium* sp. & *Phytophthora* sp. Unknown Fungi *Microsphaera azaleae* *Pythium* sp. *Phytophthora* sp. *Colletotrichum* sp. *Gloeosporium* sp. *Pythium* sp. & *Rhizoctonia* sp. *Basidiomycete* *Cylindrocladium* 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
Boxwood C = 8 H = 8	Volutella Blight Root Rot Boxwood Decline Root Rot Root Rot No Disease Unknown	*Volutella buxi* *Pythium* sp. *Phytophthora* sp. *Pythium* sp. & *Phytophthora* 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	*Botryosphaeria* sp. *Pythium* sp. & *Rhizoctonia* sp. *Gloeosporium* sp. *Phyllosticta* sp. *Leptosphaeria* sp. *Exobasidium*	1 1 1 1 1 1 1 17 3 1
Chamaecyparis C = 0 H = 2	Twig Blight No Disease	*Phomopsis* sp.	1 1
Chionanthus C = 0 H= 1	Slime Flux/Wetwood		1

Host	Disease	Causal Organism	Samples
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	*Phytophthora cactorum*	1 1
Euonymus C = 1 H = 1	Slime Mold No Disease		1 1
Fatsia C = 0 H = 1	Sooty Mold		1
Fig, creeping C = 1 H = 0	Root Rot	*Phytophthora* sp. & *Fusarium* sp.	1
Forsythia C = 0 H = 1	Nematode Damage (Root Knot)	*Meloidogyne* sp.	1
Fothergilla C = 1 H = 0	Leaf Spot	*Cercospora* sp.	1
Gardenia C = 0 H = 3	No Disease LSREP		1 2
Hibiscus C = 2 H = 0	No Disease Insufficient Sample		1 1
Holly C = 19 H = 11	Root Rot Black Root Rot Root Rot Root Rot Leaf Spot Canker Canker Bot Canker Aerial Blight Algal Leaf Spot No Disease LSREP Unknown	 *Thielaviopsis* sp. *Rhizoctonia* sp. *Pythium* sp. *Colletotrichum* sp. *Phomopsis* sp. *Leptosphaeria* sp. *Rhizoctonia* sp. *Pestalotia* sp. *Fusarium* sp.	1 1 2 2 1 1 1 1 1 1 1 11 4 1
Hydrangea C = 15 H = 4	Leaf Spot Root Rot Root Rot Root Rot Stem Rot No Disease	*Cercospora* sp. *Pythium* sp. *Pythium* sp. & *Rhizoctonia* sp. *Phytophthora* sp. & *Rhizoctonia* sp. *Fusarium* sp.	1 2 1 1 1 13

Host	Disease	Causal Organism	Samples
Illicium C = 4 H = 0	Leaf Spot Leaf Spot Bot Canker No Disease	*Cercospora* sp. *Gloeosporium* sp. *Sphaeropsis* sp.	1 1 1 1
Jasmine C = 2 H = 4	Leaf Spot, Bacterial Southern Blight Root Rot Root Rot LSREP	Possible *Sclerotium rolfsii* *Pythium* sp. *Rhizoctonia* sp. Possible *Rhizoctonia* sp.	1 1 1 1 1 1
Juniper C = 6 H = 6	Aerial Blight Root Rot Twig Blight Canker (Possible) No Disease LSREP Unknown	*Rhizoctonia* sp. *Verticillium* sp. *Pythium* sp. & *Phytophthora* sp. *Pestalotia* sp.	1 1 1 1 1 5 1 1
Kolkwitzia C = 1 H = 0	Root Rot	*Pythium* sp.	1
Hypericum C = 2 H = 0	Black Root Rot Root Rot	*Thielaviopsis* sp. *Pythium* sp. & *Rhizoctonia* sp.	1 1
Lantana C = 1 H = 1	Nematode Damage No Disease	*Meloidogyne* sp.	1 1
Laurel, Cherry C = 0 H = 2	Black Root Rot Shot Hole	*Thielaviopsis basicola* *Scolytus rugulosus*	1 1
Lavandula C = 1 H = 0	Root Rot	*Pythium* sp. & *Rhizoctonia* sp.	1
Leucothoe C = 1 H = 2	Root Rot Powdery Mildew LSREP	*Pythium* sp. *Erysiphe vaccinii*	1 1 1
Ligustrum C = 4 H = 3	Leaf Spot Wood Rotting Fungi Sooty Mold No Disease LSREP	*Cercospora* sp. *Armillaria* sp.	1 1 1 3 1
Loropetalum C = 1 H = 0	TDTD		1
Mahonia C =1 H = 0	Root Rot	*Pythium* sp.	1
Nandina C = 3 H = 0	Stem & Root Rot Root Rot Leaf Spot	*Rhizoctonia* sp. *Pythium* sp. *Cercospora* sp.	1 1 1
Physocarpus C = 1 H = 0	No Disease		1
Pieris C = 2 H = 0	Black Root Rot Root Rot	*Thielaviopsis basicola* *Pythium* sp. & *Rhizoctonia* sp.	1 1

Host	Disease	Causal Organism	Samples
Pittosporum C = 1 H = 0		*Coenocytic hyphae* (Possible Oomycete)	1
Rhaphiolepis C = 3 H = 3	Leaf Spot Leaf Spot Root Rot No Disease TDTD	*Entomosporium* sp. *Cercospora* sp. *Pythium* sp. & *Phytophthora* sp.	2 1 1 1 1
Rhododendron C = 2 H = 2	Root Rot No Disease		1 3
Rose C = 12 H = 9	Root Rot Black Spot Leaf Spot Wilt Root Rot Root Rot Downy Mildew No Disease LSREP Unknown	Possible *Armillaria* *Marssonina rosea* *Cercospora* sp. *Verticillium dahliae* *Rhizoctonia* sp. *Phytophthora* sp. *Peronospora sparsa* *Alternaria* sp.	1 2 1 2 1 1 1 1 7 3 1
Spirea C = 0 H = 1	TDTD		1
Tea Olive C = 1 H = 0	No Disease		1
Unknown C = 0 H = 2	No Disease LSREP	 Transplant Shock	1 1
Viburnum C = 6 H = 3	Root Rot No Disease LSREP	*Pythium* sp. & *Phytophthora* sp.	1 7 1

Turf and Forage Grasses

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

Diagnostic Responsibilities: Athens Clinic: All samples (Commercial and Homeowner)

Host	Disease	Causal Organism	Samples
Bentgrass	Anthracnose (Basal Rot)	*Colletotrichum* sp.	23
C = 80	ETRI		2
H = 0	ETRI	*Magnaporthe poae* or *GGG*	3
	Summer Patch	*Magnaporthe* sp.	1
		Pythium sp.	21
		Rhizoctonia sp.	8
		Algae	3
		GGG	1
	Nematode Damage	Suspect or Recommend Check	8
	Sulfides/Anaerobic Conditions		5
	No Disease		5
Bermuda	Brown Patch	*Rhizoctonia* sp.	3
C = 88	Large Patch	*Rhizoctonia* sp.	4
H = 23	Rust	*Puccinia* sp.	2
	ETRI		7
	Take-all	*GGG*	24
	Dollar Spot	*Sclerotinia homeocarpa*	1
	SDS	Possible	1
	Bermuda Decline		3
	Rust	*Puccinia cynodontis*	1
		Helminthosporium sp.	4
		Pythium sp.	12
		Rhizoctonia sp.	16
		Bipolaris sp.	9
		Colletotrichum sp.	3
		Curvularia sp.	4
		Cladosporium sp.	1
		Sclerotinia homeocarpa	1
	Saprophyte		1
	No Disease		9
	Insufficient Sample		1
	TDTD		4
Bluegrass	ETRI		1
C = 0			
H = 1			
Centipede	Take-all	*GGG*	42
C = 66	Fairy Ring	Possible	10
H = 57	Large Patch	*Rhizoctonia* sp.	5
	ETRI		2
	Root Rot	*Rhizoctonia* sp.	2
	Gray Leaf Spot	*Pyricularia* sp.	1
	Anthracnose	*Colletotrichum* sp.	1
	Fairy Ring		1
		Curvularia sp.	7
		Colletotrichum sp.	4
		Rhizoctonia sp.	17
		Bipolaris sp.	2
		Pythium sp.	4
		Clamp Fungi	1
	No Disease		21
	LSREP		1
	Insufficient Sample		1
	TDTD		1

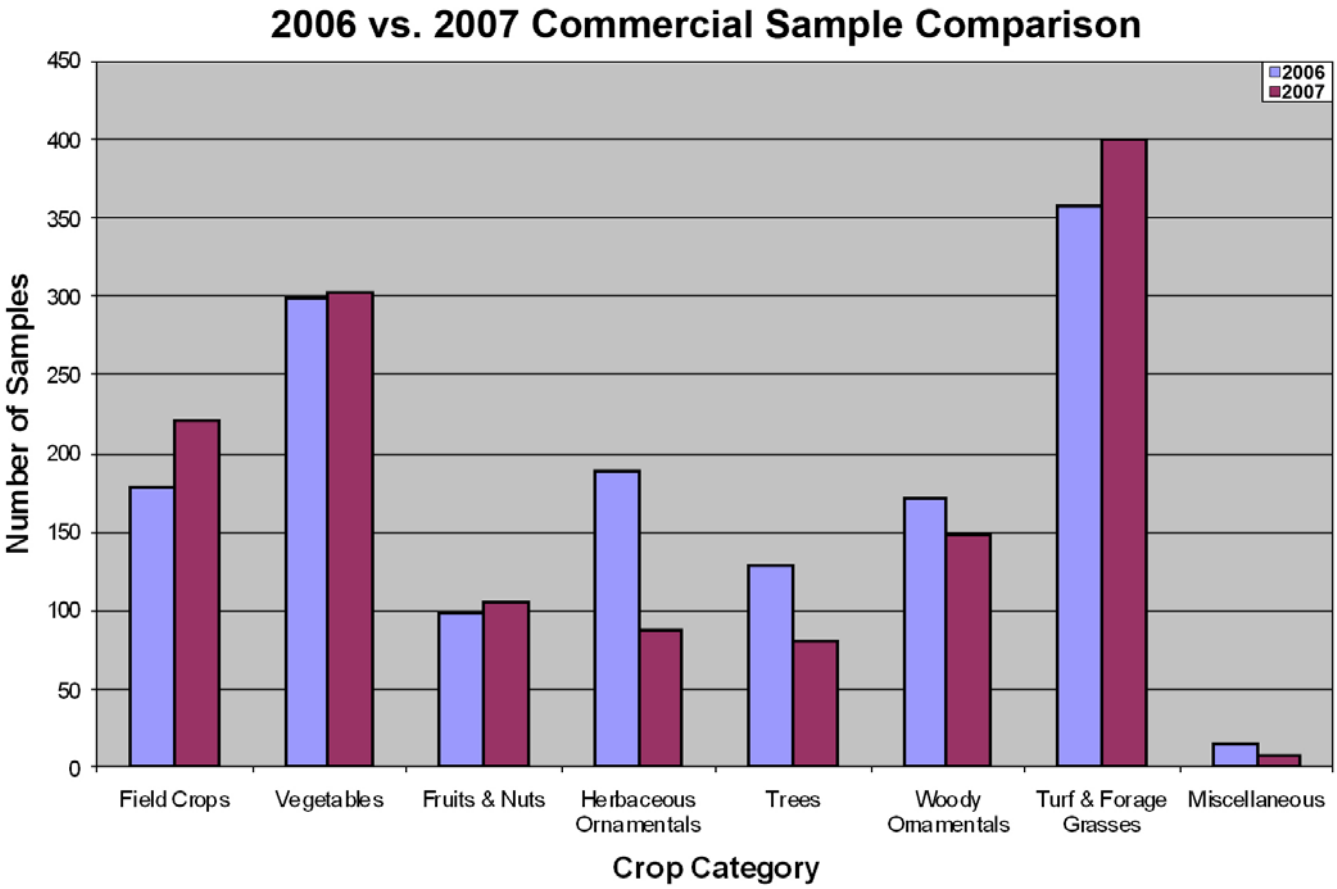
Host	Disease	Causal Organism	Samples
Fescue	Brown Patch	*Rhizoctonia* sp.	1
C = 8	ETRI		1
H = 4	Nematode Damage		1
		Rhizoctonia sp.	2
		Pythium sp.	3
		Colletotrichum sp.	1
	No Disease		2
	Unable to Diagnose		1
Grass	Rust	*Puccinia* sp.	1
C = 1	Take-all	*GGG*	8
H = 16	Anthracnose	*Gloeosporium* sp.	1
	Large Patch	*Rhizoctonia* sp.	1
		Rhizoctonia sp.	1
		Curvularia sp.	3
	No Disease		1
	TDTD		1
Greens	Summer Patch		2
C = 28	ETRI		3
H = 0		*Rhizoctonia* sp.	3
		Pythium sp.	12
		Magnaporthe poae	3
		Colletotrichum sp.	4
	Nematode Damage		1
Lawn	Earth Stars	Gasteromycetes	1
C = 0	Take-all	*GGG*	2
H = 7		*Drechslera* sp.	1
		Clamp Fungi	1
	No Disease		1
	LSREP		1
Paspalum, Seashore	Anthracnose		1
C = 16		*Rhizoctonia* sp.	7
H = 0		*GGG*	4
		Curvularia sp.	1
		Bipolaris sp.	3
Ryegrass		*Pythium* sp.	2
C = 2			
H = 0			
St. Augustine	Take-all	*GGG*	61
C = 50	Slime Mold		1
H = 49	Root Rot	*Pythium* sp.	1
	Root Rot	*Rhizoctonia* sp.	1
	Large Patch	*Rhizoctonia* sp.	4
	ETRI-mycelium		1
	Anthracnose	*Colletotrichum* sp.	2
	Fairy Ring		2
		Curvularia sp.	5
		Bipolaris sp.	3
		Pythium sp.	4
		Rhizoctonia sp.	7
		Drechslera sp.	1
		Fungal mass	1
	No Disease		3
	Unable to Determine		1
	Insufficient Sample		2
Sod		*Basidiomycete*	1
C = 1			
H = 0			

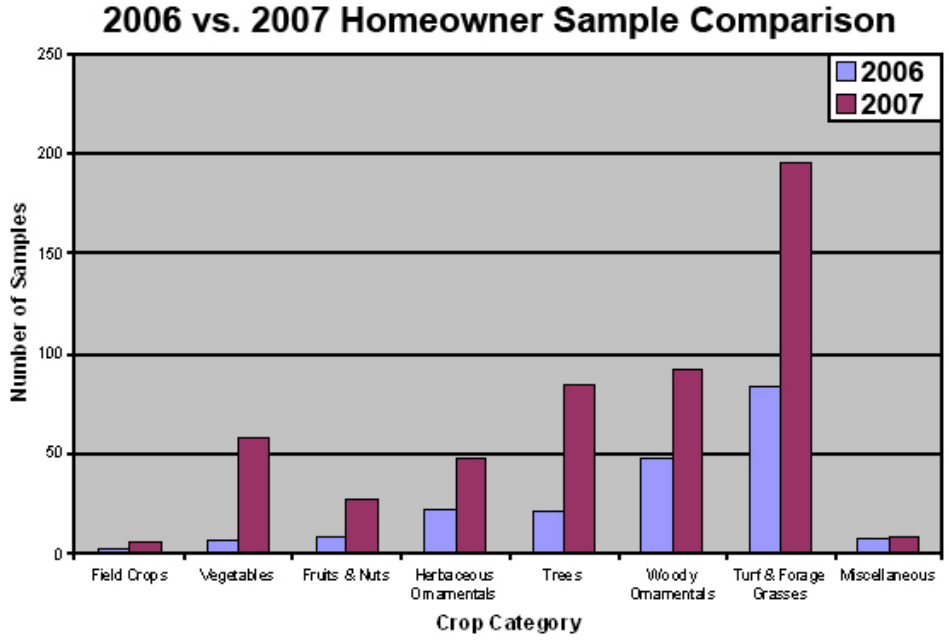
Host	Disease	Causal Organism	Samples
Turf	Large Patch	*Rhizoctonia* sp.	3
C = 3	Take-all	*GGG*	4
H = 9		*Curvularia* sp.	1
		Pythium sp.	1
	Nematode Damage	Suspect	1
	No Disease		3
Unknown	Take-all	*GGG*	1
C = 0		*Curvularia* sp.	1
H = 2			
Zoysia	Large Patch	*Rhizoctonia* sp.	5
C = 57	Rust	*Puccinia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

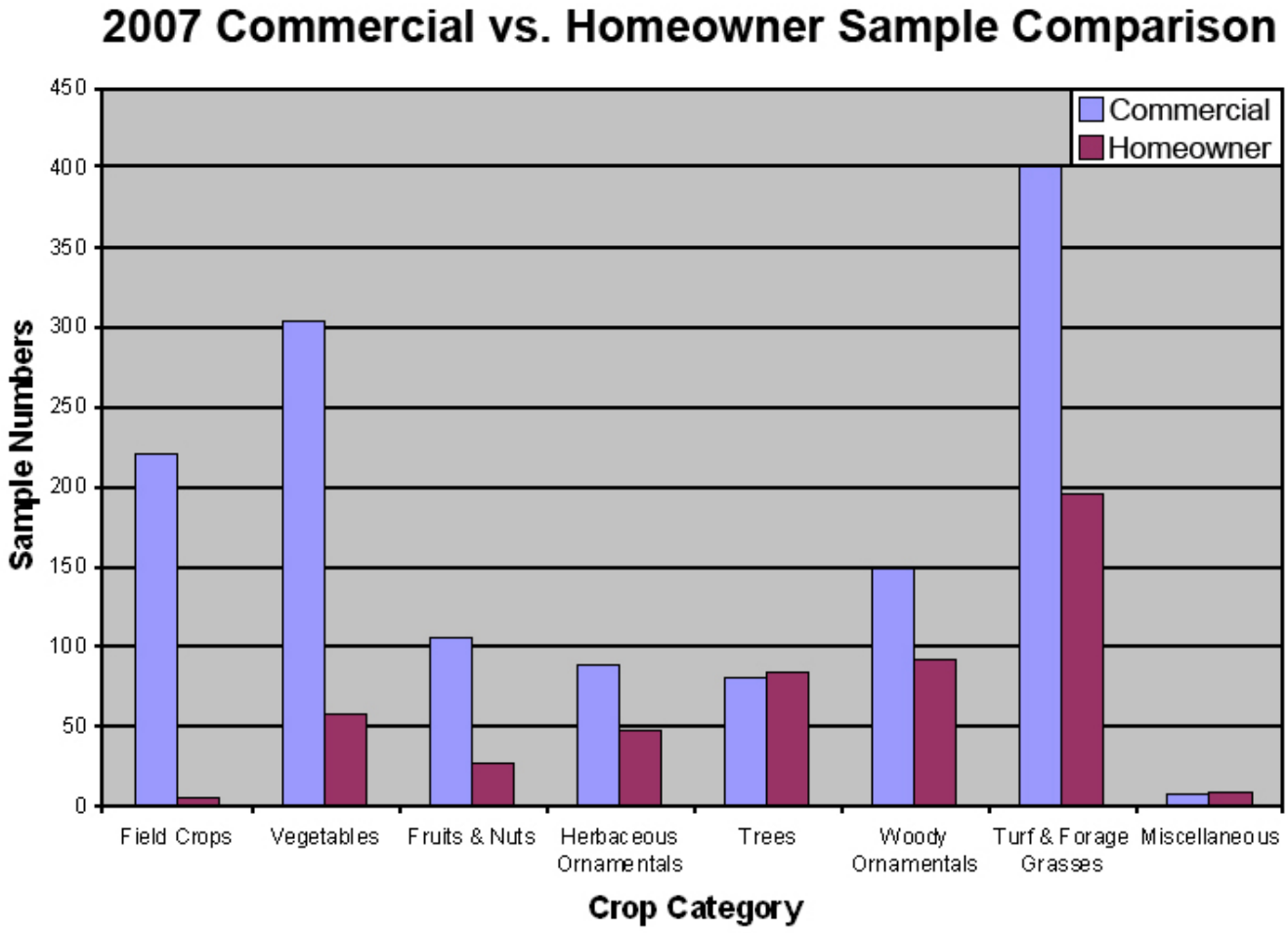
Miscellaneous

(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 *Fuligo septica* *Chromelosporium* 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 *Stemonitis* sp. *Cercospora* sp.	1 1 1 4 1 1 1
Plant ID C = 0 H = 2	Plant ID Plant ID	*Zoysia* sp. *Sida rhombifolia*	1 1


2006 vs. 2007 Commercial Sample Comparison
2006
2007
Number of Samples
0
50
100
150
200
250
300
350
400
450
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Trees
Woody Ornamentals
Turf & Forage Grasses
Miscellaneous
Crop Category


2006 vs. 2007 Homeowner Sample Comparison
2006
2007
Number of Samples
0
50
100
150
200
250
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Trees
Woody Ornamentals
Turf & Forage Grasses
Miscellaneous
Crop Category


2007 Commercial vs. Homeowner Sample Comparison
Commercial
Homeowner
Sample Numbers
450
400
350
300
250
200
150
100
50
0
Field Crops
Vegetables
Fruits & Nuts
Herbaceous Ornamentals
Trees
Woody Ornamentals
Turf & Forage Grasses
Miscellaneous
Crop Category

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