The Plant Disease Clinic and Weed Identification Laboratory 2000 Annual Report

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Acknowledgements

The Plant Disease Clinic depends on a industrious staff of both full-time and part-time employees to prepare culture media, isolate pathogens from plant tissue, measure soil pH, extract nematodes from soil and plant tissue, maintain records, answer the telephone, keep track of samples, and send out reports. In 2000, diagnoses in the Plant Disease Clinic in Blacksburg were performed by Mary Ann Hansen and Diane Reaver with valuable assistance from Shannon Hill and Gordon Lightbourne.

Plant Clinic staff consult with many faculty and staff in various departments in order to make complete, accurate diagnoses and recommendations. We would like to thank the following people for their helpful assistance during the past year:

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The Weed Identification Clinic is operated by Dr. Scott Hagood with the assistance of Mr. Claude Kenley and Dr. Kevin Bradley. Mr. Tom Wieboldt, curator of the Herbarium in the Biology Department, performs many of the plant and weed identifications.

We would also like to thank Mr. Todd Powell of TSP Software for designing and continuing to support the Plant Clinic database ("PClinic"). The database has given us the ability to keep complete records of Plant Clinic samples and to mail reports to Extension Offices electronically. Information on purchasing PClinic can be obtained from the Clinic at <clinic@vt.edu>. We are also especially grateful to Mr. Shahrooz Feizabadi for maintaining our computer system and network.

Shannon Hill compiled the annual report with valuable assistance from Elizabeth Bush. Peter Sforza formatted the annual report for the World Wide Web. It can be viewed on-line at http://oak.ppws.vt.edu/~clinic/.

Introduction

The annual report for the Plant Disease Clinic and the Weed Identification Clinic located on the Virginia Tech campus in Blacksburg is presented in the following pages. Results of the soil assays performed by the Nematode Assay Laboratory are not included, nor are plant specimens which were submitted to and diagnosed at the Agricultural Research and Extension Centers throughout the Commonwealth.

The year 2000 was an interesting year for plant pathologists. The prolonged, wet weather in the spring favored many fungal and bacterial diseases. This was reflected in the year's sample load, which was 400 samples higher than in the previous year.

For those pathogens that could be identified to species or for which only one species is known to occur on the host plant in question, the species name is listed. For those diseases in which one of several species could have been involved, the epithet is listed as "sp." The Plant Disease Clinic did not routinely identify pathogenic organisms to species since species identification can sometimes be a very time-consuming process and often has little bearing on control recommendations. Most pathogens were assumed to be disease incitants if they were cultured in sufficient numbers from the plant tissue, if they were reported in the literature to be pathogens of the particular host plant, and if they were reported to cause the observed symptoms.

Viral problems were, for the most part, diagnosed by the ELISA (Enzyme-Linked Immunosorbent Serological Assay) method by Agdia, Inc. Agdia provides testing services for a wide range of plant viruses; however, testing is limited to the viruses for which antisera are available. Host inoculation was also used to identify viruses in some specimens.

The phrase "Cause of Problem Unknown" is used for specimens for which no pathogen could be isolated and for which no obvious environmental or cultural condition could be associated with the problem. Trees have more specimens in this category and in the category "Insufficient Sample" than any other type of plant. Tree problems are more difficult to diagnose in a clinic setting than problems of annual plants for several reasons. First, tree problems often develop over the course of several years and current symptoms may be related to stressful conditions that occurred in previous years. Also, it is difficult for growers to supply an appropriate plant specimen for diagnosis since the causes of many tree diseases occur in the trunk or roots.

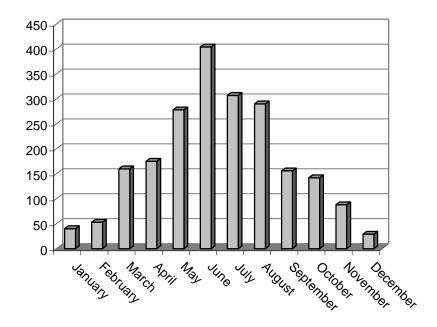
Some insect problems are also listed in this report. Insect damage is often mistaken for disease, and samples with insect damage are sometimes submitted to the Plant Disease Clinic rather than the Insect Identification Lab. We make a preliminary diagnosis of insect damage on these samples and refer them to Mr. Eric Day in the Insect Identification Lab. The final diagnosis on all samples of insect damage is performed by Mr. Day.

Reports are now mailed electronically to the Extension Office email address. Upon request, we will simultaneously send electronic reports to one or more individual Extension personnel. Since implementing electronic mailing, we have discontinued faxing reports. For the time being, we are continuing to send a copy of the original diagnostic form submitted by the agent back to the Extension office through the Extension Distribution Center. Any factsheets or additional printed information is attached to this form. Any comments or questions about reports or plant problems can be emailed to us at <cli>clinic@vt.edu>.

Monthly Submission Report Number of Samples Received by Month 2000

Mont	h # of Samp	les
Janua	ary 40	
Febru	iary 53	
Marc	n 160	
April	175	
May	278	
June	404	
July	307	
Augu	st 290	
Septe	ember 156	
Octob	per 142	
Nove	mber 88	
Dece	mber 29	
Total	2122	

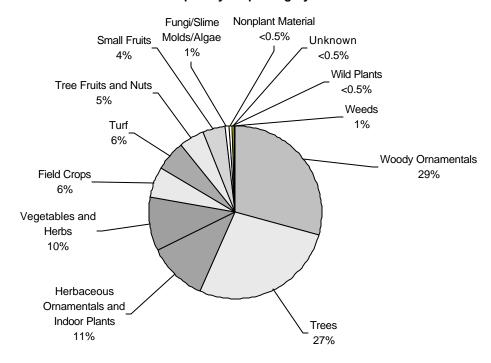
Number of Samples by Month



Crop Category Report Sample Totals by Major Crop Category 2000

Crop Category	# of Samples	% of Total	
Woody Ornamentals	618	29%	
Trees	582	27%	
Herbaceous Ornamentals and Indoor Plants	237	11%	
Vegetables and Herbs	214	10%	
Field Crops	121	6%	
Turf	119	6%	
Tree Fruits and Nuts	102	5%	
Small Fruits	88	4%	
Fungi/Slime Molds/Algae	16	1%	
Weeds	13	1%	
Nonplant Material	5	0%	
Wild Plants	4	0%	
Unknown	3	0%	
Total	2122	100	

Samples by Crop Category

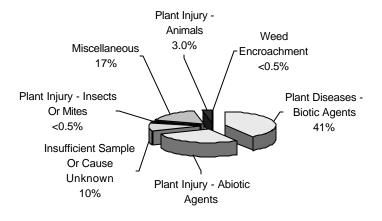


Diagnostic Category Report Distribution of Diagnoses by Major Diagnostic Category 2000

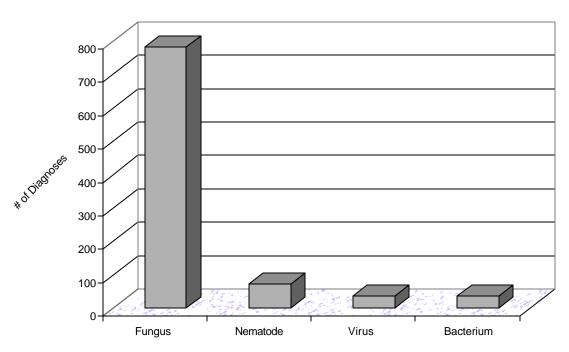
928	41%
646	28%
232	10%
9	
392	17%
69	3%
2	0%
2276	100.0
	232 9 392 69

^{*}Note that the number of diagnoses is greater than the number of samples because some samples have more than one problem.

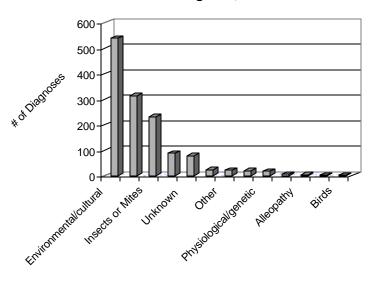
2000 Samples by Diagnostic Category



Plant Pathogens, 2000



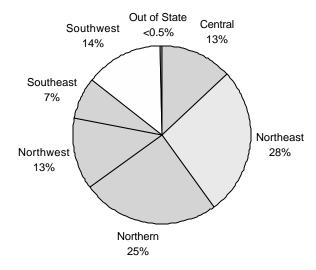
Other Agents, 2000



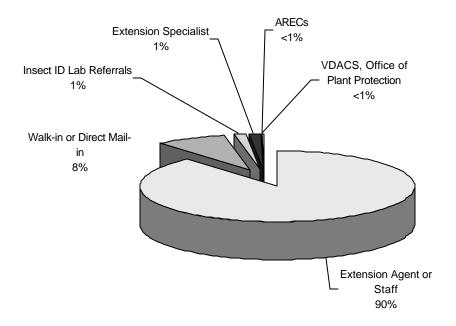
Distribution of Samples by County: 2000

County	# of Samples	шпріос	County	# of Samples
Albemarle	156		Lunenburg	29
Alexandria (IC)	1		Lynchburg (IC)	83
Amelia	3		Madison	3
Amherst	10		Mathews	11
Appomattox	3		Mecklenburg	2
Arlington	48		Middlesex	22
Augusta	37		Montgomery	145
Bath	3		Nelson	74
Bedford	15		New Kent	7
Bland	1		Newport News (IC)	4
Botetourt	15		Norfolk (IC)	28
Brunswick	20		Northampton	2
Buchanan	5		Northumberland	45
Campbell	13		Nottoway	7
Caroline	2		Orange	16
Carroll	16		Page	23
Charles City	12		Patrick	4
Chesapeake (IC)	12		Petersburg (IC)	1
Chesterfield	63		Pittsylvania	3
Clarke	8		Portsmouth (IC)	2
Craig	2		Powhatan	12
<u> </u>	9		Prince Edward	4
Culpeper Cumberland	4		Prince Edward Prince George	28
	39		Prince George Prince William	15
Danville (IC) Dickenson	8		Pulaski	11
Dinwiddie	o 25			15
Essex	25 18		Rappahannock Richmond	
				3
Fairfax	36		Richmond (IC)	
Fauquier	20		Roanoke	81
Floyd	20		Rockbridge	10
Fluvanna	43		Rockingham	60
Franklin	28		Russell	3
Frederick	15		Scott	6
Giles	16		Shenandoah	11
Gloucester	13		Smyth	4
Goochland	7		Southampton	4
Grayson	4		Spotsylvania	5
Greene	17		Stafford	15
Greensville/Emporia	16		Suffolk (IC)	3
Halifax	6		Surry	4
Hampton (IC)	31		Sussex	7
Hanover	124		Tazewell	10
Henrico	27		Unknown	3
Henry	7		Virginia Beach (IC)	16
Highland	8		Warren	4
Isle of Wight	7		Washington	21
James City	64		Westmoreland	36
King George	23		Wise	8
King William	12		Wythe	13
Lancaster	17		York	36
Lee	7		Out-of-state	3
Loudoun	20	_		
Louisa	15	5	Total	2116

2000 Samples by District



Samples by Submitter Type, 2000



Weed Identification Lab

Monthly Submission Report Number of Samples Received by Month 2000

Month	# of Samples
January	5
February	3
March	35
April	38
June	41
July	43
August	47
September	54
October	47
November	24
December	8
Total	352

Weed Sample Totals by Crop 2000

Crop	# of Samples
Alfalfa	6
Aquatic	42
Corn	8
Gardens/Vegetables	15
Identification Only	10
Landscapes	20
Non-crop	28
Orchards/Nurseries	4
Pastures/Hayfields	99
Small Grains	6
Soybeans	3
Tobacco	1
Turfgrass/Home Lawns	110
Total	352

Weed Identification Lab

Distribution of Samples by County 2000

City or County	# of Samples	City or County	# of Samples
Albemarle	9	King and Queen	1
Alexandria	1	King George	1
Amherst	3	King William	3
Appomattox	3	Lancaster	3
Arlington	1	Louisa	3
Augusta	18	Loudoun	1
Bath	7	Lunenberg	3
Bedford	2	Lynchburg	24
Bland	2	Madison	2
Botetourt	4	Middlesex	1
Brunswick	1	Montgomery	14
Buchanan	1	Nelson	1
Buckingham	1	New Kent	2
Campbell	4	Northumberland	2
Caroline	2	Nottoway	5
Carroll	4	Page	14
Charles City	2	Patrick	2
Chesapeake	1	Pittsylvania	6
Chesterfield	1	Prince Edward	2
Clarke	8	Rappahannock	12
Craig	2	Roanoke	8
Cumberland	2	Rockbridge	1
Danville (IC)	7	Rockingham	13
Dickenson	6	Russell	5
Fairfax	2	Scott	4
Fauquier	3	Shenandoah	8
Floyd	1	Smyth	5
Fluvanna	10	Spotsylvania	4
Franklin	8	Stafford	4
Frederick	3	Suffolk	1
Giles	2	Surry	1
Gloucester	1	Sussex	2
Goochland	7	Tazewell	7
Greene	2	Warren	1
Halifax	3	Washington	1
Hampton	1	Westmoreland	4
Hanover	18	Wythe	10
Henrico	4	York	4
Henry	1	TOIR	
Highland	4	Total	313
		i Ulai	313
James City	5		

Summary of Diagnoses by Plant 2000

FIELD CROPS

ALFALFA

- 1 Boron Deficiency
- 1 Cause of Problem Unknown
- 1 Environmental Stress
- 1 Leptosphaerulina Leaf Spot
- 1 Low pH
- 1 Negative for Root Disease
- 1 Sclerotinia Crown and Stem Rot
- 1 Stemphylium Leaf Spot
- 1 Suspect Boron Deficiency
- 2 Suspect Iron Deficiency

11 Total for Alfalfa

Leptosphaerulina briosiana

Sclerotinia trifoliorum Stemphylium botryosum

AUSTRIAN WINTER PEA

- 1 Environmental Stress
- 1 Total for Austrian Winter Pea

BARLEY

- 1 Cold Injury
- 2 Net Blotch
- 1 Suspect Chemical Injury

4 Total for Barley

BLUEGRASS

- 1 Melting Out 1 Powdery Mildew
- 1 Rust

3 Total for Bluegrass

Drechslera poae Erysiphe graminis Puccinia graminis

Pyrenophora teres

CAUCASIAN BLUE-STEM

1 Seed smut

1 Total for Caucasian Blue-stem

Sorosporium sp.

CLOVER

1 Sclerotinia Crown and Stem Rot

1 Total for Clover

Sclerotinia trifoliorum

Colletotrichum graminicola

Cercospora zeae-maydis

Puccinia sorghi

Hoplolaimus sp.

CORN

1 Anthracnose

1 Cause of Problem Unknown

2 Common Rust

1 Flea Beetles

1 Genetic Stripe

1 Gray Leaf Spot

1 Lance Nematodes

1 Leaf Sheath Spotting

2 Low pH

1 Magnesium Deficiency

1 Negative for Nematodes

1 Negative for Red Root Rot

3 Nitrogen Deficiency

2 Northern Corn Leaf Blight

2 Northern Leaf Spot

1 Nutrient Deficiency

2 Suspect Chemical Injury

1 Suspect Nutrient Deficiency

25 Total for Corn

Helminthosporium turcicum

Bipolaris zeicola

FESCUE

1 Heat Stress

1 Suspect Mechanical Injury

2 Total for Fescue

FOXTAIL MILLET

1 Gray Leaf Spot

1 Total for Foxtail Millet

Pyricularia grisea

OATS

1 Barley Yellow Dwarf Virus

1 Total for Oats

ORCHARDGRASS

Cause of Problem Unknown
 Drechslera Leaf Spot

1 Environmental Stress

1 Leaf Blotch

5 Total for Orchardgrass

RYE

1 Insufficient Sample

1 Total for Rye

SORGHUM

2 Maize Dwarf Mosaic Virus

2 Total for Sorghum

Drechslera dactylidis

Cercosporidium graminis

SOYBEAN

- 1 Anthracnose
- 1 Brown Spot
- 3 Cause of Problem Unknown
- 1 Charcoal Rot
- 1 Chemical Injury
- 2 Cyst Nematodes
- 1 Environmental Stress
- 3 Essex Syndrome
- 1 Insufficient Sample
- 1 Lance Nematodes
- 1 Lesion Nematodes
- 1 Powdery Mildew
- 1 Pythium Root Rot
- 2 Rhizoctonia Root Rot
- 1 Rhizoctonia Stem and Root Rot
- 1 Spiral Nematodes
- 1 Stem Canker
- 1 Sting Nematodes
- 1 Suspect Virus
- 1 Thrips

26 Total for Soybean

Colletotrichum truncatum Septoria glycines

Macrophomina phaseolina

Heterodera glycines

Fusarium oxysporum

Hoplolaimus sp. Pratylenchus sp. Microsphaera diffusa Pythium sp.

Rhizoctonia solani Rhizoctonia solani Helicotylenchus sp. Diaporthe phaseolorum Belonolaimus sp.

TOBACCO

1 Aspergillus Storage Rot

- 1 Granville Wilt
- 1 Insufficient Sample
- 1 Penicillium Storage Rot
- 1 Positive for Alternaria
- 1 Positive for Penicillium
- 1 Rhizoctonia Root Rot
- 1 Root Knot Nematodes

8 Total for Tobacco

Aspergillus sp.

Pseudomonas solanacearum

Penicillium sp. Alternaria sp. Penicillium sp. Rhizoctonia solani Meloidogyne sp.

WHEAT

- 2 Barley Yellow Dwarf Virus
- 2 Chemical Injury
- 1 Cold Injury
- 1 Drought
- 2 Frost Injury
- 9 High pH
- 2 Insufficient Sample
- 1 Lance Nematodes
- 1 Leaf Rust
- 2 Low pH
- 1 Natural Senescence
- 2 Negative for Virus
- 3 Powdery Mildew
- 1 Sharp Eyespot
- 1 Soilborne Wheat Mosaic Virus
- 2 Sunscald
- 1 Suspect Cold Injury
- 3 Suspect Wheat Spindle Streak Mosaic
- 5 Take-all
- 1 Tan Spot
- 5 Wheat Spindle Streak Mosaic Virus
- 3 Wheat Streak Mosaic Virus

51 Total for Wheat

Hoplolaimus sp. Puccinia recondita

Erysiphe graminis Rhizoctonia solani

Gaeumannomyces graminis Pyrenophora tritici-repentis

GAMA GRASS

1 Rust

1 Total for Gama Grass

Puccinia tripsaci

VEGETABLES AND HERBS

ASPARAGUS

1 Fusarium Crown Rot

1 Total for Asparagus

Fusarium sp.

BEAN

1 Angular Leaf Spot

- 1 Anthracnose
- 2 Insects
- 1 Insufficient Information
- 3 Insufficient Sample
- 1 Rhizoctonia Stem and Root Rot
- 1 Root Knot Nematodes
- 1 Rust
- 2 Virus

13 Total for Bean

Phaeoisariopsis griseola Colletotrichum lindemuthianum

Rhizoctonia solani Meloidogyne sp.

Uromyces appendiculatus

BROCCOLI

- 1 Environmental Stress
- 1 Insufficient Sample
- 1 Low pH

3 Total for Broccoli

CABBAGE

- 1 Alternaria Leaf Spot
- 1 Aphids
- 1 Fusarium Damping Off
- 1 Insufficient Sample
- 1 Suspect Nutrient Deficiency

5 Total for Cabbage

Alternaria brassicicola

Fusarium sp.

CANTALOUPE

1 Anthracnose

1 Chemical Injury

1 Gummy Stem Blight

1 Insects

1 Insufficient Information

1 Insufficient Sample

1 Virus

7 Total for Cantaloupe

Colletotrichum lagenarium

Mycosphaerella citrullina

COLLARDS

1 Cercosporella Leaf Spot

1 Cultural Problem

3 Low pH

1 Oedema

1 Wirestem

7 Total for Collards

Cersosporella brassicae

Rhizoctonia solani

CRESS

1 Suspect Nutrient Deficiency

1 Total for Cress

CUCUMBER

2 Anthracnose

1 Bacterial Wilt

1 Cause of Problem Unknown

2 Cucumber Beetles

1 Cultural Problem

1 Insects

1 Insufficient Information

1 Insufficient Sample

2 Nutrient Deficiency

1 Physiological Problem

1 Root Knot Nematodes

1 Suspect Chemical Injury

15 Total for Cucumber

Colletotrichum lagenarium Erwinia tracheiphila

Meloidogyne sp.

EGGPLANT

1 Root Knot Nematodes

1 Total for Eggplant

GARLIC

1 Cold Injury

1 Total for Garlic

KALE

- 1 Aphids
- 1 Low pH
- 1 Suspect Nutrient Deficiency

3 Total for Kale

KIWI

1 Mites

1 Total for Kiwi

LAVENDER

- 1 Phytophthora Root Rot1 Rhizoctonia Stem and Root Rot

2 Total for Lavender

LIMA BEAN

- 1 Insufficient Sample
- 1 Mites
- 1 Suspect Fertilizer Burn

3 Total for Lima Bean

Meloidogyne sp.

Phytophthora parasitica Rhizoctonia sp.

MUSTARD

1 Suspect Nutrient Deficiency

1 Total for Mustard

ONION

1 Cultural Problem

1 Environmental Stress

2 Total for Onion

PEPPER

3 Bacterial Spot

1 Stinkbugs

1 Suspect Chemical Injury

1 Suspect Fertilizer Burn

1 Thrips

1 Virus

8 Total for Pepper

Xanthomonas vesicatoria

POTATO

1 Black Scurf

1 Chemical Injury1 Enlarged Lenticels

1 Hollow Heart

1 Insects

4 Insufficient Sample

1 Internal Sprouting

1 Pink Rot

1 Potato Spindle Tuber Viroid

1 Soft Rot

1 Suspect Black Leg

2 Wireworms

16 Total for Potato

Rhizoctonia solani

Phytophthora sp.

Erwinia carotovora Erwinia carotovora

PUMPKIN

2 Environmental Stress

1 Fusarium Crown and Foot Rot

1 Healthy

2 Insufficient Sample

3 Microdochium Blight

1 Nutrient Deficiency

1 Sphaerotheca Powdery Mildew

11 Total for Pumpkin

ROSEMARY

4 Adventitious Roots

4 Total for Rosemary

SQUASH

1 Cucumber Mosaic Virus

4 Fusarium Foot Rot

1 Insufficient Sample

1 Phytophthora Crown and Root Rot

1 Rhizoctonia Stem and Root Rot

1 Squash Bugs

9 Total for Squash

SWEET CORN

1 Bacterial Top Rot

3 Common Rust

1 Common Smut

1 Environmental Stress

1 Insects

1 Low pH

2 Sunscald

10 Total for Sweet Corn

SWEET POTATO

1 Fusarium Surface Rot

1 Total for Sweet Potato

THYME

1 High pH

1 Total for Thyme

Fusarium solani

Microdochium tabacinum

Sphaerotheca fuliginea

Fusarium solani

Phytophthora capsici Rhizoctonia sp.

Erwinia chrysanthemi Puccinia sorghi Ustilago maydis

Fusarium solani

TOMATO

1 Air Pollution

1 Bacterial Canker

4 Bacterial Speck

2 Bacterial Spot

1 Bacterial Stem Rot

5 Bacterial Wilt

3 Buckeye Rot

12 Chemical Injury

4 Cultural Problem

2 Early Blight

2 Environmental Stress

1 Eriophyid Mites

1 Fertilizer Burn

1 Flea Beetles

3 Fusarium Wilt

1 Graywall

4 Insufficient Information

11 Insufficient Sample

1 Lightning Injury

1 Magnesium Deficiency

1 Manganese Deficiency

1 Mechanical Injury

1 Mites

1 Negative for Virus

2 Nutrient Deficiency

1 Phytophthora Stem Rot

1 Pith Necrosis

1 Rhizoctonia Stem Canker

1 Root Knot Nematodes

6 Septoria Leaf Spot

2 Stinkbugs

1 Suspect Blossom-end Rot

3 Suspect Chemical Injury

1 Suspect Cultural Problem

1 Suspect Fertilizer Burn

1 Suspect Low pH

1 Transplant Shock

1 Verticillium Wilt

1 Virus

5 Walnut Wilt

1 Yellow Shoulder

95 Total for Tomato

Clavibacter michiganense

Pseudomonas syringae pv. tomato

Xanthomonas vesicatoria

Erwinia carotovora

Pseudomonas solanacearum

Phytophthora parasitica

Alternaria solani

Fusarium oxysporum

Phytophthora sp. Pseudomonas corrugata Rhizoctonia solani Meloidogyne sp. Septoria lycopersici

Verticillium albo-atrum

TOMATO TREE

1 Insufficient Sample

1 Powdery Mildew

2 Total for Tomato Tree

Oidium sp.

TURNIP

1 Environmental Stress

1 Total for Turnip

WATERMELON

1 Cause of Problem Unknown

1 Cultural Problem

1 Fusarium Wilt

1 Insufficient Sample

1 Mechanical Injury

5 Total for Watermelon

Fusarium oxysporum

ZUCCHINI

1 Squash Bugs

1 Suspect Fusarium Foot Rot

2 Total for Zucchini

Fusarium solani

TREE FRUITS AND NUTS

ALMOND

1 Borers

1 Total for Almond

APPLE

1 Bird Damage

1 Botryosphaeria Dieback

10 Cedar-Apple Rust

4 Cedar-Quince Rust

2 Cultural Problem

1 Environmental Stress

4 Frogeye Leaf Spot

1 Frost Injury

1 Giant European Hornets

2 Insects

2 Insufficient Information

6 Insufficient Sample

4 Lichens

1 Powdery Mildew

4 Scab

1 Water Core

45 Total for Apple

CHERRY

1 Aphids

2 Black Knot

1 Brown Rot

1 Cause of Problem Unknown

1 Cherry Leaf Spot

1 Insects

1 Suspect Cold Injury

8 Total for Cherry

Botryosphaeria sp.

Gymnosporangium juniperi-virginianae

Gymnosporangium clavipes

Physalospora obtusa

Podosphaera leucotricha Venturia inaequalis

Dibotryon morbosum Monilinia fructicola

Coccomyces hiemalis

CHESTNUT

- 1 Insects
- 1 Insufficient Information
- 1 Insufficient Sample
- 1 Earthball

4 Total for Chestnut

Scleroderma geaster

CRABAPPLE

- 1 Botryosphaeria Canker
- 1 Cedar-Quince Rust

2 Total for Crabapple

Botryosphaeria dothidea Gymnosporangium clavipes

FRUIT TREES, MISC.

- 1 Japanese Beetles
- 1 Tent Caterpillars

2 Total for Fruit Trees, Misc.

HEARTNUT

1 Bunch Disease

1 Total for Heartnut

MULBERRY

1 Popcorn Disease

1 Scales

2 Total for Mulberry

Ciboria carunculoides

NECTARINE

1 Curculios

1 Total for Nectarine

PEACH

1 Borers

1 Botryosphaeria Dieback

2 Brown Rot

2 Cause of Problem Unknown

1 Cicadas

2 Constriction Canker

1 Curculios

2 Insects

2 Insufficient Sample

1 Negative for Plum Pox

1 Nutrient Deficiency

1 Ring Nematodes1 Suspect Brown Rot

1 White Rot

1 Yellows

20 Total for Peach

Criconemella sp.

Monilinia fructicola

Botryosphaeria sp.

Monilinia fructicola

Phomopsis amygdali

PEAR

1 Cedar-Quince Rust

2 Entomosporium Leaf Spot

1 Environmental Stress

2 Frost Injury

2 Insufficient Sample

1 Normal Condition

1 Normal Condition--Cluster Base

1 Scab

11 Total for Pear

Gymnosporangium clavipes Entomosporium mespili

Venturia pyrina

PECAN

1 Environmental Stress

1 Total for Pecan

PLUM

1 Black Knot

1 Borers

1 Cause of Problem Unknown

1 Environmental Stress

4 Total for Plum

Dibotryon morbosum

WALNUT

- 1 Bacterial Blight
- 1 Cylindrosporium Leaf Spot1 Downy Leaf Spot
- 1 Eriophyid Mites
- 1 Lichens
- 1 Sapwood Rot

6 Total for Walnut

Xanthomonas juglandis Cylindrosporium juglandis Microstroma juglandis

Schizophyllum commune

SMALL FRUITS

BLACKBERRY

2 Cane and Leaf Rust

1 Chemical Injury

1 Cold Injury

4 Insufficient Sample

1 Psyllids1 Raspberry Leaf Curl Virus1 Rosette Disease

1 Suspect Cold Injury

12 Total for Blackberry

Cercosporella rubi

Kuehneola uredinis

BLUEBERRY

1 Botryosphaeria Stem Blight

3 Insufficient Sample

1 Mechanical Injury

3 Stubby Root Nematodes

3 Vole Injury

11 Total for Blueberry

Botryosphaeria dothidea

Trichodorus sp.

FIG

2 Insufficient Sample

1 Phytophthora Fruit Rot

1 Root Knot Nematode

1 Sooty Mold

5 Total for Fig

Phytophthora palmivora Meloidogyne sp.

GRAPE

5 Black Rot

1 Botrytis Bunch Rot

4 Chemical Injury

1 Cladosporium

1 Cultural Problem

2 Downy Mildew

1 Environmental Stress

1 Eriophyid Mites

1 Eutypa Dieback

1 Flea Beetles

1 Insufficient Information

5 Insufficient Sample

1 Normal Condition-Plant Hairs

1 Nutrient Deficiency

2 Phomopsis Cane and Leaf Blight

1 Phylloxera Galls

1 Positive for Botrytis

1 Ripe Rot

1 Rupestris Speckle

1 Suspect Esca Disease

4 Suspect Nutrient Deficiency

1 Thrips

1 Zonate Leaf Spot

39 Total for Grape

RASPBERRY

1 Botryosphaeria Canker

1 Cane Borers

1 Cane Botrytis

1 Cause of Problem Unknown

1 Chemical Injury

1 Environmental Stress

1 Insufficient Information

1 Insufficient Sample

1 Suspect Poor Pollination

1 White Drupelet Disorder

10 Total for Raspberry

Guignardia bidwellii Botrytis cinerea

Cladosporium sp.

Plasmopara viticola

Eutypa lata

Phomopsis viticola

Botrytis cinerea

Colletotrichum gloeosporioides

Cristulariella moricola

Botryosphaeria dothidea

Botrytis cinerea

STRAWBERRY

1 Anthracnose Colletotrichum acutatum

1 Cold Injury

1 Cultural Problem

1 Dendrophoma Leaf Blight Dendrophoma obscurans

2 Environmental Stress 1 Insufficient Information

2 Mechanical Injury`

1 Mites

1 Negative for Nematodes

1 Positive for Rhizoctonia

2 Pythium Root Rot

1 Rhizoctonia Crown and Root Rot

7 Rhizoctonia Root Rot

2 Root Knot Nematodes

1 Rootworms

25 Total for Strawberry

Rhizoctonia solani Pythium sp.

Rhizoctonia solani Rhizoctonia solani Meloidogyne sp.

HERBACEOUS ORNAMENTALS AND INDOOR PLANTS

AGLAONEMA

1 Mechanical Injury

1 Total for Aglaonema

AJUGA

- 2 Alfalfa Mosaic Virus
- 1 Cucumber Mosaic Virus
- 1 Negative for Virus

4 Total for Ajuga

ALUMINUM PLANT

1 Air Pollution

1 Total for Aluminum Plant

ARTEMESIA

1 Environmental Stress

1 Total for Artemisia

BABY'S TEARS

1 Air Pollution

1 Total for Baby's Tears

BEGONIA

1 Botrytis Blight

2 Environmental Stress

1 Normal Coloration

1 Rhizoctonia Root Rot

1 Rhizoctonia Stem Rot

6 Total for Begonia

Botrytis cinerea

Rhizoctonia solani Rhizoctonia solani

BELLFLOWER

1 Fusarium Crown Rot

1 Total for Bellflower

Fusarium solani

BLACKEYED SUSAN

1 Rhizoctonia Stem Rot

1 Total for Blackeyed Susan

Rhizoctonia solani

BLEEDING HEART

1 Chemical Injury

1 Total for Bleeding Heart

BLETILLA

1 Mechanical Injury

1 Total for Bletilla

BLUEBEARD

1 Phytophthora Stem and Root Rot

1 Total for Bluebeard

Phytophthora sp.

BUTTERFLY WEED

1 Rhizoctonia Stem Rot

1 Total for Butterfly Weed

Rhizoctonia solani

CACTUS

1 Cultural Problem

1 Macrophoma Cladode Rot

2 Total for Cactus

Macrophoma opunticola

CALADIUM

1 Pythium Root Rot

1 Total for Caladium

Pythium sp.

CALIBRACHOA

1 Rhizoctonia Root Rot

1 Total for Calibrachoa

Rhizoctonia solani

CANNA

- 1 Cultural Problem
- 1 Koi eggs

2 Total for Canna

CANTERBURY BELLS

1 Suspect Chemical Injury

1 Total for Canterbury Bells

CATMINT

1 Cultural Problem

1 Total for Catmint

CHRYSANTHEMUM

- 1 Cultural Problem
- 2 Environmental Stress
- 1 Insects
- 1 Insufficient Sample
- 1 Pythium Root Rot
- 1 Thrips

7 Total for Chrysanthemum

Pythium sp.

CL	EMATIS	

- 2 Environmental Stress
- 1 Insufficient Sample

3 Total for Clematis

CLIVIA

1 Coniothyrium Leaf Spot

1 Total for Clivia

COLEUS

1 Air Pollution

1 Total for Coleus

COLUMBINE

1 Leafminers

1 Total for Columbine

CONEFLOWER

- 1 Crown Rot-Unidentified Pathogen
- 1 Environmental Stress
- 1 Suspect Aster Yellows

3 Total for Coneflower

CORAL BELLS

- 1 Environmental Stress
- 1 Pythium Root Rot

2 Total for Coral Bells

Coniothyrium sp.

Pythium sp.

COREOPSIS

- 1 Chemical Injury
- 1 Environmental Stress
- 1 Rhizoctonia Stem Rot
- 1 Rust
- 1 Suspect Chemical Injury1 Suspect Fertilizer Burn
- 1 Suspect Rhizoctonia Root Rot

7 Total for Coreopsis

Rhizoctonia solani Coleosporium inconspicuum

Rhizoctonia solani

DAISY

2 Pythium Root Rot

2 Total for Daisy

Pythium sp.

DAYLILY

2 Insufficient Sample

2 Total for Daylily

DELOSPERMA

1 Pythium Root Rot

1 Total for Delosperma

Pythium sp.

DIANTHUS

1 Fusarium Stem Rot

1 Total for Dianthus

Fusarium sp.

DRACAENA

1 Cultural Problem

1 Total for Dracaena

DUSTY MILLER

1 Suspect Chemical Injury

1 Total for Dusty Miller

EASTER LILY

1 Environmental Stress

1 Total for Easter Lily

ELEPHANT'S EAR

1 Sour Mulch

1 Total for Elephants Ear

EUCALYPTUS

2 Cause of Problem Unknown

2 Suspect Pythium Root Rot

4 Total for Eucalyptus

FERN

1 Cultural Problem

1 Environmental Stress

2 Total for Fern

FIG

1 Cultural Problem

1 Phytophthora Root Rot

2 Total for Fig

FLOWERING MAPLE

1 Nutrient Deficiency

1 Total for Flowering Maple

FOAMFLOWER

1 Environmental Stress

1 Total for Foamflower

Pythium sp.

Phytophthora sp.

FORGET-ME-NOT

1 Rhizoctonia Web Blight

1 Total for Forget-me-not

Rhizoctonia solani

FOXGLOVE

1 Fusarium Root Rot

1 Insufficient Sample

1 Pythium Root Rot

3 Total for Foxglove

Fusarium sp.

Pythium sp.

FUCHSIA

1 Fungal Leaf Spot-Unidentified Pathogen

1 Total for Fuchsia

GAILLARDIA

2 Pythium Root Rot

1 Slime Mold

3 Total for Gaillardia

Pythium sp. Didymium sp.

GARDENIA

1 Mites

1 Total for Gardenia

GAURA

1 Cause of Problem Unknown

1 Total for Gaura

GERANIUM

1 Bacterial Leaf Spot

1 Rhizoctonia Root Rot

1 Suspect Fertilizer Burn

1 Syringae Leaf Spot

4 Total for Geranium

Pseudomonas cichorii Rhizoctonia sp.

Pseudomonas syringae

GLADIOLUS

1 Penicillium Corm Rot

1 Total for Gladiolus

Penicillium gladioli

GOURD

1 Pythium Damping-Off

1 Total for Gourd

Pythium sp.

GYPSOPHILA

1 Suspect Chemical Injury

1 Total for Gypsophila

HELLEBORE

Botrytis Blight
 Pythium Root Rot
 Suspect Environmental Stress

3 Total for Hellebore

Botrytis cinerea Pythium sp.

HOSTA

3 Anthracnose

1 Botrytis Blight

1 Cause of Problem Unknown

2 Environmental Stress

2 Insufficient Sample

1 Rootbound

1 Scorch

2 Slugs

1 Southern Blight

1 Suspect Chemical Injury

15 Total for Hosta

IMPATIENS

2 Air Pollution

2 Impatiens Necrotic Spot Virus

1 Mites

1 Pythium Root Rot

1 Pythium Stem Rot

2 Rhizoctonia Stem Rot

1 Verticillium Wilt

10 Total for Impatiens

Pythium sp. Pythium sp. Rhizoctonia solani Verticillium albo-atrum

Colletotrichum sp.

Botrytis cinerea

Sclerotium rolfsii

INDOOR PLANT, UNKNOWN

1 Cultural Problem

1 Total for Indoor Plant, Unknown

IRIS

2 Cause of Problem Unknown

1 Chemical Injury

3 Heterosporium Leaf Spot

1 Soft Rot

7 Total for Iris

Heterosporium iridis Erwinia carotovora

JADE

1 Cultural Problem

1 Total for Jade

LARKSPUR

1 Cause of Problem Unknown

1 Total for Larkspur

LILY

1 Air Pollution

1 Anthracnose

1 Aphids

3 Total for Lily

LIRIOPE

1 Environmental Stress

1 Scales

1 Sunscorch

3 Total for Liriope

LOBELIA

1 Pythium Root Rot

1 Total for Lobelia

LOTUS

1 Insects

1 Total for Lotus

MADAGASCAR PERIWINKLE

1 Botrytis Stem Canker

1 Environmental Stress

6 Phytophthora Blight

8 Total for Madagascar Periwinkle

Colletotrichum sp.

Pythium sp.

Botrytis cinerea

Phytophthora parasitica

MALLOW

1 Rust

1 Total for Mallow

Puccinia malvacearum

MARIGOLD

- 1 Alternaria Blight
- 1 Botrytis Blight
- 1 Crown Gall
- 1 Insufficient Sample
- 1 Nutrient Deficiency

5 Total for Marigold

Alternaria zinniae Botrytis cinerea Agrobacterium tumefaciens

ORANGE

- 1 Cultural Problem
- 1 Mealybugs
- 1 Scales

3 Total for Orange

ORCHID

- 4 Cultural Problem
- 1 Fungus Gnats
- 1 Virus

6 Total for Orchid

OSTEOSPERMUM

1 Low pH

1 Total for Osteospermum

PALM

- 3 Cultural Problem
- 1 Leaf Exudate

4 Total for Palm

PANSY

1 Black Root Rot

1 Cultural Problem

1 Healthy

1 Insufficient Sample

1 Nutrient Deficiency

4 Phytophthora Crown Rot

1 Phytophthora Crown and Root Rot

10 Total for Pansy

PENTAS

1 Suspect Environmental Stress

1 Total for Pentas

PEONY

1 Botrytis Blight

2 Cladosporium Stem and Leaf Blotch

1 Fungal Saprophyte

1 Insufficient Sample

5 Total for Peony

PERIWINKLE

1 Phoma Dieback

1 Phomopsis Dieback

1 Phyllosticta Stem Rot and Leaf Spot

3 Total for Periwinkle

PETUNIA

1 Botrytis Blight

1 Chemical Injury

1 Fertilizer Burn

1 Normal Senescence

1 Phytophthora Root and Stem Rot

1 Pythium Root Rot

1 Tobacco Mosaic Virus

1 Tomato Mosaic Virus

8 Total for Petunia

Thielaviopsis basicola

Phytophthora parasitica

Phytophthora parasitica

Botrytis cinerea

Cladosporium paeoniae

Trichoderma sp.

Phoma sp. Phomopsis livella Phyllosticta sp.

Botrytis cinerea

Phytophthora parasitica

Pythium sp.

PHLOX

- 1 Bacterial Leaf Spot
- 1 Black Root Rot
- 1 Environmental Stress
- 1 Insufficient Sample
- 1 Physiological Problem
- 1 Pythium Root Rot

6 Total for Phlox

Xanthomonas campestris Thielaviopsis basicola

Pythium sp.

PHYSOSTEGIA

1 Rhizoctonia Root Rot

1 Total for Physostegia

Rhizoctonia solani

POINSETTIA

- 1 Air Pollution
- 2 Chemical Injury
- 3 Cultural Problem
- 1 Nutrient Imbalance

7 Total for Poinsettia

POPPY

1 Environmental Stress

1 Total for Poppy

POTENTILLA

1 Cultural Problem

1 Total for Potentilla

POTHOS

1 Insufficient Information

1 Total for Pothos

ROCK ROSE

2 Chemical Injury

2 Total for Rock Rose

RUDBECKIA

- 1 Environmental Stress
- 1 Insufficient Sample
- 1 Pythium Root Rot
- 1 Rhizoctonia Root Rot
- 1 Rootbound

5 Total for Rudbeckia

Pythium sp. Rhizoctonia solani

SALVIA

1 Downy Mildew

- 1 Nutrient Deficiency
- 1 Rhizoctonia Stem Rot
- 1 Suspect Chemical Injury

4 Total for Salvia

Peronospora lami

Rhizoctonia solani

SARCOCOCCA

- 1 Cause of Problem Unknown
- 1 Excess Soluble Salts
- 1 Root Swellings

3 Total for Sarcococca

SCHEFFLERA

- 1 Cultural Problem
- 2 Scales

3 Total for Schefflera

SEDUM

- 2 Chemical Injury
- 1 Environmental Stress
- 1 Overwatering

4 Total for Sedum

SNAPDRAGON

- 1 Four-lined Plant Bugs
- 1 Suspect Boron Defiiciency
- 1 Verticillium Wilt

3 Total for Snapdragon

Verticillium albo-atrum

SPATHIPHYLLUM

1 Environmental Stress

1 Total for Spathiphyllum

SWEET FLAG

1 Aphids

1 Total for Sweet Flag

VERBENA

- 1 Cold Injury
- 1 Cultural Problem
- 1 Pythium Root Rot
- 1 Suspect Phosphorus Deficiency
- 1 Whiteflies

5 Total for Verbena

Pythium sp.

VERONICA

- 1 Rootbound
- 1 Suspect Nutrient Deficiency

2 Total for Veronica

WATERLILY

1 Cercospora Leaf Spot

1 Insufficient Sample

2 Total for Waterlily

Cercospora nelumbonis

WAX PLANT

1 Cause of Problem Unknown

1 Total for Wax Plant

WEEPING FIG

1 Phomopsis Gall

1 Total for Weeping Fig

Phomopsis sp.

ZINNIA

1 Fertilizer Burn

1 Total for Zinnia

WOODY ORNAMENTALS

AUCUBA

1 Botryosphaeria Dieback

2 Environmental Stress

1 Insufficient Sample

1 Phomopsis Dieback

1 Phyllosticta Leaf Spot1 Suspect Chemical Injury

7 Total for Aucuba

Botryosphaeria sp.

Phomopsis sp.
Phyllosticta aucubae

AUTUMN OLIVE

2 Insufficient Sample

2 Total for Autumn Olive

AZALEA

4 Botryosphaeria Dieback

3 Cause of Problem Unknown

1 Chemical Injury

2 Cultural Problem

7 Environmental Stress

3 High pH

3 Insects

1 Insufficient Information

11 Insufficient Sample

10 Lacebugs

3 Leaf and Flower Gall

2 Lichens

1 Low pH

1 Mechanical Injury

1 Negative for Root Rot

9 Phomopsis Dieback

1 Phomopsis Gall

7 Phytophthora Root Rot

1 Poor Drainage

3 Rootbound

1 Suspect Environmental Stress

1 Winter Injury

76 Total for Azalea

Botryosphaeria sp.

Exobasidium vaccinii

Phomopsis sp. Phomopsis sp.

Phytophthora cinnamomi

BAMBOO

1 Rust

1 Sooty Mold

2 Total for Bamboo

Puccinia sp.

BARBERRY

- 1 Cause of Problem Unknown
- 1 Webworms

2 Total for Barberry

BEAR'S BREECHES

1 Southern Blight

1 Total for Bear's Breeches

Sclerotium rolfsii

BEARBERRY

1 Pythium Root Rot

1 Total for Bearberry

Pythium sp.

BLUEBEARD

1 Environmental Stress

1 Total for Bluebeard

BOXWOOD

- 2 Cause of Problem Unknown
- 1 Chemical Injury
- 1 Cold Injury
- 5 Cultural Problem
- 1 Dagger Nematodes
- 3 Deep Planting
- 28 English Boxwood Decline
- 11 Environmental Stress
- 1 High pH
- 2 Insufficient Information
- 28 Insufficient Sample
- 4 Leafminers
- 5 Lesion Nematodes
- 2 Low pH
- 2 Macrophoma Leaf Spot
- 3 Mites
- 1 Nematodes
- 17 Phytophthora Root Rot
- 1 Pin Nematodes
- 11 Ring Nematodes
- 1 Sheath Nematodes
- 17 Spiral Nematodes
- 1 Suspect Winter Injury
- 9 Winter Injury
- 1 Yellow Leaf Margins-Cause Unknown

158 Total for Boxwood

BUTTERFLY BUSH

- 1 Insects
- 2 Insufficient Sample
- 1 Mites
- 1 Suspect Insects

5 Total for Butterfly Bush

CAMELLIA

- 1 Anthracnose
- 1 Botryosphaeria Dieback
- 1 Cause of Problem Unknown
- 2 Cold Injury
- 1 Eriophyid mites
- 3 Phyllosticta Leaf Spot
- 2 Scales
- 1 Suspect Winter Injury
- 5 Winter Injury

17 Total for Camellia

Xiphinema sp.

Paecilomyces buxi

Pratylenchus sp.

Macrophoma candollei

Phytophthora parasitica Paratylenchus sp. Criconemella sp. Hemicycliophora sp. Rotylenchus sp.

Colletotrichum gloeosporioides

Botryosphaeria sp.

Phyllosticta camelliae

CHERRYLAUREL

- 1 Black Vine Weevils
- 2 Borers
- 2 Cause of Problem Unknown
- 1 Environmental Stress
- 3 Insufficient Sample
- 1 Leaf Glands
- 1 Poor Drainage

11 Total for Cherrylaurel

CLEYERA

1 Environmental Stress

1 Total for Cleyera

COTONEASTER

- 2 Environmental Stress
- 1 Insufficient Sample

3 Total for Cotoneaster

CRAPE MYRTLE

- 1 Insects
- 1 Insufficient Sample

2 Total for Crape Myrtle

DAPHNE

- 2 Environmental Stress
- 1 Insufficient Sample
- 1 Suspect Environmental Stress

4 Total for Daphne

ENGLISH IVY

3 Anthracnose

1 Bacterial Stem Canker

1 Environmental Stress

2 Insufficient Sample

2 Mites

1 Phytophthora Root Rot

10 Total for English Ivy

Colletotrichum trichellum Xanthomonas hederae

Phythophthora palmivora

EUONYMUS

- 1 Chemical Injury
- 1 Cold Injury
- 1 Crown Gall
- 1 Deep Planting
- 2 Environmental Stress
- 1 Frost Injury
- 1 Insufficient Sample
- 1 Mechanical Injury
- 1 Oedema
- 1 Powdery Mildew
- 4 Scales
- 1 Scorch

16 Total for Euonymus

Microsphaera euonymi-japonici

Agrobacterium tumefaciens

FORSYTHIA

- 2 Environmental Stress
- 1 Excess Mulch
- 1 Insufficient Sample
- 1 Phomopsis Gall
- 1 Suspect Chemical Injury1 Suspect Rhizoctonia Web Blight

7 Total for Forsythia

Phomopsis sp.

Rhizoctonia solani

HEMLOCK

1 Environmental Stress

1 Total for Hemlock

HOLLY

19 Black Root Rot

1 Borers

1 Botryosphaeria Dieback

2 Cercospora Leaf Spot

3 Cold Injury

1 Cultural Problem

11 Environmental Stress

1 Establishment Failure

1 Frost Injury

1 Giant European Hornets

1 High pH

2 Insects

22 Insufficient Sample

1 Lesion Nematodes

1 Negative for Root Disease

1 Phytophthora Root Rot

1 Pythium Root Rot

1 Rhizoctonia Root Rot

1 Rooting Faillure

2 Scales

2 Sooty Mold

2 Spine Spot

1 Suspect Nutrient Deficiency

14 Winter Injury

HONEYSUCKLE

93 Total for Holly

1 Botryosphaeria Dieback Botryosphaeria sp.

1 Total for Honeysuckle

HYDRANGEA

1 Low pH

1 Mites

2 Total for Hydrangea

HYPERICUM

1 Phytophthora Stem and Root Rot Phytophthora cinnamomi

1 Total for Hypericum

Thielaviopsis basicola

Botryosphaeria sp. Cercospora sp.

Pratylenchus sp.

Phytophthora cinnamomi

Pythium sp.

Rhizoctonia solani

INKBERRY

- 1 Environmental Stress
- 3 Insufficient Sample
- 1 Phytophthora Root Rot

5 Total for Inkberry

JASMINE

1 Cultural Problem

1 Total for Jasmine

JUNIPER

- 20 Environmental Stress
- 1 Insufficient Information
- 12 Insufficient Sample
- 11 Mites
- 2 Phomopsis Tip Blight
- 2 Phytophthora Root Rot3 Pythium Root Rot
- 2 Rootbound
- 1 Suspect Salt Damage

54 Total for Juniper

LAUREL

- 2 Botryosphaeria Dieback
- 1 Cercospora Leaf Spot
- 3 Insufficient Sample
- 1 Rootbound
- 1 Suspect Cultural Problem

8 Total for Laurel

LEUCOTHOE

- 1 Environmental Stress
- 1 Winter Injury

2 Total for Leucothoe

Phytophthora cinnamomi

Phomopsis juniperovora Phytophthora sp. Pythium sp.

Botryosphaeria sp. Cercospora kalmiae

LILAC

2 Bacterial Blight

1 Cause of Problem Unknown

2 Chemical Injury

2 Environmental Stress

1 Insects

1 Insufficient Information

4 Insufficient Sample

2 Phytophthora Root Rot

1 Scorch

1 Suspect Bacterial Blight

17 Total for Lilac

MAPLE

1 Environmental Stress

1 Total for Maple

NANDINA

2 Environmental Stress

1 Suspect Environmental Stress

3 Total for Nandina

NINEBARK

1 Powdery Mildew

1 Total for Ninebark

OLEANDER

1 Bacterial Gall

1 Total for Oleander

PAXISTIMA

1 Phytophthora Root Rot

1 Total for Paxistima

Pseudomonas syringae

Phytophthora sp.

Pseudomonas syringae

Sphaerotheca sp.

Pseudomonas syringae pv. savastanoi

Phytophthora sp.

PHOTINIA

2 Cause of Problem Unknown

1 Chemical Injury

4 Entomosporium Leaf Spot

4 Environmental Stress

2 Insufficient Sample

1 Powdery Mildew

1 Suspect Botryosphaeria Canker

1 Suspect Winter Injury

16 Total for Photinia

Entomosporium mespili

Oidium sp.

Botryosphaeria sp.

PIERIS

1 Botryosphaeria Dieback

1 Environmental Stress

1 Phytophthora Root Rot

3 Total for Pieris

Botryosphaeria sp.

Phytophthora cinnamomi

PLANTS, MISCELLANEOUS

1 Artillery Fungus

1 Chemical Injury

1 Environmental Stress

2 Insects

1 Insufficient Sample

1 Mites

7 Total for Plants, Miscellaneous

Sphaerobolus stellatus

PRIVET

1 Environmental Stress

1 Phytophthora Root Rot

1 Winter Injury

3 Total for Privet

Phytophthora sp.

QUINCE

1 Cause of Problem Unknown

1 Total for Quince

RHODODENDRON

2 Black Vine Weevils

1 Borers

13 Botryosphaeria Dieback

2 Botryosphaeria Leaf Spot

3 Cause of Problem Unknown

6 Cercospora Leaf Spot

8 Environmental Stress

1 Galls-Cause Unknown

2 Gray Blight

1 Insects

10 Insufficient Sample

4 Lacebugs

1 Low pH

1 Negative for Phytophthora

2 Negative for Root Disease

2 Pestalotia Leaf Spot

2 Phomopsis Dieback

1 Phytophthora Root Rot

1 Phytophthora Stem Rot

1 Poor Drainage

1 Scorch

2 Winter Injury

67 Total for Rhododendron

Botryosphaeria sp. Botryosphaeria sp.

Cercospora handelii

Pestalotia sydowniana

Pestalotia rhododendri Phomopsis sp.

Phytophthora sp.

Phytophthora cinnamomi

ROSE

7 Black Spot

3 Chemical Injury

1 Cold Injury

2 Common Canker

1 Frost Injury

1 Insects

1 Insufficient Sample

2 Mites

1 Phomopsis Cane Canker

2 Powdery Mildew

1 Red-necked Cane Borers

1 Rose Mosaic Virus

1 Secondary Decay

2 Suspect Chemical Injury

1 Suspect Insect Injury

1 Suspect Virus

1 Thrips

1 Virus

30 Total for Rose

Diplocarpon rosae

Coniothyrium fuckelii

Phomopsis sp.

Sphaerotheca pannosa

1 Insufficient Sample

1 Total for Russian Olive

SANTOLINA

1 Rhizoctonia Root Rot

1 Total for Santolina

Rhizoctonia sp.

SHRUB, UNKNOWN

1 Insects

1 Total for Shrub, Unknown

SHRUBS, MISCELLANEOUS

1 Artillery Fungus

1 Total for Shrubs, Miscellaneous

Sphaerobolus stellatus

SILVERBELL

1 Insufficient Sample

1 Total for Silverbell

SPIRAEA

- 1 Chemical Injury
- 1 Environmental Stress

2 Total for Spiraea

STEWARTIA

1 Environmental Stress

1 Total for Stewartia

STRANVAESIA

1 Insufficient Sample

1 Total for Stranvaesia

SUMAC

1 Normal Condition

1 Total for Sumac

SWEETSHRUB

1 Negative for Root Disease

1 Total for Sweetshrub

VIBURNUM

- 1 Cause of Problem Unknown
- 1 Environmental Stress
- 1 Insufficient Sample
- 1 Oedema
- 1 Vole Injury
- 1 Winter Injury

6 Total for Viburnum

Microtus pinetorum

WEIGELA

- 1 Environmental Stress
- 1 Insufficient Sample
- 1 White Rot

3 Total for Weigela

WISTERIA

- 1 Insufficient Information
- 1 Insufficient Sample

2 Total for Wisteria

WITCHHAZEL

1 Botryosphaeria Dieback

1 Phyllosticta Leaf Blight

2 Total for Witchhazel

Botryosphaeria sp. Phyllosticta hamamelidis

YEW

- 3 Environmental Stress
- 1 Insufficient Information
- 5 Insufficient Sample 6 Phytophthora Root Rot 2 Poor Drainage

17 Total for Yew

Phytophthora parasitica

TREES

ARBORVITAE

- 1 Cause of Problem Unknown
- 6 Environmental Stress
- 1 Insufficient Information
- 4 Insufficient Sample
- 1 Mites
- 1 Phytophthora Root Rot
- 1 Web Blight

15 Total for Arborvitae

Phytophthora sp. Rhizoctonia solani

ASH

1 Anthracnose

1 Botryosphaeria Canker

- 1 Environmental Stress
- 1 Insufficient Sample
- 1 Rust

5 Total for Ash

Discula sp. Botryosphaeria sp.

Puccinia peridermiospora

BALDCYPRESS

- 1 Eriophyid Mites
- 1 Mites

2 Total for Baldcypress

BEECH

1 Anthracnose

1 Eriophyid Mites

- 1 Hypoxylon Canker
- 1 Insects

4 Total for Beech

Discula umbrinella

Hypoxylon deustum

BIRCH

2 Aphids

- 2 Environmental Stress
- 1 Insects
- 1 Insufficient Sample
- 1 Leafminers
- 1 Scales

8 Total for Birch

BLACK GUM

- 1 Mycosphaerella Leaf Spot
- 1 Sooty Mold
- 1 Wood Decay

3 Total for Black Gum

Mycosphaerella nyssaecola

BOXELDER

- 1 Insect Galls
- 1 Wood Decay

2 Total for Boxelder

BUCKEYE

1 Guignardia Blotch

1 Total for Buckeye

Guignardia aesculi

CEDAR

- 1 Environmental Stress
- 1 Insects
- 1 Insufficient Sample
- 1 Mechanical Injury

4 Total for Cedar

COTTONWOOD

1 Cause of Problem Unknown

1 Total for Cottonwood

CRYPTOMERIA

2 Environmental Stress

1 Phytophthora Root Rot

3 Total for Cryptomeria

Phytophthora sp.

CYPRESS

- 1 Cause of Problem Unknown
- 1 Crystalline Residue
- 1 Deep Planting
- 2 Environmental Stress
- 1 Insects
- 5 Insufficient Sample
- 1 Negative for Root Pathogens
- 2 Pestalotiopsis Tip Blight
- 1 Phytophthora Root Rot
- 3 Seasonal Needle Drop
- 1 Suspect Environmental Stress
- 2 Suspect Seiridium Canker
- 1 Transplant Shock
- 2 Winter Injury

24 Total for Cypress

Pestalotiopsis funerea Phytophthora cinnamomi

Seiridium sp.

DOGWOOD

2 Anthracnose

1 Botryosphaeria Canker

- 1 Botryosphaeria Dieback
- 2 Cause of Problem Unknown
- 2 Chemical Injury
- 1 Cultural Problem
- 1 Deep Planting
- 6 Discula Anthracnose
- 11 Environmental Stress
- 1 Excess Mulch
- 3 Insects
- 11 Insufficient Sample
- 1 Lichens
- 2 Mechanical Injury
- 1 Phomopsis Dieback
- 3 Phyllosticta Leaf Spot
- 1 Phytophthora Root Rot
- 1 Pith
- 28 Powdery Mildew
- 2 Septoria Leaf Spot
- 26 Spot Anthracnose
- 1 Suspect Chemical Injury
- 1 Suspect Cold Injury
- 1 Thrips

110 Total for Dogwood

Colletotrichum gloeosporioides

Botryosphaeria sp. Botryosphaeria sp.

Discula destructiva

Phomopsis sp. Phyllosticta sp.

Phytophthora parasitica

Oidium sp. Septoria cornicola Elsinoe corni

EASTERN RED CEDAR

- 1 Insects
- 1 Insufficient Information
- 1 Insufficient Sample
- 1 Mites
- 1 Phomopsis Tip Blight

5 Total for Eastern Red Cedar

Phomopsis juniperovora

ELM

- 1 Cause of Problem Unknown
- 1 Eriophyid Mites
- 2 Insects
- 1 Insufficient Sample
- 2 Negative for Dutch Elm Disease
- 1 Thrips

8 Total for Elm

FALSECYPRESS

- 2 Environmental Stress
- 2 Insufficient Sample
- 1 Mites
- 4 Seiridium Canker

9 Total for Falsecypress

Seiridium unicorne

FIR

- 1 Cause of Problem Unknown
- 1 Cultural Problem
- 3 Environmental Stress
- 1 Insufficient Sample
- 1 Phytophthora Root Rot

7 Total for Fir

Phytophthora cinnamomi

FRANKLINIA

1 Insufficient Sample

1 Total for Franklinia

FRINGE TREE

1 Phyllosticta Leaf Spot

1 Total for Fringe Tree

Phyllosticta chionanthe

HACKBERRY

1 Leaf Gall Insects

1 Total for Hackberry

HAWTHORN

7 Cedar-Quince Rust

1 Suspect Nutrient Imbalance

8 Total for Hawthorn

HEMLOCK

- 1 Cause of Problem Unknown
- 1 Chemical Injury
- 1 Drought
- 5 Environmental Stress
- 1 Insufficient Sample
- 2 Mites
- 2 Woolly Adelgids

13 Total for Hemlock

HICKORY

4 Leaf Stem Gall Insects

4 Total for Hickory

HONEYLOCUST

2 Plant Bugs

2 Total for Honeylocust

HORNBEAM

1 Secondary Organism

1 Total for Hornbeam

Melanconium sp.

Gymnosporangium clavipes

HORSE CHESTNUT

1 Guignardia Blotch

1 Total for Horse Chestnut

Guignardia aesculi

JUNIPER

- 1 Environmental Stress
- 2 Negative for Root Disease

3 Total for Juniper

KATSURATREE

1 Environmental Stress

1 Total for Katsuratree

LINDEN

1 Environmental Stress

1 Total for Linden

MAGNOLIA

- 1 Cause of Problem Unknown
- 4 Environmental Stress
- 2 Insufficient Information
- 2 Insufficient Sample
- 1 Lacebugs
- 1 Leaf Hairs-Normal Condition
- 2 Leafminers
- 1 Physiological Problem
- 1 Powdery Mildew
- 1 Sassafras Weevils
- 7 Scales
- 5 Sooty Mold
- 1 Suspect Root Problem
- 4 Winter Injury

33 Total for Magnolia

Oidium sp.

MAPLE

1 Insufficient Information

15 Anthracnose Discula sp.

1 Bacterial Wetwood

2 Botryosphaeria Dieback Botryosphaeria sp.

4 Cause of Problem Unknown

7 Environmental Stress

1 Eriophyid Mites 1 Frost Injury

2 Girdling Roots2 Hail Injury 1 Heart Rot

12 Insufficient Sample 1 Japanese Beetles

3 Leafhoppers 1 Nectria Canker Nectria galligena

1 Negative for Anthracnose 1 Negative for Bark Pathogens

1 Negative for Root Pathogens 2 Negative for Verticillium Wilt 1 Phomopsis Dieback Phomopsis sp.

1 Phytophthora Root Rot Phytophthora sp.

8 Purple-eye Leaf Spot Phyllosticta minima 2 Scorch

1 Suspect Girdling Roots 1 Suspect Nutrient Deficiency

1 Suspect Rodent Injury 3 Verticillium Wilt Verticillium dahliae

2 Wood Decay

79 Total for Maple

OAK

3 Anthracnose Apiognomonia sp. 1 Botryosphaeria Dieback Botryosphaeria sp. 2 Cause of Problem Unknown 6 Chemical Injury

1 Cultural Problem 1 Cylindrcladium Root Rot

Cylindrocladium sp. 5 Environmental Stress 1 Eriophyid Mites

3 Insects 4 Insufficient Sample

1 Fall Coloration

3 Iron Chlorosis 1 Lacebugs

2 Leafminers 1 Mechanical Injury

1 Mites

14 Oak Leaf Blister Taphrina caerulescens

1 Oak Leaf Button Galls

1 Scorch 1 Sooty Mold

1 Squirrel Twig Pruning

2 Suspect Chemical Injury

1 Suspect Mechanical Injury 9 Tubakia Leaf Spot

1 Vein Pocket Galls

2 Wood Decay

69 Total for Oak

Tubakia dryina

ORNAMENTAL CHERRY

1 Bacterial Leaf Spot Pseudomonas syringae

2 Cause of Problem Unknown

1 Chemical Injury

3 Environmental Stress

3 Insufficient Information

2 Insufficient Sample

1 Phomopsis Canker

2 Tent Caterpillars

1 Winter Injury

1 Wood Decay

17 Total for Ornamental Cherry

Phomopsis sp.

Irpex lacteus

ORNAMENTAL CRABAPPLE

1 Suspect Nutrient Imbalance

1 Total for Ornamental Crabapple

ORNAMENTAL PEAR

1 Black Rot

1 Cause of Problem Unknown

2 Cedar-Hawthorn Rust

4 Cultural Problem

8 Environmental Stress

2 Fire Blight

1 Frost Injury1 Healthy7 Insufficient Sample

1 Pear Leaf Blister Mites

2 Suspect Chemical Injury

1 Suspect Entomosporium Leaf Spot

1 Suspect Nutrient Imbalance

32 Total for Ornamental Pear

ORNAMENTAL PLUM

1 Chemical Injury

1 Total for Ornamental Plum

PEAR

1 Insufficient Information

1 Total for Pear

Botryosphaeria obtusa

Gymnosporangium globosum

Erwinia amylovora

Entomosporium mespili

PINE

2 Atropellis Twig Canker

1 Bark Beetles

3 Coleosporium Needle Rust

1 Cultural Problem

1 Diplodia Tip Blight

3 Eastern Gall Rust

8 Environmental Stress

1 Gall Rust

1 Insects

7 Insufficient Sample

1 Negative for Root Pathogens

1 Pales Weevils

1 Physiological Needle Drop

1 Phytophthora Root Rot

2 Pine Tip Moths

1 Poor Drainage

2 Procerum Root Disease

1 Seasonal Needle Drop

1 Sooty Mold

1 Suspect Eastern Gall Rust

1 Suspect Eriophyid Mites

1 Suspect Mechanical Injury

1 Suspect Vole Injury

1 Winter Fleck

44 Total for Pine

Atropellis sp.

Coleosporium sp.

Diplodia pinea

Cronartium quercuum

Phytophthora sp.

Leptographium procerum

Cronartium quercuum

PISTACHE

1 Verticillium Wilt

1 Total for Pistache

Verticillium albo-atrum

PLUM

1 Black Knot

1 Total for Plum

Dibotryon morbosum

POPLAR

2 Botryosphaeria Canker

1 Environmental Stress

1 Insufficient Sample

4 Total for Poplar

Botryosphaeria dothidea

PRUNUS

1 Black Knot

1 Environmental Stress

2 Total for Prunus

Dibotryon morbosum

REDBUD

1 Botryosphaeria Dieback

1 Botrytis Blight

1 Frost Injury

1 Insufficient Sample

Suspect Botryosphaeria Dieback

1 Suspect Chemical Injury

1 Wood Decay

7 Total for Redbud

Botryosphaeria dothidea Botrytis cinerea

Botryosphaeria dothidea

SERVICEBERRY

1 Environmental Stress

1 Total for Serviceberry

SNOWBELL

1 Environmental Stress

1 Total for Snowbell

SOURWOOD

1 Cercospora Leaf Spot

1 Total for Sourwood

Cercospora oxydendri

SPRUCE

- 1 Cause of Problem Unknown
- 1 Cultural Problem
- 7 Environmental Stress
- 1 Frost Injury
- 1 Gall Adelgids
- 2 Insects
- 5 Insufficient Sample
- 12 Mites
- 5 Phytophthora Root Rot
- 4 Rhizosphaera Needle Blight
- 1 Stigmina Needle Cast
- 1 Suspect Environmental Stress
- 1 Suspect Mites

42 Total for Spruce

Phytophthora sp. Rhizosphaera kalkhoffii Stigmina verrucosa

SWEET GUM

1 Wood Decay

1 Total for Sweet Gum

SYCAMORE

- 3 Anthracnose
- 1 Wood Decay

4 Total for Sycamore

TREE, UNKNOWN

- 1 Gall Mites
- 1 Leaf Galls

2 Total for Tree, Unknown

TREES, MISCELLANEOUS

2 Chemical Injury

2 Total for Trees, Miscellaneous

TULIP TREE

- 1 Cause of Problem Unknown
- 1 Galls-Wound Response
- 1 Insufficient Sample

3 Total for Tulip Tree

Gnomonia platani

WILLOW

- 1 Botryosphaeria Canker
- 2 Botryosphaeria Dieback
- 1 Caterpillars
- 1 Cause of Problem Unknown
- 1 Cytospora Canker
- 1 Environmental Stress
- 1 Fasciation
- 1 Insects
- 1 Insufficient Information
- 1 Insufficient Sample
- 1 Pleospora on Twigs
- 1 Rust
- 1 Suspect Botryosphaeria Canker

14 Total for Willow

Botryosphaeria dothidea Botryosphaeria sp.

Cytospora sp.

Pleospora herbarum Melampsora epitea Botryosphaeria dothidea

YELLOWWOOD

- 1 Insufficient Sample
- ----
- 1 Total for Yellowwood

TURF

BENTGRASS

1 Anthracnose

1 Black Layer

1 Chemical Injury

1 Environmental Stress

2 Excess Thatch

1 Insufficient Sample

1 Pink Patch

1 Pythium Root Rot

4 Ring Nematodes

2 Stubby Root Nematodes

2 Take-all

1 Yellow Patch

18 Total for Bentgrass

Colletotrichum graminicola

Limonomyces roseipellis

Pythium sp. Criconemella sp. Trichodorus sp.

Gaeumannomyces graminis

Rhizoctonia cerealis

BERMUDAGRASS

1 Helminthosporium Blight

1 Weed Encroachment

2 Total for Bermudagrass

Helminthosporium sp.

BLUEGRASS

1 Cultural Problem

1 Environmental Stress

1 Excess Thatch

1 Melting Out

1 Rust

1 Suspect Brown Patch

6 Total for Bluegrass

Drechslera poae Puccinia graminis Rhizoctonia solani

CLOVER

1 Environmental Stress

1 Total for Clover

FESCUE

14 Brown Patch

1 Cause of Problem Unknown

3 Chemical Injury

2 Cultural Problem

2 Environmental Stress

4 Excess Thatch

1 Healthy

1 Helminthosporium Blight

5 Insufficient Sample

1 Poor Drainage

1 Rust

1 Slime Mold

1 White Patch

37 Total for Fescue

RYEGRASS

2 Brown Patch

1 Cause of Problem Unknown

1 Cool Season Brown Patch

1 Fusarium Seedling Blight

5 Total for Ryegrass

ST. AUGUSTINEGRASS

1 Gray Leaf Spot

1 Suspect Take-All

2 Total for St. Augustinegrass

Rhizoctonia solani

Drechslera dictyoides

Puccinia graminis Physarum sp. Melanotus philipsii

Rhizoctonia solani

Rhizoctonia cerealis Fusarium tricinctum

Pyricularia grisea

Gaeumannomyces graminis var. graminis

TURFGRASS

10 Anthracnose Colletotrichum graminicola

9 Brown Patch Rhizoctonia solani

2 Cultural Problem 1 Environmental Stress

4 Excess Thatch 1 Fairy Ring 2 Gray Leaf Spot Pyricularia grisea

1 Heat Stress

1 Helminthosporium Blight Drechslera dictyoides 1 Helminthosporium Leaf Spot Bipolaris sorokiniana 2 Insufficient Information

4 Insufficient Sample 5 Lance Nematodes Hoplolaimus sp.

2 Low pH

1 Negative for Disease 1 Powdery Mildew Erysiphe graminis Laetisaria fuciformis 2 Red Thread 3 Ring Nematodes Criconemella sp.

2 Rust Puccinia graminis 2 Slime Mold 1 Sour Mulch

1 Suspect Brown Patch Rhizoctonia solani 1 Suspect Chemical Injury

1 Suspect Spiral Nematodes Helicotylencus sp.

2 Weed Encroachment

62 Total for Turfgrass

ZOYSIA

1 Cause of Problem Unknown

1 Excess Thatch 1 High pH

1 Insufficient Sample

1 Rust

2 Zoysia Patch

7 Total for Zoysia

Puccinia zoysiae Rhizoctonia solani

WEEDS AND NONPLANT MATERIAL

ARABIDOPSIS

1 Thrips

1 Total for Arabidopsis

DEAD NETTLE

1 Phytophthora Root Rot

1 Suspect Insects

2 Total for Dead Nettle

Phytophthora sp.

MULCH

2 Sour Mulch

2 Total for Mulch

PLANTAIN

2 Phomopsis Canker

Phomopsis sp.

2 Total for Plantain

SUBSTANCE, UNKNOWN

1 Cottony seed mass from poplars

Populus sp.

1 Total for Substance, Unknown

VIRGINIA BUTTONWEED

1 Fusarium Stem Rot

Fusarium sp.

1 Total for Virginia Buttonweed

Summary of Identifications 2000

Higher Plants (46)

Family: Anacardiaceae

Rhus sp. Sumac

Family: Aquifoliaceae

llex sp. Holly

Family: Araliaceae

Aralia spinosa Devil's Walking Stick

Family: Caprifoliaceae

Lonicera fragrantissima Winter Honeysuckle
Lonicera morrowi Morrow's Honeysuckle
Viburnum x burkwoodii Burkwood Viburnum

Family: Cornaceae

Cornus kousa Kousa Dogwood

Family: Cucurbitaceae

Cucumis melo Armenian Cucumber

Family: Cupressaceae

Chamaecyparis thyoides Atlantic Whitecedar

Family: Elaeagnaceae

Elaeagnus pungens Thorny Eleagnus

Family: Ericaceae

Rhodendron calendulaceum Flame Azalea

Family: Fabaceae

Cassia obtusifolia Sicklepod Cladrastis lutea Yellowwood

Family: Fagaceae

Castanea molissima Chestnut

Family: Gramineae

Avena sp. Oat

Family: Hamamelidaceae

Hamamelis sp. Witchhazel

Family: Juncaceae

Juncus secundus Rush

Family: Liliaceae

Chamaelireum luteum Devil's Bit

Family: Magnoliaceae

Magnolia acuminata Cucumbertree Magnolia stellata Star Magnolia

Family: Oleaceae

Syringa vulgaris Common Lilac

Family: Pinaceae

Pinus thunbergii Japanese Black Pine

Family: Poaceae

Eremochloa ophiuroides Centipede Grass
Poa annua (2) Annual Bluegrass
Unknown sp. Weed

Family: Rosaceae

Cydonia oblonga Quince
Geum canadense White Avens
Malus sp. Rome Beauty Apple

Prunus sp. (2) Ornamental Cherry

Prunus cerasifera Plum

Family: Solanaceae

Solanum capsicastrum False Jerusalem Cherry

Family: Taxaceae

Taxus baccata Repandens English Yew

Family: Taxodiaceae

Cunninghamia lanceolata Chinafir
Taxodium distichum Bald Cypress

Family: Ulmaceae

Celtis occidentalis Common Hackberry

Family: Unknown Weed, Unknown (2) Insufficient Sample (2)

Family: Verbenaceae

Vitex agnus-castus Chastetree

Family: Violaceae

Viola sp. Violet

Fungi (25)

Class: Ascomycetes
Hypoxylon sp.

Peziza repanda Spreading Brown Cup Fungus

Scorias spongiosa (2) Sooty Mold

Class: Basidiomycetes

Chlorophyllum molybdites Chlorophyllum
Ganoderma lucidum Varnished Conk
Phaeolus schweinitzii Dye Polypore
Phytogaster sp. Polypore
Psathyrella sp. Psathyrella
Unknown sp. Polypore

Class: Gasteromycetes

Scleroderma geaster (3) Earthball
Sphaerobolus stellatus (3) Artillery Fungus

Class: Hyphomycetes

Cladosporium sp. Cladosporium sp. Penicillium sp. Penicillium sp.

Class: Myxomycetes

Fuligo sp. (3) Slime Mold Physarum cinereum (2) Slime Mold

Class: Unknown Insufficient Sample Unidentified Fungus

Mosses (1)

Family: Brachytheciaceae Oxyrrhynchium hians

Gaping Beakmoss

All Others (3)

Algae

Other Invertebrate, Mite, Tick Class: Nematophora

Gordius robustus Horsehair Worms

Unable to Identify