The Plant Disease Clinic and Weed Identification Laboratory
2002 Annual Report

Table of Contents

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 2002, diagnoses in the Plant Disease Clinic in Blacksburg were performed by Mary Ann Hansen, Elizabeth Bush, and Nina Hopkins, with valuable assistance from Shannon Hill.

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:

Plant Pathology, Physiology, and Weed Science
Dr. Anton Baudoin
Mr. Josh Beam
Dr. Kevin Bradley
Dr. Boris Chevone
Dr. Houston Couch
Dr. Jeff Derr
Dr. Jon Eisenback
Dr. Gary Griffin
Dr. Scott Hagood
Mr. Lloyd Hipkins
Dr. Chuan Hong
Dr. Chuck Johnson
Mr. Phil Keating
Mr. Claude Kenley
Dr. George Lacy
Dr. Pat Phipps
Dr. Curt Roane
Mr. Peter Sforza
Dr. Jay Stipes
Dr. Erik Stromberg
Dr. Sue Tolin
Dr. Keith Yoder

Entomology
Mr. Eric Day
Mr. Shahrooz Feizabadi
Dr. Doug Pfeiffer
Dr. Rod Youngman

Horticulture
Dr. Tony Bratsch
Dr. Roger Harris
Dr. Joyce Latimer
Dr. Richard Marini
Dr. Ron Morse
Dr. Alex Niemiera
Dr. Holly Scoggins
Dr. Greg Welbaum
Dr. Jerry Williams
Dr. Tony Wolf

Crop, Soil, and Environmental Sciences
Dr. Mark Alley
Dr. Dan Brann
Dr. David Chalmers
Dr. Steve Donohue
Dr. Erik Ervin
Mr. Steve Heckendorn
Ms. Pat Hipkins

Biology
Dr. Orson Miller
Mr. Tom Wieboldt

Fisheries and Wildlife
Dr. Jim Parkhurst

The Weed Identification Clinic is operated by Dr. Scott Hagood with the assistance of Dr. Kevin Bradley, Mr. Josh Beam, and Mr. Lloyd Hipkins. 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 painstakingly compiled the annual report. 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. Note that the number of diagnoses performed was higher than the number of samples received because some samples have more than one problem.

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. or by Agdia's immunostrip testing system. Host inoculation was also used to identify viruses in some specimens. In some cases, identification of the specific virus was not desired by the client. In those cases, if symptoms indicated a virus infection, the diagnosis is listed simply as "virus".

Nematode diseases were diagnosed by extracting nematodes from soil or plant tissue. Samples must include at least 1 pint of soil for nematode assays. Nematode assays were routinely performed on samples of plant species known to be affected by nematodes, e. g. boxwood. Nematode populations in the sample were compared to damage threshold levels in making a control recommendation. Threshold levels have been developed in research trials for many, but not all, crops grown in VA.

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 if a diagnostic form with carbon copies is submitted with the sample. Any factsheets or additional printed information is attached to this form. The new diagnostic forms available through the Extension Distribution Center do not have carbon copies. For samples submitted with these forms, we send out only the electronic report. Any comments or questions about reports or plant problems can be emailed to us at <clinic@vt.edu>.

For information on how to submit samples and complete the appropriate forms, please refer to the following web site for an audiovisual web presentation: http://www.ext.vt.edu/vce/staffdev/anrtraining/

Some Highlights from 2002

During the 2002 growing season, the Plant Disease Clinic was inundated with samples of tomato that tested positive for Tomato Spotted Wilt Virus, a virus that is transmitted by thrips. The virus causes a variety of symptoms on tomato, including spotting of upper leaves, ringspots on fruit, low yield, and death of plants. This disease has been sporadic in crops, such as tomato, peanut, tobacco, pepper, and hydrangea, over the years, but never have we seen such an epidemic as in 2002! The disease was also a problem in the Virginia tobacco and peanut crops in 2002. Tomato spotted wilt virus has been epidemic in susceptible crops in our neighboring states to the south in previous years. Several meetings were held this winter to try to identify measures that can be used to reduce the incidence of this disease in Virginia in 2003. The systemic insecticide, Admire, can be used to control thrips on tomatoes. Application of Admire to transplants immediately prior to or immediately after transplanting appears to reduce the incidence of TSWV in the field. The potential use of Actigard as an additional preventative treatment is also being researched.

The Clinic received fewer samples overall in 2002, most likely due to the prolonged drought in many parts of the state. Most plant diseases are favored by high moisture and high humidity; thus, many pathogens were not as active in 2002. However, the opportunistic pathogen *Botryosphaeria* sp. is favored by drought stress, which predisposes plants to infection. We saw many cases of Botryosphaeria dieback in woody plants, including rhododendron, dogwood, and cypress. We also saw Phomopsis dieback, another fungal disease promoted by drought stress, in azalea, andromeda, and other woody plants.

In 2001, we received samples of rust in daylily and rose rosette disease in cultivated roses for the first time. We continued to see rose rosette disease in 2002, but did not receive any samples of daylily rust. We did, however, diagnose many cases of daylily leaf streak from growers who were concerned about daylily rust. Leaf streak is another fungal disease which, from a distance, can be confused with daylily rust. (To tell the difference, look closely at the leaves to see if brightly colored orange pustules typical of rust are present.) Rust-resistant daylily cultivars have now been identified in trials in Georgia.

We also received a sample of *Phlox paniculata* exhibiting spotting and yellowing of the lower leaves. These symptoms gradually moved up the plants. We were unable to recover any pathogens from the leaf spots and other plant pathologists confirmed that they have not been able to isolate any pathogens from similar looking phlox. Cultural factors that might be involved in this problem are unknown at this time.

Diseases we saw for the first time in 2002 included:

- Cylindrocladium Stem Canker of Leucothoe (*Cylindrocladium* sp.)
- Pink Rot of Potato (*Phytophthora erythroseptica*)
- Rhynchosporina Sheath and Blade Spot of Tall Redtop (*Rhynchosporina tridentis*)
- Southern Blight of Jerusalem Artichoke (*Sclerotium rolfsii*)

Other interesting diseases included:

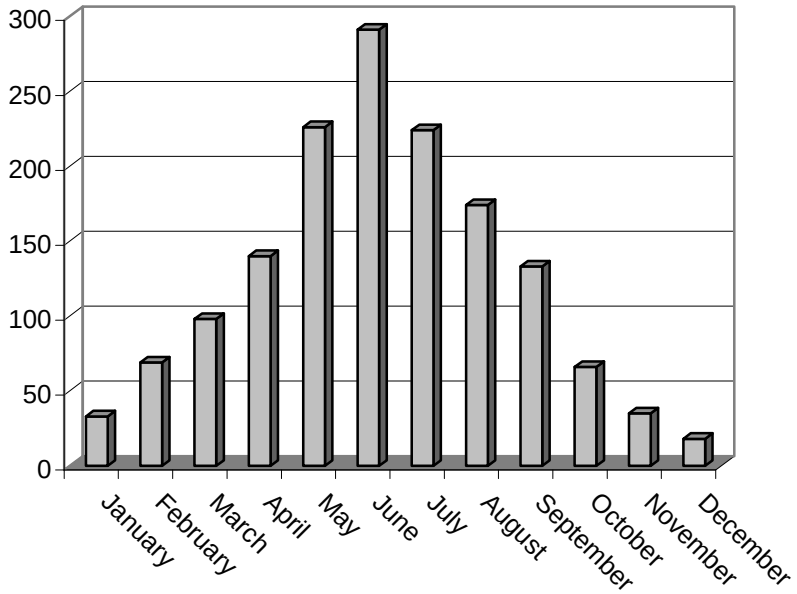
- Bacterial Leaf Blight on Coreopsis (*Pseudomonas cichorii*)
- Bacterial Leaf Spot on Hydrangea (*Xanthomonas campestris*)
- Black Root Rot on Catharanthus, Pansy, and Petunia (*Thielaviopsis basicola*)
- Impatiens Necrotic Spot Virus on Monarda
- Phytophthora Blight on Pepper (*Phytophthora capsici*)
- Phytophthora Root Rot on Inkberry (*Phytophthora cinnamomi*)
- Rust on Snapdragon (*Puccinia antirrhini*)
- Stem and Bulb Nematodes on Daffodil (*Ditylenchus dipsaci*) (transmitted on bulbs shared by hobbyists; symptoms included wavy leaves, internal browning of bulbs and loss of plants)
- Verticillium Wilt on Black Raspberry (*Verticillium albo-atrum*) (Symptoms on raspberry are not typical of the symptoms caused by this pathogen on other plants. On black raspberries infected canes are stunted and may turn entirely blue on one side before they wither and die.)

Plant Disease Clinic

Monthly Submission Report
Number of Samples Received by Month
2002

Month	# of Samples
January	33
February	69
March	98
April	140
May	226
June	291
July	224
August	174
September	133
October	66
November	35
December	18
Total	1507

Number of Samples by Month

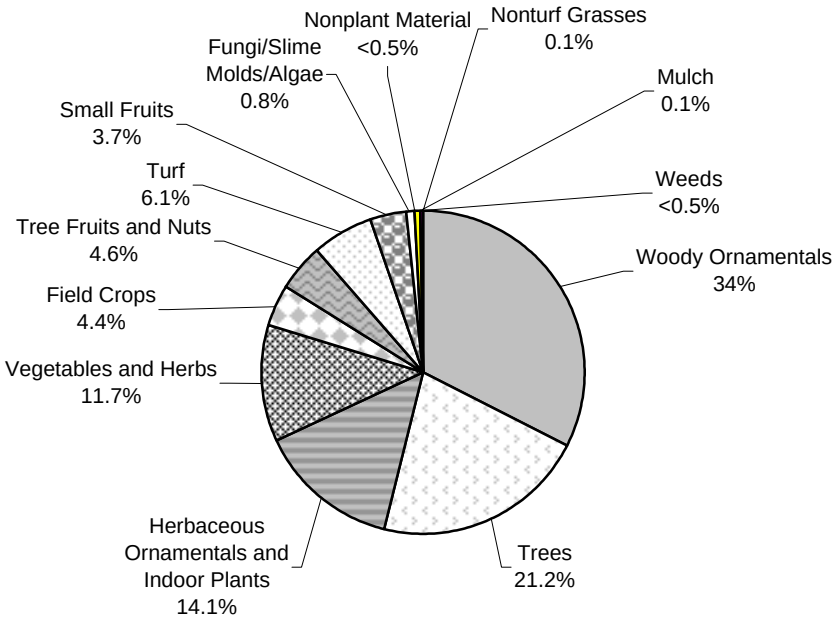


Plant Disease Clinic

Crop Category Report
Sample Totals by Major Crop Category
2002

Crop Category	# of Samples	% of Total
Woody Ornamentals	491	32.6%
Trees	320	21.2%
Herbaceous Ornamentals and Indoor Plants	213	14.1%
Vegetables and Herbs	176	11.7%
Turf	92	6.1%
Tree Fruits and Nuts	69	4.6%
Field Crops	66	4.4%
Small Fruits	56	3.7%
Fungi/Slime Molds/Algae	12	0.8%
Weeds	6	0.4%
Unknown	2	0.1%
Mulch	2	0.1%
Nonplant Material	1	0.1%
Nonturf Grasses	1	0.1%
Total	1507	100%

Samples by Crop Category

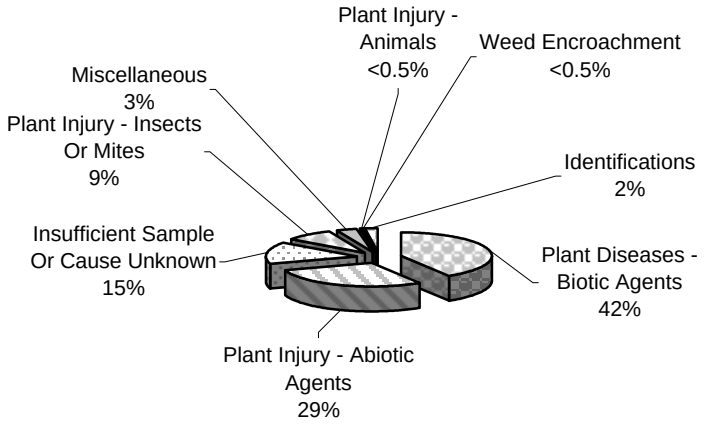


Plant Disease Clinic

Diagnostic Category Report
Distribution of Diagnoses by Major Diagnostic Category
2002

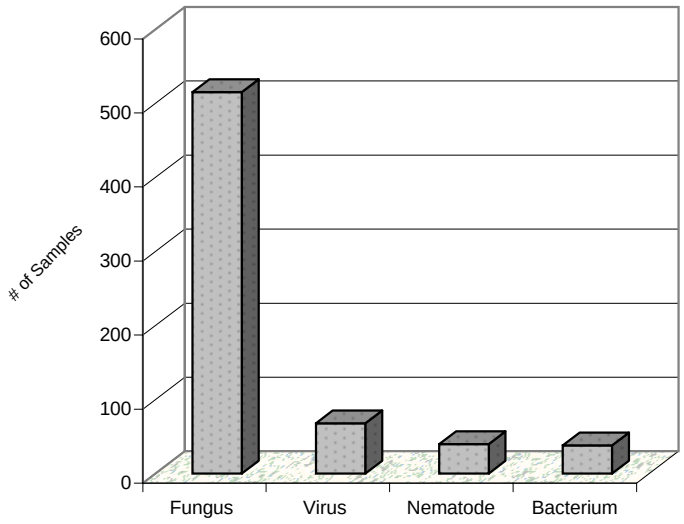
	# of Diagnoses	% of Total
Plant Diseases - Biotic Agents	661	41.1%
Bacterium (38)		
Fungus (515)		
Nematode (40)		
Virus (68)		
Plant Injury - Abiotic Agents	465	28.9%
Chemical (38)		
Environmental/cultural (418)		
Mechanical (9)		
Plant Injury - Insects or Mites	139	8.6%
Insects Or Mites (139)		
Plant Injury - Animals	7	0.4%
Birds (2)		
Mammals (5)		
Insufficient Sample or Cause Unknown	244	15.2%
Insufficient Sample Or Information (221)		
Unknown (23)		
Miscellaneous	56	3.5%
Algae (3)		
Lichen (4)		
Allelopathy (2)		
Normal Condition (12)		
Other (19)		
Physiological/genetic (17)		
Weed Encroachment	3	0.2%
Weed (3)		
Identifications	35	2.2%
Fungi (16)		
Other Substance (1)		
Plant (18)		
Total	**1610**	**100%**

2002 Samples by Diagnostic Category



Plant Disease Clinic

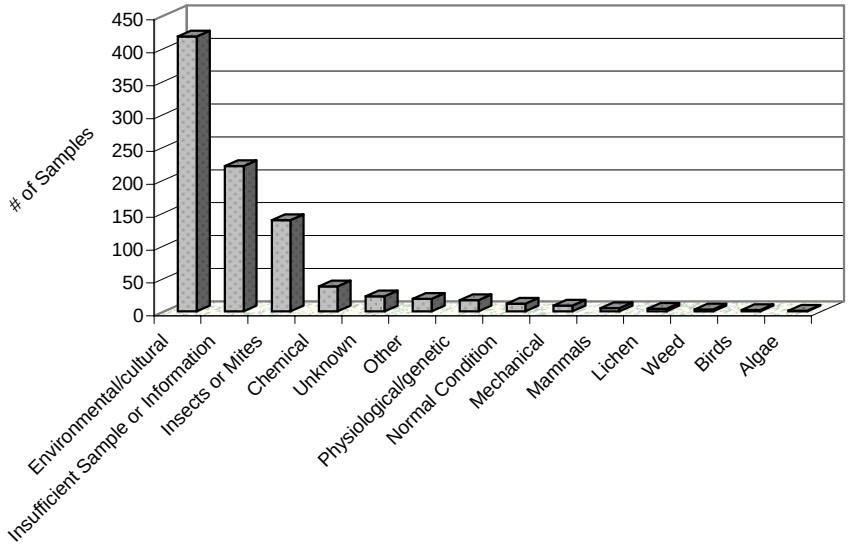
Plant Pathogens, 2002



Other Assistance, 2002

Type	# Inquiries
E-mail	43
Digital Images	27
Phone Calls	150

Other Agents, 2002



Plant Disease Clinic

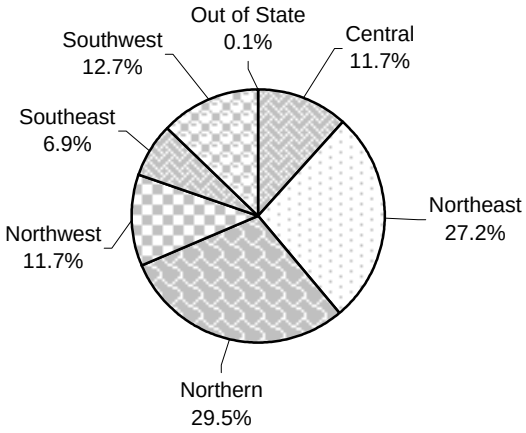
Distribution of Samples by County

2002

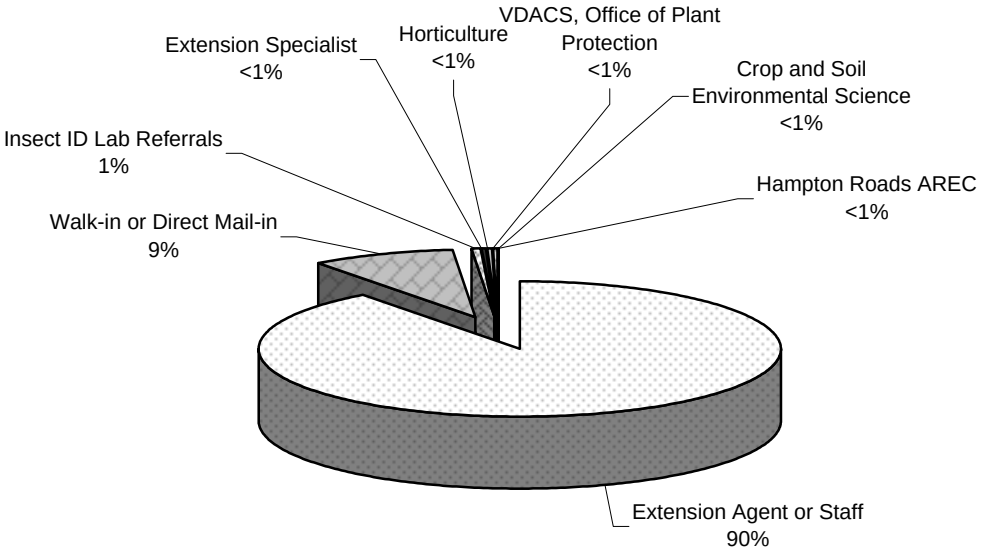
County	# of Samples	County	# of Samples
Accomack	1	Lee	4
Albemarle	101	Loudoun	29
Alexandria (IC)	3	Louisa	4
Amelia	1	Lunenburg	12
Amherst	9	Lynchburg (IC)	58
Appomattox	1	Madison	12
Arlington	42	Mathews	21
Augusta	30	Middlesex	8
Bath	5	Montgomery	99
Bedford	14	Nelson	55
Bland	3	New Kent	7
Botetourt	15	Newport News (IC)	4
Brunswick	3	Norfolk (IC)	10
Buchanan	1	Northumberland	24
Campbell	11	Nottoway	9
Caroline	7	Orange	11
Carroll	5	Page	7
Charles City	1	Patrick	5
Chesapeake (IC)	23	Pittsylvania	10
Chesterfield	50	Portsmouth (IC)	1
Clarke	9	Powhatan	9
Craig	1	Prince Edward	5
Culpeper	3	Prince George	19
Cumberland	4	Prince William	14
Danville (IC)	15	Pulaski	1
Dickenson	8	Rappahannock	9
Dinwiddie	12	Richmond	2
Essex	9	Roanoke	48
Fairfax	31	Rockbridge	10
Fauquier	14	Rockingham	23
Floyd	13	Russell	1
Fluvanna	15	Scott	5
Franklin	11	Shenandoah	12
Frederick	9	Smyth	1
Giles	3	Southampton	4
Gloucester	15	Spotsylvania	3
Goochland	11	Stafford	72
Grayson	2	Suffolk (IC)	4
Greene	4	Surry	2
Greensville/Emporia	2	Sussex	5
Halifax	3	Tazewell	10
Hampton (IC)	17	Unknown	1
Hanover	32	Virginia Beach (IC)	19
Henrico	15	Warren	6
Henry	11	Washington	14
Highland	2	Westmoreland	22
Isle of Wight	2	Wise	10
James City	123	Wythe	6
King and Queen	3	York	26
King George	16	Out-of-state	2
King William	5		
Lancaster	6	**Total**	**1507**

Plant Disease Clinic

2002 Samples by District



Samples by Submitter Type, 2002



Weed Identification Lab

Monthly Submission Report
Number of Samples Received by Month
2002

Month	# of Samples
January	2
February	6
March	13
April	19
May	38
June	37
July	34
August	38
September	41
October	27
November	15
December	2
Total	272

Sample Totals by Crop
2002

Crop	# of Samples
Alfalfa/Hay	18
Aquatic	35
Barley	2
Corn	6
Cotton	1
Flower Bed/Garden	33
Forest	6
Greenhouse	2
Non-Crop	37
Pasture	44
Rye	2
Soybeans	4
Strawberry	1
Tobacco	1
Turf	77
Wheat	3
Total	272

Weed Identification Lab

Distribution of Samples by County
2002

County	# of Samples	County	# of Samples
Albermarle	13	Lunenburg	1
Amella	1	Lynchburg	26
Amherst	1	Montgomery	1
Appomatox	3	Northumberland	4
Arlington	1	Orange	3
Augusta	12	Out-of-State	2
Bath	1	Page	2
Bedford	1	Patrick	2
Bland	7	Pittsylvania	4
Botetourt	7	Powhatan	5
Campbell	4	Prince Edward	1
Carroll	6	Prince George	1
Chesterfield	1	Rappahanack	7
Clarke	1	Roanoke	13
Craig	2	Rockbridge	1
Culpepper	4	Rockingham	6
Cumberland	4	Russell	5
Dickenson	15	Scott	1
Fairfax	3	Shenandoah	3
Fauquier	3	Smyth	2
Floyd	1	Spotsvlvania	4
Frederick	3	Stafford	1
Giles	4	Suffolk (IC)	2
Gloucester	1	Sussex	1
Goochland	7	Tazewell	2
Grayson	1	Warren	4
Greene	1	Washington	1
Hanover	6	Westmoreland	8
Henrico	1	Wise	2
Henry	2	Wythe	5
Highland	8	York	9
James City	10		
King + Queen	1	**Total**	**272**
King George	2		
King William	3		
Lancaster	1		
Louisa	1		

Plant Disease Clinic

Summary of Diagnoses by Plant
2002

FIELD CROPS

ALFALFA

1	Alfalfa Weevils	
1	Boron Deficiency	
1	Insufficient Sample	
1	Pythium Root Rot	Pythium sp.
1	Stemphylium Leaf Spot	Stemphylium botryosum
5	Total for Alfalfa	

BARLEY

1	Chemical Injury	
1	Fertilizer Burn	
1	Frost Injury	
1	Low pH	
3	Net Blotch	Pyrenophora teres
1	Nutrient Deficiency	
1	Suspect Chemical Injury	
9	Total for Barley	

BROMEGRASS

1	Rust	Puccinia sp.
1	Total for Bromegrass	

CORN

1	Anthracnose	Colletotrichum graminicola
1	Bacterial Stalk Rot	Erwinia chrysanthemi
1	Cold Injury	
1	Cultural Problem	
3	Environmental Stress	
1	Genetic Abnormality	
1	Gray Leaf Spot	Cercospora zeae-maydis
1	Insects	
1	Lance Nematodes	Hoplolaimus sp.
1	Low pH	
1	Mechanical Injury	
1	Negative for Pythium	
1	Northern Leaf Spot	Bipolaris zeicola
1	Nutrient Deficiency	
1	Phosphorus Deficiency	
1	Root Knot Nematodes	Meloidogyne sp.
1	Suspect Chemical Injury	
19	Total for Corn	

FESCUE

1	Dollar Spot	Sclerotinia homeocarpa
1	Environmental Stress	
2	Total for Fescue	

Plant Disease Clinic

OATS

1	Barley Yellow Dwarf Virus	
1	Total for Oats	

ORCHARDGRASS

1	Drechslera Leaf Spot	Drechslera dactylidis
2	Environmental Stress	
1	Leaf Streak	Cercosporidium graminis
4	Total for Orchardgrass	

SOYBEAN

2	Charcoal Rot	Macrophomina phaseolina
3	Essex Syndrome	Fusarium oxysporum
1	Insufficient Information	
1	Lance Nematodes	Hoplolaimus sp.
1	Lesion Nematodes	Pratylenchus sp.
1	Negative for Nematodes	
1	Negative for Phytophthora	
2	Root Knot Nematodes	Meloidogyne sp.
1	Slime Mold	Physarum cinereum
1	Southern Blight	Sclerotium rolfsii
1	Suspect Brown Stem Rot	Phialophora gregata
15	Total for Soybean	

SWITCHGRASS

1	Insufficient Sample	
1	Total for Switchgrass	

TIMOTHY

1	Eyespot	Heterosporium phlei
1	Total for Timothy	

TOBACCO

1	Chemical Injury	
2	Nutrient Deficiency	
1	Suspect Chemical Injury	
4	Total for Tobacco	

Plant Disease Clinic

WHEAT

3	Frost Injury	
1	Insufficient Sample	
2	Manganese Deficiency	
1	Nutrient Deficiency	
1	Proliferation of Root Hairs	
2	Stagonospora Leaf and Glume Blotch	Stagonospora nodorum
1	Tan Spot	Pyrenophora tritici-repentis
1	Wheat Spindle Streak Mosaic Virus	

12	Total for Wheat	

HERBACEOUS ORNAMENTALS AND INDOOR PLANTS

AFRICAN VIOLET

1	Negative for Disease	

1	Total for African Violet	

AGLAONEMA

1	Fluoride Toxicity	

1	Total for Aglaonema	

AJUGA

1	Southern Blight	Sclerotium rolfsii

1	Total for Ajuga	

ANEMONE

2	Suspect Virus	

2	Total for Anemone	

ARABIDOPSIS

1	Thrips	

1	Total for Arabidopsis	

ASTER

1	Rust	Puccinia sp.
1	Suspect Nutrient Deficiency	

2	Total for Aster	

BABIANA

1	Cultural Problem	

1	Total for Babiana	

BACOPA

1	Pythium Root Rot	Pythium sp.

1	Total for Bacopa	

BAMBOO PALM

1	Cultural Problem	

1	Total for Bamboo Palm	

Plant Disease Clinic

BEDDING PLANTS

1	Air Pollution	
1	Negative for Disease	
1	Nutrient Deficiency	

3	Total for Bedding Plants	

BEGONIA

1	Insufficient Sample	
1	Powdery Mildew	Oidium begoniae
1	Rhizoctonia Stem Rot	Rhizoctonia solani

3	Total for Begonia	

BLUE-EYED-GRASS

1	Cultural Problem	

1	Total for Blue-eyed-grass	

CALIBRACHOA

1	Pythium Root Rot	Pythium sp.

1	Total for Calibrachoa	

CANNA

1	Cultural Problem	
1	Insects	
1	Pythium Root Rot	Pythium sp.

3	Total for Canna	

CATCHFLY

1	Cultural Problem	

1	Total for Catchfly	

CHRYSANTHEMUM

1	Bacterial Leaf Spot	Pseudomonas cichorii
1	Four-lined Plant Bugs	
1	Insects	
1	Nutrient Deficiency	
2	Pythium Root Rot	Pythium sp.

6	Total for Chrysanthemum	

CLEMATIS

1	Insufficient Sample	
1	Phoma Leaf Spot	Phoma sp.
1	Phoma Leaf Spot and Stem Canker	Phoma sp.

3	Total for Clematis	

Plant Disease Clinic

COMFREY

1	Cultural Problem	

1	Total for Comfrey	

CONEFLOWER

1	Chemical Injury	
2	Insects	

3	Total for Coneflower	

CORAL BELLS

1	Cause of Problem Unknown	
1	Genetic Abnormality	

2	Total for Coral Bells	

COREOPSIS

1	Bacterial Leaf Blight	Pseudomonas cichorii
1	Insufficient Sample	
1	Suspect Chemical Injury	

3	Total for Coreopsis	

CORYDALIS

1	Cultural Problem	

1	Total for Corydalis	

DAFFODIL

1	Bulb Rot	
1	Cold Injury	
4	Cultural Problem	
1	Negative for Nematodes	
2	Stem and Bulb Nematodes	Ditylenchus dipsaci

9	Total for Daffodil	

DAHLIA

1	Powdery Mildew	Oidium sp.

1	Total for Dahlia	

DAISY

2	Insufficient Sample	
1	Stemphylium Leaf Spot and Flower Rot	Stemphylium lycopersici
	----	
3	Total for Daisy	

Plant Disease Clinic

DAYLILY

1	Aphids	
1	Cultural Problem	
1	Insufficient Sample	
6	Leaf Streak	Aureobasidium microstictum
1	Suspect Frost Injury	
10	Total for Daylily	

DIANTHUS

2	Cold Injury	
1	Pythium Root Rot	Pythium sp.
3	Total for Dianthus	

FERN

1	Environmental Stress	
1	Sporangia - Normal Condition	
2	Total for Fern	

FICUS

1	Crown Gall	Agrobacterium tumefaciens
1	Total for Ficus	

FUCHSIA

1	Insufficient Sample	
1	Total for Fuchsia	

GAILLARDIA

1	Soft Rot	Erwinia carotovora
1	Total for Gaillardia	

GARDENIA

1	Sooty Mold	
1	Total for Gardenia	

GELSEMIUN

1	Rootbound	
1	Total for Gelsemiun	

GERANIUM

1	Cultural Problem	
1	Total for Geranium	

Plant Disease Clinic

GLADIOLUS

1	Penicillium Corm Rot	Penicillium gladioli
1	Total for Gladiolus	

GLOBE AMARANTH

1	Pythium Root Rot	Pythium sp.
1	Total for Globe Amaranth	

GRAPEFRUIT

1	Cultural Problem	
1	Total for Grapefruit	

HELICHRYSEUM

1	Web Blight	Rhizoctonia sp.
1	Total for Helichryseum	

HELIOTROPE

1	Pythium Root Rot	Pythium sp.
1	Total for Heliotrope	

HELLEBORE

1	Black Leaf Spot	Coniothyrium hellebori
1	Insufficient Sample	
2	Total for Hellebore	

HOSTA

1	Cultural Problem	
3	Environmental Stress	
1	Rhizoctonia Root Rot	Rhizoctonia solani
1	Vole Injury	
6	Total for Hosta	

IMPATIENS

1	Chemical Injury	
1	Environmental Stress	
2	Impatiens Necrotic Spot Virus	
1	Insufficient Water	
1	Mites	
1	Phytophthora Stem Rot	Phytophthora parasitica
1	Pythium Root Rot	Pythium sp.
1	Pythium Stem Rot	Pythium sp.
1	Rhizoctonia Stem Rot	Rhizoctonia solani
1	Rhizoctonia Stem and Root Rot	Rhizoctonia solani
1	Suspect Chemical Injury	
12	Total for Impatiens	

Plant Disease Clinic

INDOOR PLANT, UNKNOWN

1	Powdery Mildew	Oidium sp.
1	Total for Indoor Plant, Unknown	

INDOOR PLANTS, MISCELLANEOUS

1	Fluoride Toxicity	
1	Total for Indoor Plants, Miscellaneous	

IRIS

1	Cause of Problem Unknown	
1	Cold Injury	
1	Cultural Problem	
1	Fish Eggs	
4	Heterosporium Leaf Spot	Heterosporium iridis
1	Insufficient Sample	
1	Soft Rot	Erwinia carotovora
10	Total for Iris	

JACK-IN-THE-PULPIT

1	Rust	Uromyces avi-triphylli
1	Total for Jack-in-the-pulpit	

JACOB'S LADDER

1	Insects	
1	Total for Jacob's Ladder	

JADE

1	Cultural Problem	
1	Total for Jade	

LANTANA

1	Cold Injury	
1	Insufficient Sample	
2	Total for Lantana	

LEMON

1	Mites	
1	Total for Lemon	

LIRIOPE

1	Insufficient Sample	
1	Rhizoctonia Crown Rot	Rhizoctonia solani
1	Scales	

3	Total for Liriope	

LISIANTHUS

1	Botrytis Stem Canker	Botrytis cinerea
1	Impatiens Necrotic Spot Virus	

2	Total for Lisianthus	

LOBELIA

1	Insufficient Sample	
1	Suspect Cold Injury	

2	Total for Lobelia	

LUPINE

1	Anthracnose	Colletotrichum sp.

1	Total for Lupine	

MADAGASCAR PERIWINKLE

1	Black Root Rot	Thielaviopsis basicola
1	Fusarium Stem Rot	Fusarium sp.
1	Low pH	
1	Phytophthora Root Rot	Phytophthora parasitica
1	Pythium Root Rot	Pythium sp.

5	Total for Madagascar Periwinkle	

MANDEVILLA

1	Mealybugs	

1	Total for Mandevilla	

MARIGOLD

2	Alternaria Blight	Alternaria zinniae
1	Nutrient Deficiency	
1	Pythium Root Rot	Pythium sp.

4	Total for Marigold	

MAYAPPLE

1	Rust	Puccinia podophylii

1	Total for Mayapple	

Plant Disease Clinic

MONDOGRASS

1	Anthracnose	Colletotrichum sp.
1	Total for Mondograss	

MYRTLE

1	Plant Hairs	
1	Total for Myrtle	

NORFOLK ISLAND PINE

1	Mites	
1	Total for Norfolk Island Pine	

PACHYSANDRA

1	Salt Injury	
1	Scorch	
4	Volutella Blight	Volutella pachysandrae
6	Total for Pachysandra	

PALM

1	Cultural Problem	
1	Stigmina Leaf Spot	Stigmina beaucarneae
2	Total for Palm	

PANSY

1	Alternaria Leaf Spot	Alternaria tenuissima
2	Black Root Rot	Thielaviopsis basicola
3	Botrytis Blight	Botrytis cinerea
2	Chemical Injury	
1	Low pH	
1	Negative for Disease	
1	Nutrient Deficiency	
1	Phytophthora Crown and Root Rot	Phytophthora parasitica
1	Phytophthora Root Rot	Phytophthora parasitica
3	Pythium Root Rot	Pythium sp.
1	Rhizoctonia Stem Rot	Rhizoctonia solani
17	Total for Pansy	

PEONY

1	Botrytis Blight	Botrytis cinerea
1	Cause of Problem Unknown	
1	Cladosporium Stem and Leaf Blotch	Cladosporium paeoniae
1	Insufficient Sample	
1	Scorch	
1	Suspect Vole Damage	
6	Total for Peony	

PERIWINKLE

1	Phomopsis Dieback	Phomopsis livella
2	Phytophthora Root Rot	Phytophthora sp.

3	Total for Periwinkle	

PETUNIA

1	Black Root Rot	Thielaviopsis basicola
1	Insufficient Information	
1	Insufficient Sample	
3	Phytophthora Root Rot	Phytophthora sp.
1	Phytophthora Root and Stem Rot	Phytophthora parasitica
1	Powdery Mildew	Oidium sp.
5	Pythium Root Rot	Pythium sp.
1	Suspect Botrytis Blight	Botrytis cinerea
1	Thrips	

15	Total for Petunia	

PHLOX

2	Cultural Problem	
1	Oedema	
1	Physiological Problem	
1	Web Blight	Rhizoctonia sp.

5	Total for Phlox	

PLANT, UNKNOWN

1	Eriophyid Mites	

1	Total for Plant, Unknown	

PLANTS, MISCELLANEOUS

1	Ganoderma	Ganoderma sp.
1	Rhizoctonia Stem Rot	Rhizoctonia solani

2	Total for Plants, Miscellaneous	

POINSETTIA

1	Excess Soluble Salts	
1	Mites	
1	Rhizoctonia Stem and Root Rot	Rhizoctonia solani

3	Total for Poinsettia	

POLEMONIUM

1	Pythium Root Rot	Pythium sp.

1	Total for Polemonium	

POPPY

1 Environmental Stress
----
1 Total for Poppy

RUDBECKIA

1 Rootbound
----
1 Total for Rudbeckia

SALVIA

1 Aphids
1 Suspect Chemical Injury
----
2 Total for Salvia

SARCOCOCCA

1 Environmental Stress
----
1 Total for Sarcococca

SCABIOSA

1 Mites
----
1 Total for Scabiosa

SEDGE

1 Cultural Problem
----
1 Total for Sedge

SHOWY ORCHID

1 Insufficient Sample
----
1 Total for Showy Orchid

SNAPDRAGON

1 Rust Puccinia antirrhini
----
1 Total for Snapdragon

SPATHIPHYLLUM

1 Cultural Problem
----
1 Total for Spathiphyllum

SPIDERWORT

1 Cause of Problem Unknown
---
1 Total for Spiderwort

SUNFLOWER

1 Cold Injury
---
1 Total for Sunflower

SURFINIA

1 Negative for Root Rot Fungi
---
1 Total for Surfinia

SWEET WILLIAM

1 Insufficient Sample
---
1 Total for Sweet William

TULIP

1 Botrytis Blight — Botrytis cinerea
---
1 Total for Tulip

VERBASCUM

1 Cause of Problem Unknown
---
1 Total for Verbascum

VERBENA

1 Insufficient Sample
1 Whiteflies
----
2 Total for Verbena

VIOLET

1 Environmental Stress
---
1 Total for Violet

WANDERING JEW

1 Cultural Problem
---
1 Total for Wandering Jew

WATER LILY

1	Cause of Problem Unknown	

1	Total for Water Lily	

ZINNIA

1	Chemical Injury	
1	Environmental Stress	

2	Total for Zinnia	

NONPLANT MATERIAL

MULCH

1	Saprophytic Fungi	

1	Total for Mulch	

NONTURF GRASSES

TALL REDTOP

1	Rhynchosporina Sheath and Blade Spot	Rhynchosporina tridentis
	----	
1	Total for Tall Redtop	

Plant Disease Clinic

SMALL FRUITS

BLACKBERRY

1	Anthracnose	Glomerella sp.
1	Cane Blight	Leptosphaeria coniothyrium
1	Cold Injury	
2	Insects	
1	Insufficient Sample	
1	Senescent Canes	
1	Sunscald	
1	Suspect Crown Gall	Agrobacterium tumefaciens

9	Total for Blackberry	

BLUEBERRY

1	Cultural Problem	
1	Dagger Nematodes	Xiphinema sp.
1	Drought	
1	Insects	
1	Insufficient Sample	
1	Negative for Root Disease	
1	Ring Nematodes	Criconemella sp.
1	Suspect Cold Injury	

8	Total for Blueberry	

FIG

1	Insufficient Sample	
1	Phomopsis Dieback	Phomopsis sp.
1	Scales	

3	Total for Fig	

GOOSEBERRY

1	Insufficient Sample	

1	Total for Gooseberry	

GRAPE

1	Anthracnose	Elsinoe ampelina
5	Black Rot	Guignardia bidwellii
1	Botrytis Bunch Rot	Botrytis cinerea
1	Chemical Injury	
1	Cold Injury	
1	Cultural Problem	
1	Downy Mildew	Plasmopara viticola
1	Eriophyid Mites	
1	Hail Injury	
1	Insufficient Sample	
1	Leaf Hairs	
1	Low pH	
1	Mechanical Injury	
1	Suspect Chemical Injury	
2	Suspect Cold Injury	
1	Suspect Frost Injury	
1	Suspect Graft Union Failure	
1	Winter Injury	

23	Total for Grape	

Plant Disease Clinic

RASPBERRY

2	Anthracnose	Elsinoe veneta
1	Insufficient Sample	
1	Suspect Vole Injury	
1	Thrips	
2	Verticillium Wilt	Verticillium albo-atrum

7	Total for Raspberry	

STRAWBERRY

1	Chemical Injury	
1	Dendrophoma Leaf Blight	Dendrophoma obscurans
2	Environmental Stress	
1	Insufficient Sample	
1	Negative for Disease	
2	Rhizoctonia Root Rot	Rhizoctonia solani
1	Root Weevils	
1	Suspect Leafhoppers	
1	Suspect Winter Injury	
1	Winter Injury	

12	Total for Strawberry	

Plant Disease Clinic

TREES

ARBORVITAE

4	Environmental Stress	
4	Insufficient Sample	
3	Mites	
1	Suspect Mechanical Injury	
12	Total for Arborvitae	

ASH

2	Anthracnose	Discula sp.
2	Total for Ash	

BALDCYPRESS

1	Midge Galls	
1	Total for Baldcypress	

BEECH

1	Anthracnose	Discula umbrinella
1	Insufficient Sample	
2	Total for Beech	

BIRCH

1	Aphids	
2	Insufficient Sample	
1	Sooty Mold	
4	Total for Birch	

BLACK GUM

1	Nonpathogenic Fungus	
1	Total for Black Gum	

BUCKEYE

1	Suspect Walnut Wilt	
1	Total for Buckeye	

CEDAR

2	Environmental Stress	
1	Insufficient Sample	
3	Total for Cedar	

Plant Disease Clinic

CRYPTOMERIA

1	Cultural Problem	
3	Environmental Stress	
2	Insufficient Sample	
1	Phyllosticta Needle Blight	Phyllosticta sp.
7	Total for Cryptomeria	

CYPRESS

2	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cultural Problem	
4	Environmental Stress	
1	Genetic Disorder	
1	Insects	
4	Insufficient Sample	
1	Male Cones	
1	Mites	
2	Negative for Disease	
1	Phomopsis Tip Blight	Phomopsis sp.
1	Seiridium Canker	Seiridium unicorne
2	Seiridium Canker	Seiridium cardinale
1	Suspect Environmental Stress	
3	Suspect Seiridium Canker	Seiridium sp.
25	Total for Cypress	

DOGWOOD

2	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cause of Problem Unknown	
1	Chemical Injury	
2	Cold Injury	
5	Environmental Stress	
5	Insufficient Sample	
1	Poor Drainage	
7	Scorch	
3	Spot Anthracnose	Elsinoe corni
1	Wood Decay	
28	Total for Dogwood	

DOUGLASFIR

1	Deep Planting	
1	Negative for Canker Disease	
2	Total for Douglasfir	

ELM

1	Bacterial Scorch	Xylella fastidiosa
1	Dutch Elm Disease	Ophiostoma ulmi
1	Insects	
1	Insufficient Sample	
1	Negative for Dutch Elm Disease	
5	Total for Elm	

Plant Disease Clinic

FALSECYPRESS

1	Botrytis Blight	Botrytis cinerea
4	Environmental Stress	
1	Girdling	
1	Insufficient Sample	
1	Negative for Root Disease	

8	Total for Falsecypress	

FIR

1	Botryosphaeria Dieback	Botryosphaeria sp.
1	Drought	
1	Environmental Stress	
1	Insufficient Sample	

4	Total for Fir	

GIANT SEQUOIA

1	Botryosphaeria Dieback	Botryosphaeria sp.

1	Total for Giant Sequoia	

GINGKO

1	Insufficient Sample	

1	Total for Gingko	

GOLDENCHAIN TREE

1	Insufficient Sample	

1	Total for Goldenchain Tree	

HAWTHORN

1	Cedar-Quince Rust	Gymnosporangium clavipes

1	Total for Hawthorn	

HEMLOCK

1	Environmental Stress	
2	Insects	
1	Rust Mites	

4	Total for Hemlock	

HICKORY

1	Insufficient Sample	

1	Total for Hickory	

IRONWOOD

1	Environmental Stress	

1	Total for Ironwood	

KATSURATREE

1	Suspect Chemical Injury	

1	Total for Katsuratree	

LARCH

1	Suspect Cold Injury	

1	Total for Larch	

LINDEN

1	Insufficient Sample	
1	Marsonnina Leaf Spot	Marsonnina sp.

2	Total for Linden	

MAGNOLIA

1	Bark Formation	
1	Cause of Problem Unknown	
5	Environmental Stress	
1	Negative for Root Disease	
1	Scales	
1	Secondary Colonizing Fungus	

10	Total for Magnolia	

MAPLE

1	Botryosphaeria Canker	Botryosphaeria dothidea
1	Botryosphaeria Dieback	Botryosphaeria sp.
4	Cold Injury	
3	Cultural Problem	
1	Cytospora Canker	Cytospora sp.
6	Environmental Stress	
1	Eriophyid Mites	
1	Insect Galls	
1	Insects	
8	Insufficient Sample	
1	Leaf Galls	
1	Low pH	
2	Negative for Verticillium Wilt	
2	Phomopsis Dieback	Phomopsis sp.
7	Purple-eye Leaf Spot	Phyllosticta minima
1	Pythium Root Rot	Pythium sp.
1	Scales	
3	Scorch	
1	Sooty Mold	
1	Suspect Girdling Roots	
1	Suspect Mechanical Injury	
1	Verticillium Wilt	Verticillium dahliae
1	Wood Decay	

50	Total for Maple	

Plant Disease Clinic

MIMOSA

1	Mimosa Wilt	Fusarium oxysporum f.sp. perniciosum

1	Total for Mimosa	

OAK

2	Anthracnose	Apiognomonia sp.
2	Botryosphaeria Canker	Botryosphaeria quercuum
4	Eastern Gall Rust	Cronartium quercuum
1	Environmental Stress	
2	Gall Insect	
1	Ganoderma Butt Rot	Ganoderma sp.
1	Insects	
1	Insufficient Sample	
1	Mites	
2	Oak Leaf Blister	Taphrina caerulescens
1	Scales	
1	Scorch	
2	Suspect Bacterial Wetwood	
1	Suspect Chemical Injury	
1	Suspect Cold Injury	
1	Suspect Insects	
1	Suspect Wood Decay	
1	Wood Decay	

26	Total for Oak	

ORNAMENTAL CHERRY

1	Chemical Injury
1	Cold Injury
1	Cultural Problem
2	Environmental Stress
1	Graft Union Failure
6	Insufficient Sample
1	Suspect Cold Injury

13	Total for Ornamental Cherry

ORNAMENTAL PEAR

3	Cultural Problem	
1	Environmental Stress	
2	Fire Blight	Erwinia amylovora
2	Insufficient Sample	
1	Negative for Disease	
1	Phoma Leaf Spot	Phoma pomorum

10	Total for Ornamental Pear	

OSAGE-ORANGE

1	Cold Injury

1	Total for Osage-orange

Plant Disease Clinic

PINE

1	Cyclaneusma Needle Cast	Cyclaneusma minor
4	Diplodia Tip Blight	Diplodia pinea
1	Eastern Gall Rust	Cronartium quercuum
7	Environmental Stress	
1	Hail Injury	
1	Insects	
8	Insufficient Sample	
1	Mycosphaerella Needle Cast	Mycosphaerella sp.
1	Needle Rust	Coleosporium sp.
1	Negative for Pinewood Nematodes	
1	Negative for Root Pathogens	
1	Phytophthora Root Rot	Phytophthora drechsleri
1	Pine Bark Adelgids	
1	Pine Webworms	
1	Ploioderma Needle Cast	Ploioderma lethale
1	Pythium Root Rot	Pythium sp.
1	Scales	
1	Sooty Mold	
1	Suspect Cultural Problem	
1	Suspect Mechanical Injury	
1	Suspect Ozone Injury	
1	Suspect Procerum Root Disease	Leptographium procerum
38	Total for Pine	

POPLAR

1	Insects	
1	Total for Poplar	

PRUNUS

1	Borers	
1	Total for Prunus	

PUSSYWILLOW

1	Insects	
1	Total for Pussywillow	

REDBUD

1	Anthracnose	Kabatiella sp.
1	Cause of Problem Unknown	
1	Environmental Stress	
1	Insects	
1	Phomopsis Leaf Spot	Phomopsis sp.
1	Wood Decay	
6	Total for Redbud	

Plant Disease Clinic

SPRUCE

1	Cold Injury	
1	Cultural Problem	
1	Drought	
13	Environmental Stress	
1	Insects	
5	Insufficient Sample	
5	Mites	
2	Negative for Root Disease	
1	No Diagnoses or Sample Quality Entered	
1	Rhizosphaera Needle Blight	Rhizosphaera kalkhoffii
2	Stigmina Needle Cast	Stigmina verrucosa
2	Suspect Cold Injury	

35	Total for Spruce	

SWEET GUM

1	Insufficient Sample	

1	Total for Sweet Gum	

SYCAMORE

1	Powdery Mildew	Oidium sp.

1	Total for Sycamore	

TREE, UNKNOWN

1	Insufficient Sample	
1	Sapsucker Injury	

2	Total for Tree, Unknown	

TREES, MISCELLANEOUS

1	Lenticels	

1	Total for Trees, Miscellaneous	

TULIP TREE

1	Chemical Injury	
1	Galls-Wound Response	
1	Insects	
1	Insufficient Sample	
1	Powdery Mildew	Erysiphe liriodendri

5	Total for Tulip Tree	

WILLOW

1	Anthracnose	Gloeosporium sp.

1	Total for Willow	

Plant Disease Clinic

TREE FRUITS AND NUTS

APPLE

1	Bitter Rot	Glomerella cingulata
7	Cedar-Apple Rust	Gymnosporangium juniperi-virginianae
1	Cedar-Quince Rust	Gymnosporangium clavipes
1	Chemical Injury	
1	Curculios	
4	Fire Blight	Erwinia amylovora
1	Frogeye Leaf Spot	Physalospora obtusa
1	Frost Injury	
2	Insects	
4	Insufficient Sample	
1	Scab	Venturia inaequalis
1	Suspect Chemical Injury	
1	Suspect Fire Blight	Erwinia amylovora
1	White Rot	Botryosphaeria dothidea
27	Total for Apple	

CHERRY

1	Black Knot	Dibotryon morbosum
1	Borers	
1	Cause of Problem Unknown	
1	Cold Injury	
1	Environmental Stress	
1	Frost Injury	
3	Insufficient Sample	
1	Suspect Cold Injury	
1	Wood Decay	
11	Total for Cherry	

CHESTNUT

1	Sooty Mold	Scorias spongiosa
1	Total for Chestnut	

CRABAPPLE

2	Adequate, Sample and Information	
2	Cedar-Apple Rust	Gymnosporangium juniperi-virginianae
1	Cedar-Quince Rust	Gymnosporangium clavipes
5	Total for Crabapple	

PEACH

1	Brown Rot	Monilinia fructicola
1	Cause of Problem Unknown	
1	Curculios	
3	Insufficient Sample	
1	Negative for Disease	
1	Suspect Chemical Injury	
8	Total for Peach	

Plant Disease Clinic

PEAR

1	Cold Injury	
1	Environmental Stress	
1	Fire Blight	Erwinia amylovora
2	Frost Injury	
1	Insects	
2	Insufficient Sample	
1	Lacebugs	
1	Mites	
1	Sooty Blotch	Gloeodes pomigena
1	Sunburn	

12	Total for Pear	

PECAN

1	Insects	
1	Pops	
1	Stinkbugs	

3	Total for Pecan	

PERSIMMON

1	Suspect Persimmon Wilt	Cephalosporium diospyri

1	Total for Persimmon	

PLUM

1	Black Knot	Dibotryon morbosum
1	Cause of Problem Unknown	
2	Curculios	
2	Insufficient Sample	
1	Suspect Cold Injury	

7	Total for Plum	

Plant Disease Clinic

TURF

BENTGRASS

1	Algae	
1	Anthracnose	Colletotrichum graminicola
1	Brown Patch	Rhizoctonia solani
1	Cultural Problem	
3	Dollar Spot	Sclerotinia homeocarpa
1	Environmental Stress	
1	Fusarium Snow Mold	Microdochium nivale
1	Insufficient Sample	
1	Ring Nematodes	Criconemella sp.
11	Total for Bentgrass	

BERMUDAGRASS

1	Loose Smut	Ustilago cynodontis
1	Total for Bermudagrass	

BLUEGRASS

1	Brown Patch	Rhizoctonia solani
2	Environmental Stress	
1	Excess Thatch	
1	Helminthosporium Leaf Spot	Bipolaris sorokiniana
1	Melting Out	Drechslera poae
1	Nimblewill Encroachment	Muhlenbergia schreberi
1	Poor Drainage	
1	Powdery Mildew	Erysiphe graminis
1	Red Thread	Laetisaria fuciformis
1	Ring Nematodes	Criconemella sp.
1	Summer Patch	Magnaporthe poae
12	Total for Bluegrass	

CENTIPEDE GRASS

1	Brown Patch	Rhizoctonia solani
1	Total for Centipedegrass	

FESCUE

3	Brown Patch	Rhizoctonia solani
2	Cultural Problem	
6	Environmental Stress	
2	Excess Thatch	
1	Helminthosporium Blight	Drechslera dictyoides
3	Insufficient Sample	
1	Pink Snow Mold	Microdochium nivale
1	Pythium Root Rot	Pythium torulosum
1	Rust	Puccinia graminis
2	Slime Mold	
1	Suspect Environmental Stress	
1	White Patch	Melanotus philipsii
1	Yellow Patch	Rhizoctonia cerealis
25	Total for Fescue	

Plant Disease Clinic

ST. AUGUSTINEGRASS

1	Insufficient Sample	
1	Take-All	Gaeumannomyces graminis var. graminis

2	Total for St. Augustinegrass	

TURFGRASS

4	Anthracnose	Colletotrichum graminicola
1	Bermudagrass Encroachment	
4	Brown Patch	Rhizoctonia solani
1	Cause of Problem Unknown	
1	Drought	
4	Environmental Stress	
3	Excess Thatch	
1	Fungal Mycelium-Saprophyte	
1	Gray Leaf Spot	Pyricularia grisea
2	Helminthosporium Blight	Drechslera dictyoides
4	Insufficient Sample	
6	Negative for Disease	
1	Nimblewill Encroachment	Muhlenbergia schreberi
3	Pythium Blight	Pythium sp.
3	Ring Nematodes	Criconemella sp.
1	Rust	Puccinia graminis
2	Slime Mold	
2	Summer Patch	Magnaporthe poae

44	Total for Turfgrass	

ZOYSIA

1	Drought	
2	Zoysia Patch	Rhizoctonia solani

3	Total for Zoysia	

Plant Disease Clinic

VEGETABLES AND HERBS

ARTICHOKE

1	Pythium Root Rot	Pythium sp.
1	Total for Artichoke	

ARUGULA

1	Air Pollution	
1	Total for Arugula	

ASPARAGUS

1	Asparagus Beetles	
1	Fusarium Crown Rot	Fusarium sp.
1	Insufficient Sample	
3	Total for Asparagus	

BEAN

1	Anthracnose	Colletotrichum lindemuthianum
1	Fusarium Stem and Root Rot	Fusarium sp.
1	Insects	
1	Insufficient Sample	
1	Pythium Root Rot	Pythium sp.
2	Rhizoctonia Root Rot	Rhizoctonia solani
1	Root Knot Nematodes	Meloidogyne sp.
1	Southern Blight	Sclerotium rolfsii
1	Suspect Insects	
10	Total for Bean	

BEE BALM

1	Impatiens Necrotic Spot Virus	
1	Total for Bee Balm	

BROCCOLI

1	Alternaria Blight	Alternaria brassicicola
1	Cultural Problem	
2	Total for Broccoli	

CABBAGE

1	Low pH	
1	Pythium Root Rot	Pythium sp.
1	Wirestem	Rhizoctonia solani
3	Total for Cabbage	

Plant Disease Clinic

CANTALOUPE

1	Insufficient Information	
1	Negative for Vascular Disease	

2	Total for Cantaloupe	

CATNIP

1	Insects	

1	Total for Catnip	

CAULIFLOWER

1	Nutrient Deficiency	

1	Total for Cauliflower	

COLLARDS

1	Club Root	Plasmodiophora brassicae
1	Environmental Stress	
1	Suspect Nutrient Toxicity	

3	Total for Collards	

COWPEA

1	Virus	

1	Total for Cowpea	

CUCUMBER

2	Anthracnose	Colletotrichum lagenarium
1	Cause of Problem Unknown	
1	Chemical Injury	
1	Insufficient Sample	

5	Total for Cucumber	

DILL

1	Eriophyid Mites	

1	Total for Dill	

GARLIC

1	Environmental Stress	

1	Total for Garlic	

JERUSALEM-ARTICHOKE

1	Southern Blight	Sclerotium rolfsii

1	Total for Jerusalem-artichoke	

Plant Disease Clinic

KALE

1	Club Root	Plasmodiophora brassicae
1	Wirestem	Rhizoctonia solani

2	Total for Kale	

LAVENDER

1	Pythium Root Rot	Pythium sp.

1	Total for Lavender	

LETTUCE

1	Air Pollution	
1	Suspect Nutrient Deficiency	

2	Total for Lettuce	

OKRA

1	Verticillium Wilt	Verticillium dahliae
1	Virus	

2	Total for Okra	

ONION

1	Suspect Nutrient Deficiency	

1	Total for Onion	

PEA

1	Mites	
1	Rhizoctonia Root Rot	Rhizoctonia solani
2	Suspect Bacterial Blight	Pseudomonas syringae pv. pisi

4	Total for Pea	

PEPPER

1	Alternaria Fruit Rot	Alternaria sp.
2	Bacterial Spot	Xanthomonas vesicatoria
2	Blossom End Rot	
1	Environmental Stress	
1	Normal Condition	
1	Oedema	
2	Phytophthora Blight	Phytophthora capsici
1	Rhizoctonia Stem and Root Rot	Rhizoctonia solani
1	Southern Blight	Sclerotium rolfsii
1	Tomato Spotted Wilt Virus	

13	Total for Pepper	

Plant Disease Clinic

POTATO

3	Common Scab	Streptomyces scabies
1	Pink Rot	Phytophthora erythroseptica
1	Root Knot Nematodes	Meloidogyne sp.

5	Total for Potato	

PUMPKIN

1	Bacterial Soft Rot	Erwinia carotovora
1	Cause of Problem Unknown	
1	Choanephora Wet Rot	Choanephora cucurbitarum
1	Fertilizer Burn	
2	Fusarium Foot Rot	Fusarium solani
1	Fusarium Fruit Rot	Fusarium sp.
1	Insufficient Sample	
2	Plectosporium Blight	Plectosporium tabacinum

10	Total for Pumpkin	

RADISH

1	Air Pollution	

1	Total for Radish	

ROSEMARY

1	Adventitious Roots	
1	Pythium Root Rot	Pythium sp.
1	Sooty Mold	

3	Total for Rosemary	

SAGE

2	Phytophthora Root Rot	Phytophthora sp.

2	Total for Sage	

SALAD GREENS

1	Nutrient Deficiency	

1	Total for Salad Greens	

SQUASH

1	Fusarium Fruit Rot	Fusarium sp.
1	Powdery Mildew	Sphaerotheca fuliginea
1	Pythium Root Rot	Pythium sp.
1	Suspect Nutritional Deficiency	

4	Total for Squash	

SWEET CORN

1	Sunscald	

1	Total for Sweet Corn	

TANSY

1	Cultural Problem	

1	Total for Tansy	

THYME

1	Phytophthora Root Rot	Phytophthora sp.

1	Total for Thyme	

TOMATO

1	Alternaria Stem Canker	Alternaria alternata
1	Bacterial Canker	Clavibacter michiganense
2	Bacterial Wilt	Ralstonia solanacearum
1	Blossom End Rot	
1	Blotchy Ripening	
2	Cause of Problem Unknown	
1	Cucumber Mosaic Virus	
5	Cultural Problem	
1	Early Blight	Alternaria solani
2	Fusarium Wilt	Fusarium oxysporum
9	Insufficient Sample	
1	Low pH	
1	Mites	
1	Physiological Leaf Roll	
2	Pith Necrosis	Pseudomonas corrugata
1	Puffiness	
1	Pythium Root Rot	Pythium sp.
3	Root Knot Nematodes	Meloidogyne sp.
3	Septoria Leaf Spot	Septoria lycopersici
1	Southern Blight	Sclerotium rolfsii
1	Suspect Chemical Injury	
1	Suspect Cold Injury	
1	Suspect Nutrient Deficiency	
2	Suspect Walnut Wilt	
1	Thrips	
2	Tobacco Mosaic Virus	
43	Tomato Spotted Wilt Virus	
2	Walnut Wilt	

93	Total for Tomato	

TURNIP

1	Insufficient Sample	

1	Total for Turnip	

WATERMELON

1	Insufficient Sample	
1	Low pH	
1	Negative for Disease	

3	Total for Watermelon	

ZUCCHINI

1 Genetic Condition
---
1 Total for Zucchini

Plant Disease Clinic

WOODY ORNAMENTALS

ALEXANDRIAN LAUREL

1	Environmental Stress	

1	Total for Alexandrian Laurel	

AUCUBA

2	Botryosphaeria Dieback	Botryosphaeria sp.
2	Cold Injury	
1	Insects	

5	Total for Aucuba	

AZALEA

1	Cause of Problem Unknown	
1	Cercospora Leaf Spot	Cercospora handelii
1	Deep Mulch	
6	Environmental Stress	
1	High pH	
1	Insects	
10	Insufficient Sample	
4	Lacebugs	
2	Leaf and Flower Gall	Exobasidium vaccinii
1	Lichens	
1	Low pH	
2	Mites	
1	Negative for Root Rot	
1	Nutrient Deficiency	
7	Phomopsis Dieback	Phomopsis sp.
3	Phytophthora Root Rot	Phytophthora cinnamomi
1	Rootbound	
1	Septoria Leaf Scorch	Septoria azaleae
1	Slime Mold	Fuligo septica
1	Suspect Chemical Injury	

47	Total for Azalea	

BAMBOO

1	Cultural Problem	
1	Pythium Root Rot	Pythium sp.

2	Total for Bamboo	

BARBERRY

1	Insects	
1	Insufficient Sample	

2	Total for Barberry	

Plant Disease Clinic

BOXWOOD

1	Chemical Injury	
7	Cultural Problem	
1	Dagger Nematodes	Xiphinema sp.
1	Deep Planting	
21	English Boxwood Decline	Paecilomyces buxi
10	Environmental Stress	
1	Frost Injury	
1	Healthy	
17	Insufficient Sample	
2	Leafminers	
1	Lesion Nematodes	Pratylenchus sp.
1	Lichens	
3	Negative for Nematodes	
1	Negative for Root Disease	
11	Negative for Root Rot Fungi	
11	Phytophthora Root Rot	Phytophthora sp.
2	Psyllids	
5	Ring Nematodes	Criconemella sp.
11	Spiral Nematodes	Rotylenchus buxophilus
1	Suspect Vole Injury	
2	Volutella Blight	Volutella buxi
1	Winter Injury	

112	Total for Boxwood	

BRUGMANSIA

1	Referred to Soils Lab	

1	Total for Brugmansia	

BUTTERFLY BUSH

1	Cold Injury	
1	Crystalline Material	
1	Mites	
1	Suspect Virus	

4	Total for Butterfly Bush	

CAMELLIA

1	Camellia Yellow Mottle Leaf Virus	
1	Cultural Problem	
2	Insufficient Sample	
1	Leaf and Flower Gall	Exobasidium camelliae
1	Negative for Root Pathogens	
1	Phyllosticta Leaf Spot	Phyllosticta camelliae
1	Scales	
1	Sooty Mold	

9	Total for Camellia	

Plant Disease Clinic

CHERRY LAUREL

1	Borers	
1	Botryosphaeria Dieback	Botryosphaeria dothidea
1	Deep Planting	
2	Environmental Stress	
3	Insufficient Sample	
1	Leaf Glands	
1	Mites	
1	Scorch	
1	Suspect Pythium Root Rot	Pythium sp.
12	Total for Cherrylaurel	

CHINESE QUINCE

1	Fire Blight	Erwinia amylovora
1	Total for Chinese Quince	

CLEYERA

1	Environmental Stress	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
2	Total for Cleyera	

COTONEASTER

1	Cultural Problem	
1	Total for Cotoneaster	

CRAPE MYRTLE

1	Insects	
1	Total for Crape Myrtle	

ENGLISH IVY

4	Anthracnose	Colletotrichum trichellum
1	Bacterial Leaf Spot	Xanthomonas hederae
3	Environmental Stress	
1	Insufficient Sample	
3	Mites	
3	Oedema	
1	Phytophthora Root Rot	Phytophthora parasitica
1	Suspect Cold Injury	
17	Total for English Ivy	

EUONYMUS

1	Anthracnose	Colletotrichum sp.
1	Fusarium Canker	Fusarium lateritium
1	Low pH	
1	Oedema	
1	Powdery Mildew	Microsphaera euonymi-japonici
4	Scales	
9	Total for Euonymus	

Plant Disease Clinic

FATSIA

1	Cultural Problem	

1	Total for Fatsia	

FORSYTHIA

1	Botryosphaeria Dieback	Botryosphaeria sp.
1	Eriophyid Mites	
1	Insufficient Sample	
1	Phomopsis Gall	Phomopsis sp.

4	Total for Forsythia	

HAWTHORN

1	Cedar-Quince Rust	Gymnosporangium clavipes

1	Total for Hawthorn	

HIBISCUS

1	Insufficient Sample	
1	Thrips	

2	Total for Hibiscus	

HOLLY

39	Black Root Rot	Thielaviopsis basicola
1	Botryosphaeria Dieback	Botryosphaeria sp.
3	Environmental Stress	
1	Flower Buds - Normal Condition	
2	Insects	
15	Insufficient Sample	
1	Low pH	
1	Negative for Root Disease	
1	Normal Leaf Senescence	
1	Nutrient Deficiency	
1	Sapsucker Injury	
2	Scales	
1	Sooty Mold	
2	Sunscorch	
2	Wood Decay	

73	Total for Holly	

HONEYSUCKLE

1	Insects	

1	Total for Honeysuckle	

Plant Disease Clinic

HYDRANGEA

4	Bacterial Leaf Spot	Xanthomonas campestris
2	Environmental Stress	
3	Insufficient Sample	
1	Powdery Mildew	Erisyphe polygoni
1	Pythium Root Rot	Pythium sp.
1	Rhizoctonia Root Rot	Rhizoctonia sp.
12	Total for Hydrangea	

HYPERICUM

1	Insufficient Sample	
1	Total for Hypericum	

INKBERRY

2	Black Root Rot	Thielaviopsis basicola
1	Environmental Stress	
2	Insufficient Sample	
3	Phytophthora Root Rot	Phytophthora cinnamomi
1	Rhizoctonia Stem Rot	Rhizoctonia solani
2	Rootbound	
11	Total for Inkberry	

JUNIPER

3	Cultural Problem	
16	Environmental Stress	
11	Insufficient Sample	
3	Kabatina Tip Blight	Kabatina juniperi
1	Mechanical Injury	
7	Mites	
2	Negative for Disease	
1	Negative for Root Disease	
1	Pestalotiopsis Twig Blight	Pestalotiopsis sp.
1	Phomopsis Tip Blight	Phomopsis juniperovora
4	Phytophthora Root Rot	Phytophthora sp.
2	Pythium Root Rot	Pythium sp.
1	Rootbound	
1	Suspect Cultural Problem	
1	Vole Injury	
1	Web Blight	Rhizoctonia solani
56	Total for Juniper	

LAUREL

1	Cercospora Leaf Spot	Cercospora kalmiae
1	Environmental Stress	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
1	Phytophthora Root Rot	Phytophthora cinnamomi
1	Rootbound	
5	Total for Laurel	

LEUCOTHOE

1	Cultural Problem	
1	Cylindrocladium Stem Canker	Cylindrocladium sp.
1	Insufficient Sample	
1	Phyllosticta Leaf Spot	Phyllosticta sp.
1	Physiological Leaf Spot	

5	Total for Leucothoe	

LILAC

1	Chemical Injury	
1	Insufficient Sample	

2	Total for Lilac	

MAHONIA

1	Insufficient sample	

1	Total for Mahonia	

MOUNTAIN LAUREL

2	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cercospora Leaf Spot	Cercospora kalmiae
1	Cold Injury	
2	Environmental Stress	
3	Insufficient Sample	
1	Rootbound	

10	Total for Mountain Laurel	

NANDINA

1	Environmental Stress	
1	Low pH	
2	Pythium Root Rot	Pythium sp.

4	Total for Nandina	

PERENNIALS, MISCELLANEOUS

1	Four-lined Plant Bugs	

1	Total for Perennials, Miscellaneous	

PHOTINIA

1	Cytospora Dieback	Cytospora sp.
2	Entomosporium Leaf Spot	Entomosporium mespili
1	Suspect Chemical Injury	

4	Total for Photinia	

PIERIS

2	Environmental Stress	
2	Phomopsis Dieback	Phomopsis sp.
2	Phytophthora Root Rot	Phytophthora cinnamomi
1	Suspect Cold Injury	
7	Total for Pieris	

PLANTS, MISCELLANEOUS

1	Environmental Stress	
1	Insufficient Information	
1	Lichens	
1	Pythium Root Rot	Pythium sp.
4	Total for Plants, Miscellaneous	

PRIVET

3	Cercospora Leaf Spot	Cercospora sp.
1	Scales	
4	Total for Privet	

PYRACANTHA

1	Insects	
1	Lacebugs	
2	Total for Pyracantha	

QUINCE

1	Cedar-Quince Rust	Gymnosporangium clavipes
1	Cultural Problem	
2	Total for Quince	

RHODODENDRON

1	Black Vine Weevils	
1	Borers	
8	Botryosphaeria Dieback	Botryosphaeria sp.
2	Cercospora Leaf Spot	Cercospora handelii
3	Environmental Stress	
1	Establishment Failure	
1	Insects	
4	Insufficient Sample	
2	Lacebugs	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
4	Negative for Phytophthora	
1	Phomopsis Dieback	Phomopsis sp.
2	Phytophthora Root Rot	Phytophthora cinnamomi
1	Rootbound	
2	Sunscald	
1	Winter Injury	
35	Total for Rhododendron	

ROSE

1	Black Spot	Diplocarpon rosae
1	Brown Root and Butt Rot	Phaeolus schweinitzii
1	Chemical Injury	
1	Common Canker	Coniothyrium fuckelii
1	Frost Injury	
2	Insufficient Information	
5	Insufficient Sample	
1	Mossy Rose Galls	
1	Negative for Leaf Disease	
1	Powdery Mildew	Sphaerotheca pannosa
6	Rose Rosette	
1	Suspect Annosum Root Rot	Heterobasidion annosum
2	Suspect Chemical Injury	
1	Suspect Cold Injury	
3	Suspect Rose Rosette	
1	Winter Injury	

29	Total for Rose	

RUSSIAN OLIVE

2	Insufficient Sample

2	Total for Russian Olive

SHRUB, UNKNOWN

1	Insufficient Sample
1	Lichens

2	Total for Shrub, Unknown

SKIMMIA

2	Cultural Problem
1	Environmental Stress

3	Total for Skimmia

STEWARTIA

1	Cold Injury

1	Total for Stewartia

VIBURNUM

1	Cold Injury	
3	Insufficient Sample	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
1	Suspect Chemical Injury	

6	Total for Viburnum	

WAX MYRTLE

1	Insufficient Sample

1	Total for Wax Myrtle

Plant Disease Clinic

WEIGELA

1	Suspect Environmental Stress	

1	Total for Weigela	

WINTERGREEN

1	Environmental Stress	

1	Total for Wintergreen	

YEW

2	Environmental Stress	
2	Insufficient Sample	
1	Low pH	
2	Phytophthora Root Rot	Phytophthora cinnamomi
2	Suspect Nutrient Deficiency	

9	Total for Yew	

Plant Disease Clinic

Summary of Plant Identifications
2002

Higher Plants (18)

Family: Amaranthaceae	
Amaranthus tricolor	Joseph's Coat
Family: Araceae	
Arisaema sp.	Arum
Family: Cabombaceae	
Brasenia schreberi	Watershield
Family: Ebenaceae	
Diospyros kaki	Oriental Persimmon
Family: Euphorbiaceae	
Euphorbia maculata	Spotted Spurge
Family: Fagaceae	
Castanea mollissima	Chinese Chestnut
Family: Gramineae	
Poa pratensis	Kentucky Bluegrass
Family: Lauraceae	
Persea borbonia	Redbay
Family: Leguminosae	
Gymnocladus dioicus	Kentucky Coffeetree
Family: Moraceae	
Maclura pomifera	Osage Orange
Family: Nyssaceae	
Nyssa sylvatica	Black Gum
Family: Poaceae	
Agrostis palustris (2)	Creeping Bentgrass
Danthonia sericea	Downy Oatgrass
Family: Polygonaceae	
Polygonum cuspidatum (2)	Japanese Knotweed
Family: Vacciniaceae	
Vaccinium fuscatum	Highbush Blueberry

Insufficient Sample

Plant Disease Clinic

Fungi (16)

Amanita caesarea	Caesar's Amanita
Amanita muscaria	Fly Agaric
Clitocybe sp.	Clitocybe
Cyathus sp.	Bird's Nest Fungus
Fuligo septica	Slime Mold
Ganoderma lucidum	Ganoderma
Ganoderma sp.	Ganoderma
Lepiota americana	American Parasol Mushroom
Macroleptioptia procera	Parasol Mushroom
Mutinus curtisii	Stinkhorn
Saprophytic Fungus	Saprophytic Fungus
Scleroderma bovista	Scleroderma
Scleroderma sp. (2)	Puffball
Sphaerobolus stellatus	Artillery Fungus
Insufficient Sample	

All Others (1)

Family: Frass	Frass