The Plant Disease Clinic and Weed Identification Laboratory
2004 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 2004, diagnoses in the Plant Disease Clinic in Blacksburg were performed by Mary Ann Hansen, 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
Mr. Steve Abler
Dr. Shawn Askew
Dr. Anton Baudoin
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. Claude Kenley
Dr. George Lacy
Mr. David McCall
Dr. Pat Phipps
Ms. Diane Reaver
Dr. Curt Roane
Mr. Peter Sforza
Dr. Jay Stipes
Dr. Erik Stromberg
Dr. Sue Tolin
Mr. John Willis
Dr. Keith Yoder

Fisheries and Wildlife
Dr. Jim Parkhurst

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. Steve Donohue
Dr. Erik Ervin
Mr. Steve Heckendorn
Ms. Pat Hipkins

Biology
Dr. Rebecca Abler
Mr. Tom Wieboldt

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 and Andrea Lowe painstakingly compiled the annual report. Elizabeth Bush 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 that 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 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 pathogens to species because 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 high 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. 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".

Soil samples for nematode assays were forwarded to the Nematode Assay Laboratory. 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 Virginia.

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 are 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.

We occasionally receive digital images or email messages regarding plant problems. For the most part, it is difficult to diagnose diseases without an actual plant sample; however, diseases that cause unique symptoms can sometimes be diagnosed from an image or a description. Images are most useful when submitted in addition to a plant sample.

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 fact sheets or additional printed information are attached to this form. The new diagnostic form is available on the Web at: http://www.ext.vt.edu/vce/anr/plantpathology/450-097.pdf. For samples submitted with single copy 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 website for an audiovisual web presentation:
http://www.ext.vt.edu/vce/staffdev/anrtraining/

Highlights from 2004

The growing season in 2004 was generally very wet in many parts of Virginia and was thus favorable for many fungal and bacterial diseases. The favorable disease conditions were reflected in an increase in the total number of plant samples submitted to the Plant Disease Clinic over the 2003 total; the number of samples increased by 150 to a total of 1377.

In field crops, the wet spring led to severe outbreaks of black stem, caused by the fungus *Phoma medicaginis*, in many alfalfa fields. This disease is present most years, but in wet springs, the disease can have a significant effect on yield. Anthracnose, caused by *Colletotrichum graminicola*, was common on orchardgrass. Although this fungus was present on leaves of the orchardgrass samples we received, it can reportedly spread to the crown or roots and cause death of plants in the second or third year after infection, especially under conditions of low fertility. No fungicides are registered for control of these diseases in forage crops.

Several cases of daylily rust (*Puccinia hemerocallidis*) and impatiens necrotic spot virus (on impatiens and veronica), were seen in herbaceous ornamentals. Daylily rust is easily confused with daylily leaf streak (*Aureobasidium microstictum*), which is ubiquitous in Virginia. Daylily rust, which is usually more devastating, can be prevented by using resistant cultivars, but growers should be aware that cultivars with resistance to rust do not necessarily have resistance to leaf streak. We also received one case of geranium rust (*Puccinia pelargonii-zonalis*), which is relatively uncommon in Virginia. State and federal quarantines in the 1970's kept this disease from becoming a widespread problem after its introduction to the US in the late 1960's.

The wet growing season of 2004 was also conducive to growth of fungi that are not plant pathogens, such as the artillery fungus, *Sphaerobolus stellatus,* which was seen on a variety of herbaceous and woody ornamentals. This fungus is in the same group of fungi as the bird's nest fungi, and like the bird's nest fungi, is commonly encountered on wood chip mulch. The artillery fungus gets its name from the fact that it forcibly ejects the spore masses from its fruiting bodies. Spore masses are sticky and can travel a long distance. They often land on and glue themselves to the surfaces of cars, house siding, or plants. Spore masses will glue themselves to any plant species within range of the wood chip mulch on which they grow, but the fungus does not parasitize the plant it lands on. The main problem caused by these fungi is that the spore masses are hard to remove from car paint or siding without leaving a mark on the surface.

In small fruits, we diagnosed several cases of Petri disease in grapes, caused by the fungus *Phaeoacremonium aleophilum*. This disease has been present in Virginia for some time, but has received increasing publicity in recent years for causing a general decline of young grapevines. It can be caused by several related fungi, including *Phaeoacremonium aleophilum* and *Phaeomoniella chlamydospora.* These fungi cause a speckled dark discoloration of the xylem tissue (hence the alternate disease name "black measles") and apparently block water and nutrient transport to leaves. Plants can be asymptomatic carriers of the disease and express symptoms only under conditions of stress, i.e. these fungi may be present in healthy-looking propagation material, only to cause symptoms under stressful environmental conditions later in the field. No chemical controls are currently available for this disease. Cultural controls, such as maintaining adequate fertilizer levels, irrigating new transplants for at least four weeks after transplanting, and avoiding overcropping, are recommended. Rapid detection techniques are currently being developed by some labs so that the presence of these fungi can be detected during the propagation process before infected propagation material is sold.

Another small fruit disease that was common in 2004 was Phytophthora crown rot of strawberries, caused by the oomycete, *Phytophthora cactorum*. Several species of Phytophthora can cause disease in strawberries. This particular species causes an upper crown rot and a sudden collapse or wilting of plants. Petioles may also be blackened. (This symptom could be confused with anthracnose.) Treatment involves application of mefenoxam fungicide in spring when roots are actively growing. In some cases (as in the case of several of the samples we

received), plants recover by putting out new leaves, but such plants may be stunted. In contrast, recovery is not common with anthracnose.

Some of the common tree diseases we saw in 2004 included cherry leaf spot (*Coccomyces hiemalis*), powdery mildew of dogwood (*Oidium* sp.), Tubakia leaf spot of oak (*Tubakia dryina*), and zonate leaf spot of maple (*Cristulariella pyrimidalis*). Cherry leaf spot is present in most years, but it was more severe in 2004. When severe, this disease can result in significant defoliation and yield loss. Although powdery mildew is mainly of cosmetic concern on many tree species, it can cause severe stunting on susceptible dogwoods. The dogwood species of powdery mildew is thought to be a relatively recent (1990's) introduction to the United States. It was first seen in the Clinic in 1993. Since that time, many dogwoods have been bred for resistance to the disease. Both Tubakia leaf spot of oak and zonate leaf spot of maple are usually late season diseases, but in 2004 earlier infections resulted in defoliation in many trees. Another problem that was common on oaks in 2004 was oak leaf button gall, caused by an insect. The small galls that form on the lower leaf surface often drop off, leaving a hole in the leaf. Many of these cases were mistaken for disease and sent to the Plant Disease Clinic in 2004. All of these samples were referred to the Insect ID Lab.

Some of the more unusual woody ornamental diseases we saw in 2004 included hypericum rust (*Uromyces triquestrus*), Clitocybe root rot on cherrylaurel and bayberry (*Clitocybe tabescens*), Cylindrocladium blight on rhododendron (*Cylindrocladium scoparium*), foliar nematodes on summersweet (*Aphelenchoides* sp.), rose rosette disease (precise cause unknown), and juniper broom rust on serviceberry (*Gymnosporangium nidus-avis*).

Hypericum rust is one of the rust fungi that does not require an alternate host to complete its life cycle; therefore, plant-to-plant infections can occur in hypericum. New infections can be prevented by application of a fungicide labeled for control of rust diseases.

The fungus Clitocybe is a basidiomycete-type fungus that produces mushrooms at certain times of year. This fungus is not commonly found on landscape ornamentals in Virginia, but it often rots the root of oaks or other trees in woodland settings. It can persist in decaying roots for many years and can grow across points of contact between infected roots and roots of nearby healthy plants. Thus, it is mostly a problem where landscape plants are transplanted into or near woodlands. On plants that are not yet severely diseased, disease progression can sometimes be halted by excavating the root collar to allow aeration and drying of the crown of the plant.

Cylindrocladium blight is a disease that is mainly found in nurseries; however, we diagnosed this disease in plants from a natural setting on a mountain top. The disease may have been introduced to the landscape on rhododendron transplants. It was not present below a certain elevation. The spatial distribution of the disease may relate to the fact that the pathogen is temperature-sensitive. Conditions may have been just right for disease development at the top of the mountain, but not at the lower elevations.

Foliar nematodes were found in Clethra (summersweet) plants in a nursery. Foliar nematodes have a wide host range and can move from plant to plant by swimming across films of moisture on leaves in contact. To prevent spread, it is important to space plants so that leaves of adjacent plants do not touch. Pylon insecticide is registered for control of foliar nematodes, but it will not eradicate nematodes completely, so cultural control methods are also important.

Rose rosette disease was first diagnosed in cultivated roses in the Plant Disease Clinic in 2000. Several cases per year have been diagnosed since. The causal organism of this disease has not yet been identified; however, it is most likely a virus. The disease is known to be transmitted by eriophyid mites and can cause a variety of unusual and sometimes alarming symptoms on roses. These symptoms, e.g. excessive thorniness, distortion of stems, leaves and flowers, and reddening of new growth, are used to diagnose the disease. Complete removal of affected plants

is necessary because the pathogen is distributed systemically in the plants. Even plants that regenerate from old infected root pieces have the disease.

The juniper broom rust fungus, like many other rust fungi, requires two hosts to complete its life cycle. On serviceberry, it causes leaf spots, twig dieback and swelling of petioles. On junipers, the fungus can cause witches' brooms and stem swelling. The disease can be controlled on serviceberry by use of a preventative rust fungicide in early spring.

One disease of woody ornamentals that we were on the lookout for during 2004 but did not see was ramorum blight, commonly known as "sudden oak death". In 2004, many states, including Virginia, received shipments of woody plant species from a nursery in California that was known to have plants infected with the pathogen that causes this disease. The Virginia Department of Agriculture and Consumer Services conducted extensive surveys to try to detect any infected plants in Virginia nurseries that had received plants from this nursery. In the end only two infected plants were found and these shipments were destroyed according to quarantine regulations. No cases of this disease were found in any landscape plants submitted to the Plant Disease Clinic in 2004.

In vegetables, we saw many cases of tomato spotted wilt virus (TSWV), although the number of samples with TSWV was not nearly as high as in 2002 when we received 43 tomato samples with this disease. Symptoms include spotting of upper leaves, ringspots on fruit, low yield, and sometimes death of plants. Another diagnosis that was common on tomato samples in 2004 was chemical injury from misapplied herbicides, including 2,4-D and Roundup. The former causes growth distortion that can be confused with cucumber mosaic virus infection. Roundup causes a bleaching or chlorosis at the petiole-end of the leaflets. We saw another type of chemical injury in watermelon: contact burn from Gramoxone droplets.

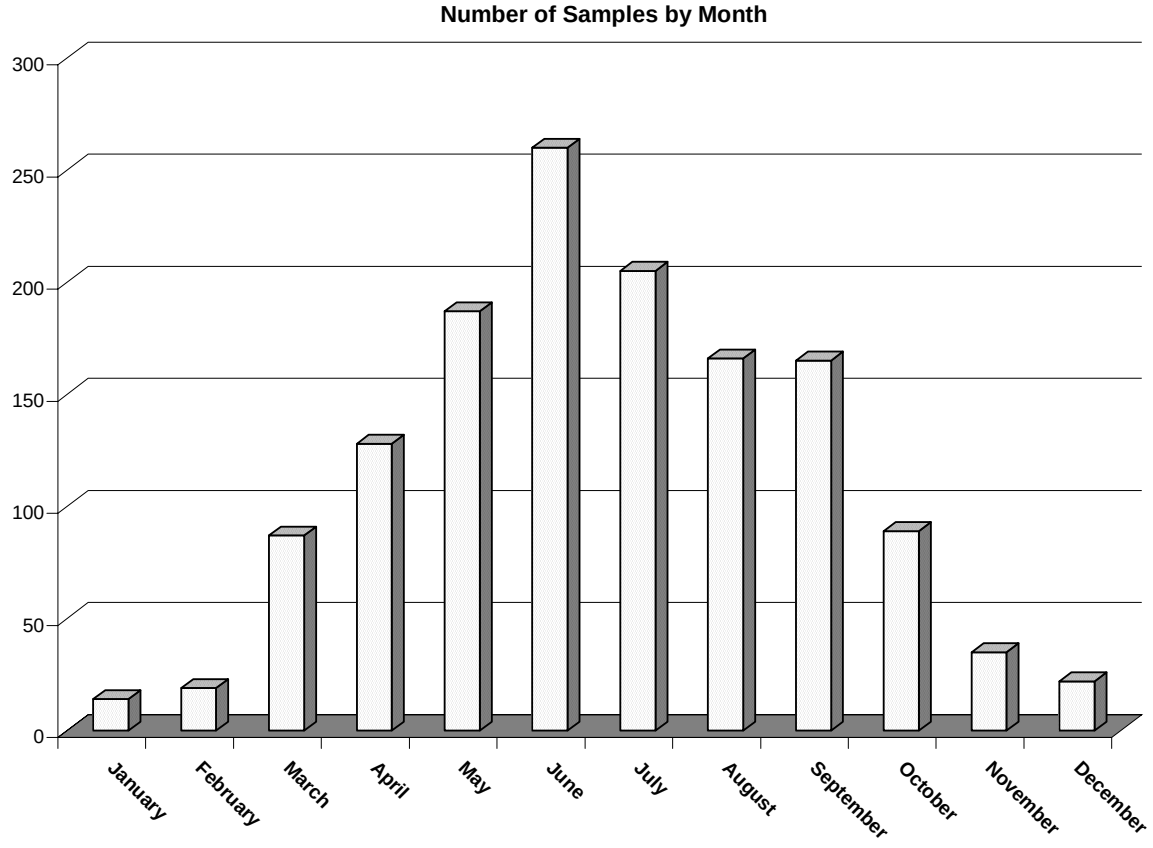
Diseases we saw for the first time in the Plant Clinic in 2004 included:

- Bacterial blight of clover (*Pseudomonas syringae*)
- Clitocybe root rot on bayberry and cherrylaurel (*Clitocybe* sp.)
- Juniper broom rust on serviceberry (*Gymnosporangium nidus-avis*)
- Foliar nematodes on summersweet (*Aphelenchoides* sp.)
- Spot anthracnose on snowball bush (*Sphaceloma viburni*)

Plant Disease Clinic

Monthly Submission Report
Number of Samples Received by Month
2004

Month	# of Samples
January	14
February	19
March	87
April	128
May	187
June	260
July	205
August	166
September	165
October	89
November	35
December	22
TOTAL	1377

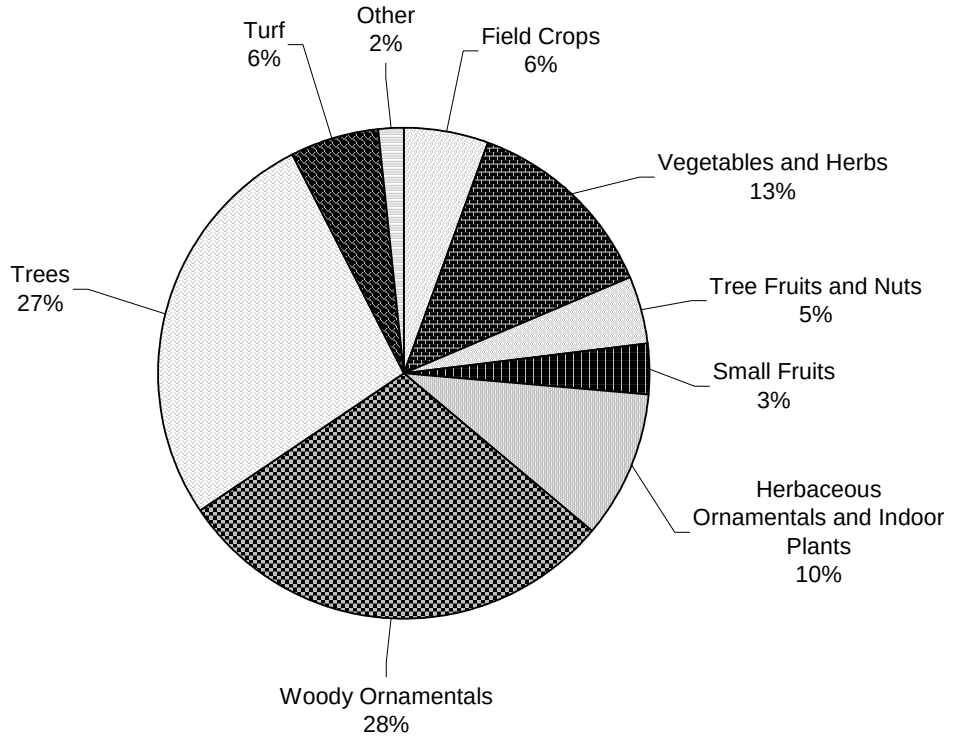


Plant Disease Clinic

Crop Category Report
Sample Totals by Major Crop Categories
2004

Crop Category	# of Samples	% of Total
Woody Ornamentals	405	29.4
Trees	371	26.9
Vegetables and Herbs	177	12.9
Herbaceous Ornamentals	134	9.7
Turf	80	5.8
Field Crops	77	5.6
Tree Fruits and Nuts	63	4.6
Small Fruits	47	3.4
Other	23	1.7
Total	**1377**	**100**

Samples by Crop Category

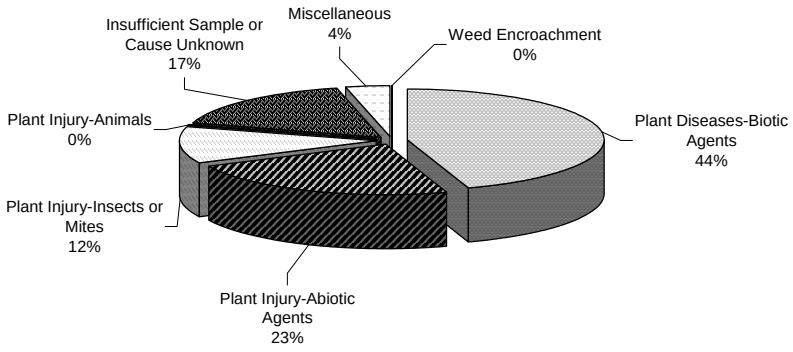


Plant Disease Clinic

Diagnostic Category Report
Distribution of Diagnoses by Major Diagnostic Category
2004

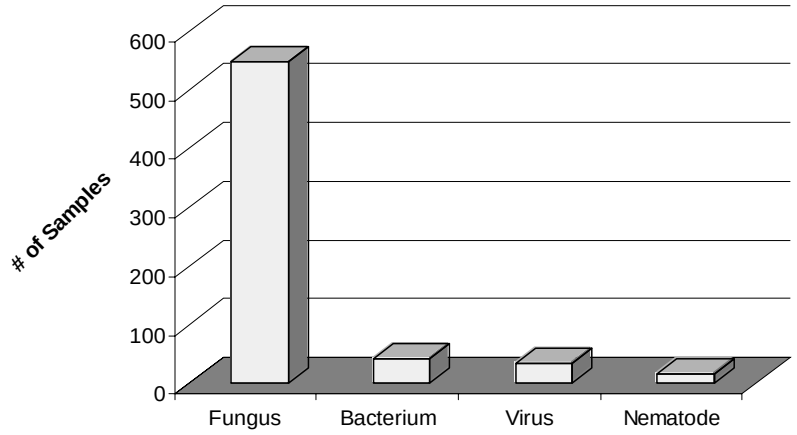
	# of Diagnoses	% of Total
Plant Diseases-Biotic Agents	**641**	**43.5**
Bacterium (42)		
Fungus (548)		
Nematode (17)		
Virus (34)		
Plant Injury-Abiotic Agents	**328**	**22.2**
Chemical (62)		
Environmental/Cultural (261)		
Mechanical (5)		
Plant Injury-Insects or Mites	**167**	**11.3**
Insects or Mites (167)		
Plant Injury-Animals	**4**	**0.3**
Birds (1)		
Mammals (3)		
Insufficient Sample or Cause Unknown	**236**	**16.0**
Insufficient Sample or Information (218)		
Unknown (18)		
Miscellaneous	**51**	**3.5**
Normal Condition (10)		
Other (14)		
Physiological/Genetic (27)		
Weed Encroachment	**1**	**0.1**
Weed (1)		
Total	**1428**	**100.0**

2004 Samples by Diagnostic Category



Plant Disease Clinic

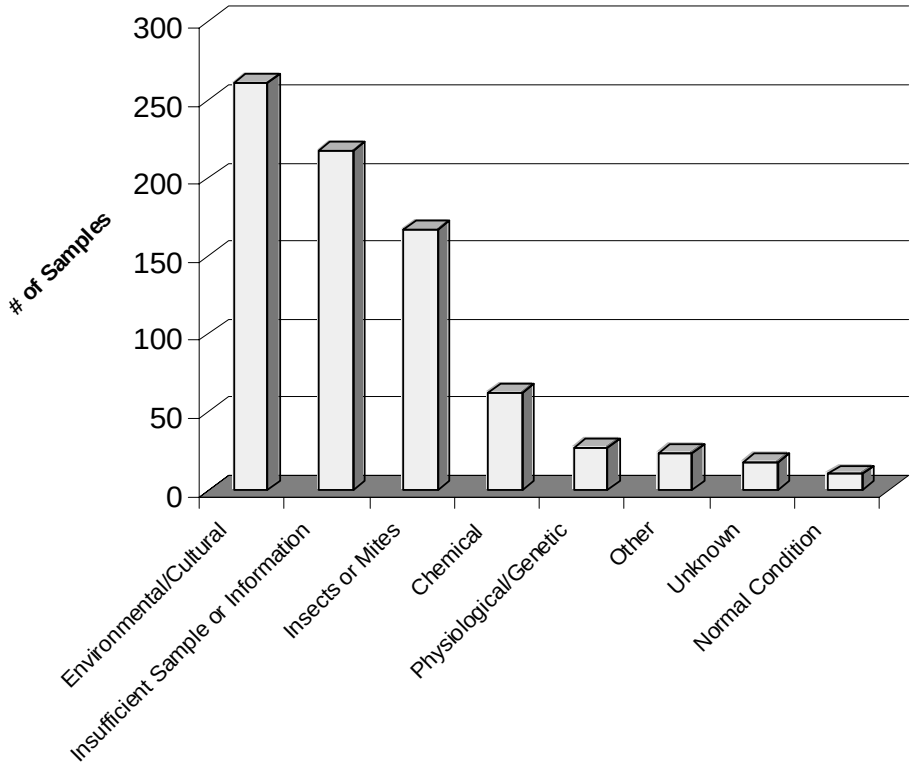
Plant Pathogens 2004



Other Assistance, 2004

Type	# of Inquiries
E-mail	55
Digital Images	37
Phone Calls	175

Other Agents 2004



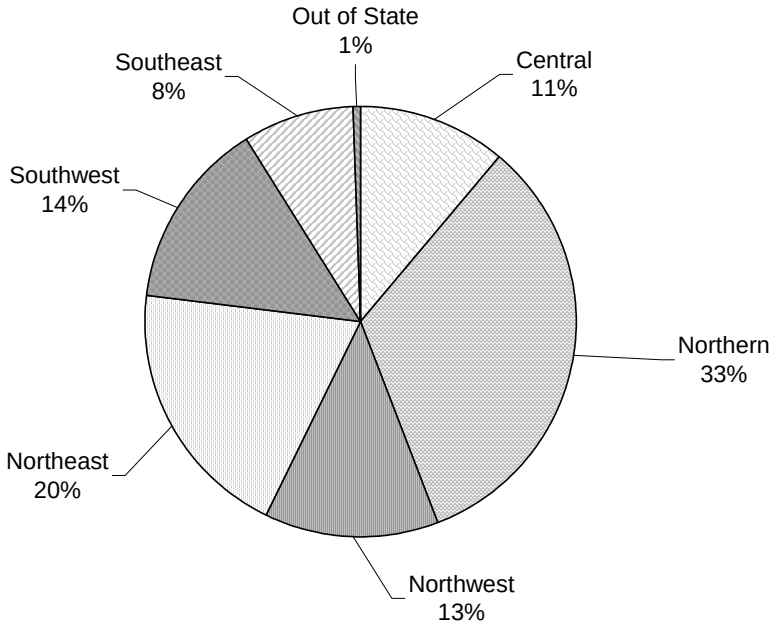
Plant Disease Clinic

Distribution of Samples by County
2004

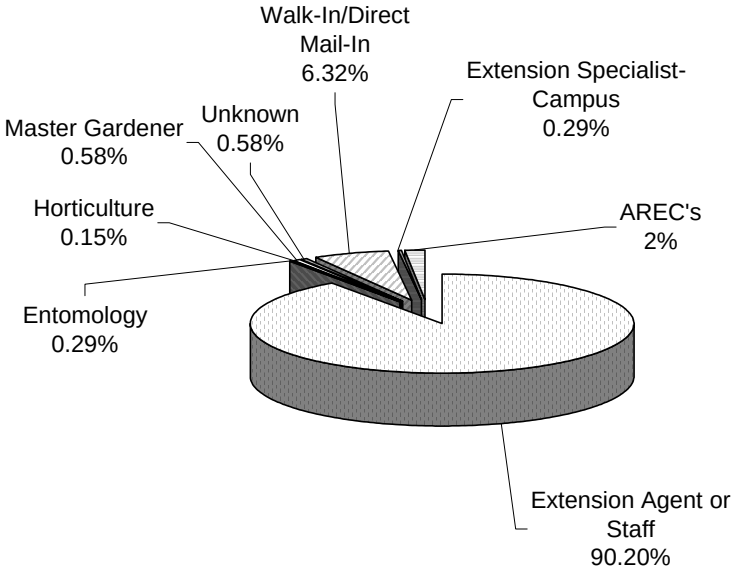
County	# of Samples	County	# of Samples
Accomack	1	Lee	11
Albemarle	102	Loudoun	20
Alexandria (IC)	1	Louisa	23
Alleghany	9	Lunenburg	7
Amelia	5	Lynchburg (IC)	12
Amherst	5	Madison	10
Appomattox	3	Mathews	2
Arlington	41	Mecklenburg	9
Augusta	17	Middlesex	5
Bath	6	Montgomery	77
Bedford	15	Nelson	72
Bland	2	New Kent	2
Botetourt	10	Newport News (IC)	9
Brunswick	6	Norfolk (IC)	17
Buckingham	2	Northampton	1
Campbell	6	Northumberland	16
Caroline	3	Nottoway	16
Carroll	10	Orange	10
Chesapeake (IC)	21	Page	1
Chesterfield	6	Patrick	5
Clarke	6	Pittsylvania	17
Craig	6	Portsmouth (IC)	3
Culpeper	2	Powhatan	12
Cumberland	4	Prince Edward	10
Danville (IC)	16	Prince George	30
Dickenson	4	Prince William	5
Dinwiddie	4	Pulaski	10
Essex	10	Rappahannock	11
Fairfax	8	Richmond	2
Fauquier	25	Roanoke	45
Floyd	16	Rockbridge	4
Fluvanna	14	Rockingham	32
Frederick	31	Russell	2
Giles	8	Scott	7
Gloucester	10	Shenandoah	3
Goochland	4	Smyth	2
Grayson	11	Spotsylvania	19
Greene	1	Stafford	68
Greensville/Emporia	2	Suffolk (IC)	5
Halifax	5	Surry	4
Hampton (IC)	4	Sussex	9
Hanover	17	Tazewell	3
Henrico	17	Virginia Beach (IC)	10
Henry	5	Warren	7
Highland	5	Washington	20
Isle of Wight	8	Westmoreland	30
James City	76	Wise	4
King George	20	Wythe	3
King William	2	York	35
Lancaster	12	Out of State	7
		Total	**1377**

Plant Disease Clinic

2004 Samples by District



Samples by Submitter Type, 2004



Weed Identification Lab
Monthly Submission Report
Number of Samples Received by Month
2004

Month	# of Samples
January	3
February	1
March	25
April	28
May	45
June	26
July	35
August	45
September	51
October	46
November	20
December	6
Total	**331**

Weed Identification Lab
Sample Totals by Crop
2004

Crop	# of Samples
Alfalfa	4
Aquatic	38
Barley	1
Butterbeans	1
Corn	1
Fallow Area	2
Forest	5
Garden	11
Ginseng	1
Hay	10
Kale	1
Ornamental Bed	23
Pasture	70
Roadside	4
Soybeans	3
Trees	27
Turf	99
Turnips	1
Waste Land	1
Watermelon	1
Wheat/Rye	1
N/A	26
Total	**331**

Weed Identification Lab
Distribution of Samples by County
2004

County	# of Samples	County	# of Samples
Albemarle	17	Northampton	1
Alleghany	4	Nottoway	2
Amelia	2	Orange	2
Amherst	4	Page	10
Arlington	1	Patrick	4
Augusta	3	Pittsylvania	4
Bath	1	Powhatan	6
Bedford	2	Prince Edward	3
Blackstone	1	Prince George	1
Bland	1	Rappahannock	11
Botetourt	6	Roanoke	4
Brunswick	1	Rockbridge	1
Buckingham	1	Rockingham	5
Campbell	4	Russell	5
Carroll	1	Scott	6
Chesterfield	3	Shenandoah	8
City of Alexandria	1	Smyth	7
City of Danville	1	Southampton	1
City of Lynchburg	34	Spotsylvania	8
City of Norfolk	4	Stafford	3
City of Richmond	3	Staunton	1
City of Suffolk	2	Sussex	1
Clarke	9	Tazewell	2
Craig	3	Warren	3
Dickenson	6	Washington	10
Dinwiddie	1	Westmoreland	6
Essex	1	Wise	5
Fauquier	1	York	13
Floyd	1		
Fluvanna	2	**Total**	**330**
Frederick	8		
Giles	1		
Gladys	1		
Grayson	2		
Greene	7		
Hanover	3		
Highland	5		
Isle of Wight	1		
James City	24		
King George	5		
Lancaster	3		
Lee	1		
Loudoun	1		
Louisa	6		
Mecklenburg	1		
Montgomery	3		
New Kent	1		

Plant Disease Clinic

Summary of Diagnoses by Plant
2004

FIELD CROPS

ALFALFA

1	Anthracnose	Colletotrichum trifolii
3	Spring Black Stem and Leaf Spot	Phoma medicaginis
1	Stemphylium Leaf Spot	Stemphylium botryosum
5	Total for Alfalfa	

BARLEY

1	Damping-off	Fusarium sp.
1	Environmental Stress	
1	Low pH	
2	Physiological Leaf Spot	
3	Spot Blotch	Bipolaris sorokiniana
1	Spot Form of Net Blotch	Pyrenophora teres
3	Suspect Chemical Injury	
1	Suspect Nutrient Deficiency	
13	Total for Barley	

BLUEGRASS

1	Algae	
1	Total for Bluegrass	

CLOVER

1	Sooty Blotch	Cymadothea trifolii
1	Total for Clover	

CORN

1	Bacterial Stalk Rot	Erwinia chrysanthemi
1	Chemical Injury	
1	Compacted Soil	
1	Cultural Problem	
1	Diplodia Ear Rot	Stenocarpella maydis
2	Gray Leaf Spot	Cercospora zeae-maydis
2	Insects	
1	Insufficient Sample	
9	Low pH	
1	Maize Chlorotic Dwarf Virus	
1	Maize Dwarf Mosaic Virus	
1	Manganese Toxicity	
1	Nitrogen Deficiency	
2	Nutrient Deficiency	
1	Pythium Seedling Rot	Pythium sp.
26	Total for Corn	

Plant Disease Clinic

FESCUE

3	Brown Patch	Rhizoctonia solani
3	Total for Fescue	

HAY

1	Saprophytic Fungi	Trichoderma sp.
1	Total for Hay	

MILLET

1	Gibberella Head Blight	Gibberella zeae
1	Gray Leaf Spot	Pyricularia grisea
2	Total for Millet	

OATS

1	Low pH	
1	Total for Oats	

ORCHARDGRASS

4	Anthracnose	Colletotrichum graminicola
1	Leaf Streak	Cercosporidium graminis
1	Low pH	
1	Not a pathogen	
7	Total for Orchardgrass	

SORGHUM

1	Anthracnose	Colletotrichum graminicola
1	Total for Sorghum	

SOYBEAN

1	Anaerobic Soil Conditions	
1	Anthracnose	Colletotrichum truncatum
1	Cyst Nematodes	Heterodera glycines
2	Frogeye Leaf Spot	Cercospora sojina
1	Poor Drainage	
1	Pythium Root Rot	Pythium sp.
1	Rhizoctonia Stem Canker	Rhizoctonia solani
2	Root Knot Nematodes	Meloidogyne sp.
1	Thrips	
11	Total for Soybean	

TOBACCO

1	Pythium Root Rot	Pythium sp.
1	Total for Tobacco	

Plant Disease Clinic

WHEAT

2	High pH	
1	Low pH	
2	Nutrient Deficiency	
1	Physiological Problem	
2	Scab	Fusarium graminearum
1	Sooty Mold	
2	Stagonospora Leaf and Glume Blotch	Stagonospora nodorum
1	Suspect Wheat Spindle Streak Mosaic	
1	Wheat Spindle Streak Mosaic Virus	

13	Total for Wheat	

HERBACEOUS ORNAMENTALS AND INDOOR PLANTS

AFRICAN VIOLET

1	Nutrient Imbalance	
1	Total for African Violet	

AJUGA

1	Mites	
1	Root Knot Nematodes	Meloidogyne sp.
2	Southern Blight	Sclerotium rolfsii
4	Total for Ajuga	

BELLFLOWER

1	Insufficient Sample	
1	Total for Bellflower	

BITTER CRESS

1	Gray Mold	Botrytis cinerea
1	Total for Bitter Cress	

BLUEBEARD

1	Cause of Problem Unknown	
1	Mites	
1	Phomopsis Leaf Spot	Phomopsis sp.
3	Total for Bluebeard	

CELOSIA

1	Insufficient Sample	
1	Rhizoctonia Stem and Root Rot	Rhizoctonia solani
2	Total for Celosia	

CHRYSANTHEMUM

1	Bacterial Blight	Erwinia chrysanthemi
1	Bacterial Leaf Spot	Pseudomonas cichorii
1	Environmental Stress	
1	Negative for Root Rot Disease	
1	Pythium Root Rot	Pythium sp.
1	Rust	Puccinia chrysanthemi
1	Sclerotinia Stem Rot	Sclerotinia sclerotiorium
1	Suspect Nutrient Deficiency	
8	Total for Chrysanthemum	

CLEMATIS

1	Insufficient Sample	
1	Total for Clematis	

CONEFLOWER

1	Cause of Problem Unknown	
1	Insects	
2	Total for Coneflower	

CORAL BELLS

1	Botrytis Blight	Botrytis cinerea
1	Environmental Stress	
1	Low pH	
1	Pythium Root Rot	Pythium sp.
4	Total for Coral Bells	

COREOPSIS

1	Cause of Problem Unknown	
1	Total for Coreopsis	

CROCOSMIA

1	Thrips	
1	Total for Crocosmia	

DAHLIA

1	Insufficient Sample	
1	Total for Dahlia	

DAISY

1	Suspect Nutrient Deficiency	
1	Total for Daisy	

DAYLILY

2	Botrytis Blight	Botrytis sp.
1	Chemical Injury	
2	Daylily Rust	Puccinia hemerocallidis
1	High ph	
1	Leaf Streak	Aureobasidium microstictum
2	Thrips	
9	Total for Daylily	

DRACAENA

1	Excess Soluble Salts	
1	Insufficient Sample	
2	Total for Dracaena	

FLEECEFLOWER

1	Physiological Problem	
1	Total for Fleeceflower	

FLOWERING MAPLE

1	Cultural Problem	
1	Total for Flowering Maple	

FOXGLOVE

1	Mites	
1	Total for Foxglove	

FUSCHIA

1	Suspect Nutrient Deficiency	
1	Total for Fuchsia	

GERANIUM

1	Bacterial Blight	Xanthomonas campestris pv. pelargonii
1	Insufficient Sample	
1	Oedema	
1	Rust	Puccinia pelargonii-zonalis
1	Suspect Nutrient Deficiency	
5	Total for Geranium	

GERBERA DAISY

1	Botrytis Blight	Botrytis cinerea
1	Total for Gerbera Daisy	

GLADIOLUS

1	Thrips	
1	Total for Gladiolus	

HELIOPSIS

1	Suspect Chemical Injury	
1	Total for Heliopsis	

HOLLYHOCK

1	Suspect Nutrient Toxicity	
1	Total for Hollyhock	

HOSTA

1	Artillery Fungus	Sphaerobolus stellatus
1	Botrytis Blight	Botrytis cinerea
1	Insufficient Sample	
1	Soft Rot	Erwinia carotovora
4	Total for Hosta	

IMPATIENS

1	Air Pollution	
5	Impatiens Necrotic Spot Virus	
1	Physiological Problem	
1	Suspect Chemical Injury	
8	Total for Impatiens	

IRIS

1	Cause of Problem Unknown	
1	Heterosporium Leaf Spot	Heterosporium iridis
1	Pythium Root Rot	Pythium sp.
3	Total for Iris	

JADE

1	Oedema	
1	Total for Jade	

LARKSPUR

1	Ascochyta Collar Rot	Ascochyta aquilegiae
1	Insufficient Sample	
2	Total for Larkspur	

LAVENDER

1	Environmental Stress	
1	Gray Mold	Botrytis cinerea
2	Total for Lavender	

LIRIOPE

1	Mites	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
2	Total for Liriope	

LISIANTHUS

1	Fusarium Root and Stem Rot	Fusarium sp.
1	Total for Lisianthus	

MADAGASCAR PERIWINKLE

1	Black Root Rot	Thielaviopsis basicola
1	Insufficient Sample	
1	Physiological Problem	
2	Rhizoctonia Stem and Root Rot	Rhizoctonia solani
5	Total for Madagascar Periwinkle	

MANDEVILLA

1	Phyllosticta Leaf Spot	Phyllosticta sp.
1	Total for Mandevilla	

MARGUERITE DAISY

1 Cultural Problem	
1 Total for Marguerite Daisy	

MISCANTHUS

1 Abiotic Problem	
1 Low pH	
1 Miscanthus Blight	Leptosphaeria sp.
3 Total for Miscanthus	

MONDOGRASS

1 Environmental Stress	
1 Total for Mondograss	

MYRTLE

1 Suspect Chemical Injury	
1 Total for Myrtle	

OBEDIENT PLANT

1 Mites	
1 Total for Obedient Plant	

ORCHID

1 Insufficient Sample	
1 Total for Orchid	

OSTEOSPERMUM

1 Sclerotinia Stem Rot	Sclerotinia sclerotiorum
1 Total for Osteospermum	

PANSY

1 Environmental Stress	
1 Low pH	
1 Negative for Root Disease	
1 Pythium Crown Rot	Pythium sp.
4 Total for Pansy	

PEACOCK SPIKEMOSS

1 Cultural Problem	
1 Total for Peacock Spikemoss	

PEONY

1 Bacterial Soft Rot	Erwinia sp.
3 Botrytis Blight	Botrytis cinerea
1 Insufficient Sample	
5 Total for Peony	

PERIWINKLE

1	Nutrient Deficiency	
1	Phoma Dieback	Phoma sp.
2	Phomopsis Dieback	Phomopsis livella
1	Pythium Root Rot	Pythium sp.
5	Total for Periwinkle	

PETUNIA

2	Insufficient Sample	
1	Physiological Problem	
1	Phytophthora Crown Rot	Phytophthora parasitica
2	Phytophthora Root and Stem Rot	Phytophthora parasitica
6	Total for Petunia	

PLANTS, MISCELLANEOUS

1	Cultural Problem
1	Insufficient Sample
2	Total for Plants, Miscellaneous

POINSETTIA

1	Chemical Injury
1	Cultural Problem
1	Healthy
3	Total for Poinsettia

POTHOS

1	Cultural Problem
1	Total for Pothos

RUDBECKIA

1	Healthy	
1	Insufficient Sample	
1	Septoria Leaf Spot	Septoria rudbeckiae
1	Psyllids	
4	Total for Rudbeckia	

SALVIA

1	Bacterial Leaf Spot	Pseudomonas cichorii
1	Total for Salvia	

SCHEFFLERA

1	Oedema
1	Suspect Nutrient Deficiency
2	Total for Schefflera

SNAKEROOT

1	Phomopsis Leaf Blight	Phomopsis sp.
1	Total for Snakeroot	

SNAPDRAGON

1	Chemical Injury	
1	Total for Snapdragon	

STREPTOCARPELLA

1	Physiological Problem	
1	Total for Streptocarpella	

SWEDISH IVY

1	Physiological Problem	
1	Total for Swedish Ivy	

SWEET FLAG

1	Anthracnose	Colletotrichum sp.
1	Total for Sweet Flag	

SWEET POTATO

1	Normal Condition	
1	Wireworms	
2	Total for Sweet Potato	

TULIP

1	Bacterial Soft Rot	Erwinia carotovora
1	Blue Mold	Penicillium sp.
2	Total for Tulip	

VERONICA

1	Impatiens Necrotic Spot Virus	
1	Total for Veronica	

WATER HYACINTH

1	Mites	
1	Total for Water Hyacinth	

YARROW

1	Suspect Cold Injury	
1	Total for Yarrow	

ZINNIA

1	Abiotic Problem	
1	Total for Zinnia	

Plant Disease Clinic

UNKNOWN INDOOR PLANT

2 Insufficient Sample
1 Scales
---
3 Total for Unknown Indoor Plant

SMALL FRUITS

BLACKBERRY

2	Spur Blight	Didymella applanata
2	Total for Blackberry	

BLUEBERRY

1	Botryosphaeria Stem Blight	Botryosphaeria dothidea
1	Insects	
2	Insufficient Sample	
1	Phomopsis Twig Blight	Phomopsis vaccinii
5	Total for Blueberry	

GRAPE

1	Anthracnose	Elsinoe ampelina
4	Black Rot	Guignardia bidwellii
3	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cause of Problem Unknown	
1	Cold Injury	
1	Insect Galls	
1	Insufficient Information	
2	Insufficient Sample	
1	Negative for Petri Disease	
1	Nutrient Deficiency	
1	Petri Disease	Phaeoacremonium aleophilum
2	Phomopsis	Phomopsis sp.
4	Suspect Crown Gall	Agrobacterium vitis
1	Thrips	
1	Wild-type Grape	
2	Winter Injury	
27	Total for Grape	

RASPBERRY

1	Anthracnose	Elsinoe veneta
1	Mites	
2	Total for Raspberry	

STRAWBERRY

1	Anthracnose	Colletotrichum acutatum
1	Chemical Injury	
2	Dendrophoma Leaf Blight	Dendrophoma obscurans
1	Gray Mold	Botrytis cinerea
1	Negative for Disease	
3	Phytophthora Crown Rot	Phytophthora cactorum
1	Phytophthora Root Rot	Phytophthora cinnamomi
1	Poor Drainage	
1	Powdery Mildew	Sphaerotheca macularis
3	Pythium Root Rot	Pythium sp.
2	Rhizoctonia Crown and Root Rot	Rhizoctonia solani
17	Total for Strawberry	

TREES

ARBORVITAE

1	Bagworms	
1	Chemical Injury	
1	Cultural Problem	
1	Environmental Stress	
3	Mites	
1	Pestalotiopsis Twig Blight	Pestalotiopsis funerea
1	Suspect Dog Urine Injury	
1	Winter Injury	
10	Total for Arborvitae	

ASH

1	Anthracnose	Discula sp.
1	Insufficient Sample	
1	Rust	Puccinia peridermiospora
3	Total for Ash	

BALDCYPRESS

1	Midge Galls	
1	Total for Baldcypress	

BEECH

1	Suspect Bacterial Wetwood	
1	Total for Beech	

BIRCH

2	Insects	
1	Negative for Disease	
3	Total for Birch	

CEDAR

2	Environmental Stress	
1	Suspect Dog Damage	
3	Total for Cedar	

CHERRY

1	Cicadas	
1	Total for Cherry	

CHINKAPIN

1	Cultural Problem	
1	Total for Chinkapin	

CYPRESS

1	Bagworms	
1	Cultivar Characteristic	
1	Hail Injury	
2	Insects	
17	Insufficient Sample	
3	Negative for Disease	
4	Pestalotiopsis Tip Blight	Pestalotiopsis funerea
1	Phomopsis Tip Blight	Phomopsis sp.
1	Phyllosticta Tip Blight	Phyllosticta sp.
2	Phytophthora Root Rot	Phytophthora cinnamomi
1	Scales	
2	Seasonal Needle Drop	
7	Seiridium Canker	Seiridium sp.
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
3	Suspect Seiridium Canker	Seiridium sp.
1	Winter Injury	

49	Total for Cypress	

DOGWOOD

1	Botryosphaeria Canker	Botryosphaeria sp.
2	Botrytis Blight	Botrytis cinerea
1	Discula Anthracnose	Discula destructiva
3	Environmental Stress	
5	Insufficient Sample	
1	Mites	
1	Nutrient Deficiency	
1	Phomopsis Dieback	Phomopsis sp.
1	Physiological Problem	
6	Powdery Mildew	Oidium sp.
3	Scorch	
1	Septoria Leaf Spot	Septoria cornicola
1	Spot Anthracnose	Elsinoe corni
1	Suspect Chemical Injury	

28	Total for Dogwood	

DOUGLASFIR

2	Insufficient Sample	
2	Swiss Needle Cast	Phaeocryptopus gaeumannii
1	Winter Injury	

5	Total for Douglasfir	

EASTERN RED CEDAR

2	Environmental Stress

2	Total for Eastern Red Cedar

ELM

1	Anthracnose	Gloeosporium ulmicola
1	Botryosphaeria Canker	Botryosphaeria dothidea
2	Insects	
1	Insufficient Sample	
1	Negative for Dutch Elm Disease	
6	Total for Elm	

FALSECYPRESS

2	Rootbound	
2	Total for Falsecypress	

FIR

1	Cultural Problem	
1	Environmental Stress	
1	Fertilizer Burn	
1	Girdling Roots	
1	Insufficient Sample	
1	Negative for Phytophthora	
2	Negative for Root Disease	
2	Phytophthora Root Rot	Phytophthora sp.
1	Suspect Chemical Injury	
11	Total for Fir	

FRINGE TREE

1	Insufficient Sample	
1	Total for Fringe Tree	

GOLDEN-RAIN-TREE

2	Insufficient Sample	
1	Mites	
3	Total for Golden-rain-tree	

HACKBERRY

1	Sooty Mold	
1	Total for Hackberry	

HAWTHORN

3	Cedar-Quince Rust	Gymnosporangium clavipes
3	Total for Hawthorn	

HEMLOCK

1	Environmental Stress	
2	Insufficient Sample	
1	Phytophthora Root Rot	Phytophthora cinnamomi
4	Total for Hemlock	

Plant Disease Clinic

HONEYLOCUST

1	Cercospora Leaf Spot	Cercospora condensata
1	Mites	
1	Negative for Fungicide Toxicity	

3	Total for Honeylocust	

JAPANESE PAGODATREE

1	Botryosphaeria Canker	Botryosphaeria sp.

1	Total for Japanese Pagodatree	

LONDON PLANETREE

1	Cercospora Leaf Spot	Cercospora platanicola

1	Total for London Planetree	

MAGNOLIA

1	Alternaria Leaf Spot	Alternaria sp.
1	Botryosphaeria Canker	Botryosphaeria sp.
1	Botrytis Blight	Botrytis sp.
1	Chemical Injury	
3	Environmental Stress	
1	Girdling Roots	
1	Insects	
1	Insufficient Sample	
1	Large Leaf Spot	Phyllosticta magnoliae
2	Mites	
1	Physiological Problem	
2	Scales	
1	Sooty Mold	
2	Winter Injury	

19	Total for Magnolia	

MAPLE

1	Abiotic Problem	
4	Anthracnose	Colletotrichum sp.
1	Bacterial Wetwood	
2	Botryosphaeria Dieback	Botryosphaeria sp.
2	Cultural Problem	
1	Environmental Stress	
2	Eriophyid Mites	
1	Frost Injury	
1	Insect Galls	
4	Insects	
9	Insufficient Sample	
4	Mites	
2	Phomopsis Dieback	Phomopsis sp.
1	Physiological Problem	
9	Purple-eye Leaf Spot	Phyllosticta minima
3	Scales	
1	Scorch	
3	Sooty Mold	
1	Suspect Frost Injury	
1	Suspect Root Problem	

1	Tar Spot	Rhytisma acerinum
1	Tip Borers	
1	Venturia Leaf Blight	Venturia acerina
1	Wood Decay	
10	Zonate Leaf Spot	Cristulariella pyramidalis
67	Total for Maple	

MIMOSA

1	Insufficient Sample	
1	Mimosa Wilt	Fusarium oxysporum f.sp. perniciosa
2	Total for Mimosa	

MOUNTAIN ASH

1	Fabraea Leaf Spot	Fabraea maculata
1	Total for Mountain Ash	

OAK

1	Anthracnose	Apiognomonia quercina
1	Bacterial Scorch	Xylella fastidiosa
1	Bacterial Wetwood	
1	Beetles	
1	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cause of Problem Unknown	
4	Chemical Injury	
1	Cicada Injury	
2	Eriophyid Mites	
1	Gall Insect	
1	Insect Galls	
9	Insects	
4	Insufficient Sample	
5	Iron Chlorosis	
1	Lacebugs	
1	Lichens	
5	Mites	
1	Monochaetia Leaf Blotch	Monochaetia monochaeta
3	Oak Leaf Blister	Taphrina caerulescens
3	Oak Leaf Button Galls	
2	Scales	
1	Squawroot	Conopholis americana
1	Suspect Hail Injury	
1	Suspect Winter Injury	
12	Tubakia Leaf Spot	Tubakia dryina
1	White Rot	Stereum hirsutum
1	Wood Decay - False Turkeytail	Stereum ostrea
66	Total for Oak	

ORNAMENTAL CHERRY

1	Insects	
1	Total for Ornamental Cherry	

ORNAMENTAL PEAR

1	Chemical Injury	
2	Cultural Problem	
3	Total for Ornamental Pear	

PAULOWNIA

1	Insufficient Sample	
1	Total for Paulownia	

PINE

1	Atropellis Twig Canker	Atropellis sp.
1	Bifusella Needle Blight	Bifusella linearis
2	Cause of Problem Unknown	
2	Cultural Problem	
2	Cyclaneusma Needle Cast	Cyclaneusma minor
5	Diplodia Tip Blight	Diplodia pinea
1	Dothistroma Needle Blight	Dothistroma pini
2	Environmental Stress	
1	Eriophyid Mites	
2	Insects	
12	Insufficient Sample	
1	Lophodermium Needle Cast	Lophodermium sp.
1	Physiological Problem	
1	Scales	
1	Seasonal Needle Drop	
1	Sooty Mold	Scorias spongiosa
1	Suspect Procerum Root Disease	Leptographium procerum
37	Total for Pine	

REDBUD

2	Botryosphaeria Dieback	Botryosphaeria dothidea
1	Botrytis Blight	Botrytis cinerea
1	Cause of Problem Unknown	
1	Chemical Injury	
1	Insects	
2	Mites	
1	Pestalotia Leaf Spot	Pestalotia sp.
9	Total for Redbud	

REDWOOD

1	Normal Condition	
1	Total for Redwood	

SASSAFRAS

1	Phomopsis Canker	Phomopsis sp.
1	Total for Sassafras	

SERVICEBERRY

1	Botryosphaeria Canker	Botryosphaeria dothidea
1	Juniper Broom Rust	Gymnosporangium nidus-avis
2	Total for Serviceberry	

SPRUCE

1	Botryosphaeria Canker	Botryosphaeria sp.
1	Chemical Injury	
2	Environmental Stress	
4	Insufficient Sample	
1	Mechanical Injury	
6	Mites	
1	Negative for Disease	
1	Phytophthora Root Rot	Phytophthora parasitica
4	Rhizosphaera Needle Blight	Rhizosphaera kalkhoffii
3	Stigmina Needle Cast	Stigmina verrucosa
1	Suspect Chemical Injury	
2	Suspect Cytospora Canker	Cytospora sp.
1	Suspect Insects	
1	Winter Injury	
29	Total for Spruce	

SWEETGUM

1	Chemical Injury	
1	Total for Sweet Gum	

TULIP TREE

1	Cultural Problem	
1	Environmental Stress	
1	White Rot	
3	Total for Tulip Tree	

WILLOW

1	Galls	
1	Gloeosporium Twig Canker	Gloeosporium sp.
1	Suspect Black Canker	Physalospora miyabeana
3	Total for Willow	

TREE FRUITS AND NUTS

APPLE

1	Alternaria Blotch	Alternaria mali
1	Alternate Year Bearing	
1	Apple Maggots	
1	Black Rot	Physalospora obtusa
3	Cedar-Apple Rust	Gymnosporangium juniperi-virginianae
1	Cedar-Quince Rust	Gymnosporangium clavipes
1	Chemical Injury	
1	Environmental Stress	
3	Fire Blight	Erwinia amylovora
1	Fly Speck	Microthyriella rubi
1	Insects	
2	Insufficient Sample	
1	Powdery Mildew	Podosphaera leucotricha
1	Scab	Venturia inaequalis
1	Sooty Blotch	Gloeodes pomigena
20	Total for Apple	

APRICOT

1	Borers
1	Environmental Stress
2	Total for Apricot

ASIAN PEAR

1	Stinkbugs
1	Total for Asian Pear

CHERRY

1	Black Knot	Dibotryon morbosum
1	Botryosphaeria Canker	Botryosphaeria dothidea
1	Cercospora Leaf Spot	Cercospora circumscissi
3	Cherry Leaf Spot	Coccomyces hiemalis
2	Cultural Problem	
1	Eriophyid Mites	
1	Insufficient Sample	
1	Negative for Verticillium	
1	Physiological Leaf Spot	
1	Suspect Environmental Stress	
13	Total for Cherry	

CHESTNUT

1	Tubakia Leaf Spot	Tubakia dryina
1	Total for Chestnut	

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CRABAPPLE

1	Cedar-Quince Rust	Gymnosporangium clavipes
3	Fire Blight	Erwinia amylovora
2	Scab	Venturia inaequalis
6	Total for Crabapple	

FILBERT

1	Eastern Filbert Blight	Anisogramma anomala
1	Insects	
2	Total for Filbert	

MULBERRY

1	Suspect Bacterial Wetwood	
1	Total for Mulberry	

PEACH

1	Brown Rot	Monilinia fructicola
1	Chemical Injury	
4	Curculios	
1	Insects	
1	Peach Leaf Curl	Taphrina deformans
1	Physiological Problem	
1	Scab	Cladosporium carpophilum
1	Suspect Nutrient Deficiency	
11	Total for Peach	

PEAR

1	Adequate, Sample and Information	
1	Cause of Problem Unknown	
1	Fire Blight	Erwinia amylovora
1	Insufficient Information	
1	Negative for Fire Blight	
5	Total for Pear	

PERSIMMON

1	Persimmon Wilt	Cephalosporium diospyri
1	Total for Persimmon	

PLUM

1	Cercospora Leaf Spot	Cercospora circumscissa
1	Environmental Stress	
1	Insufficient Sample	
1	Suspect Chemical Injury	
4	Total for Plum	

WALNUT

1	Mites	
1	Total for Walnut	

TURF

BENTGRASS

1	Algae	
1	Anaerobiosis	
3	Brown Patch	Rhizoctonia solani
2	Fusarium Patch	Microdochium nivale
1	Presence of Pythium	Pythium sp.
1	Red Leaf Spot	Helminthosporium erythrospila
9	Total for Bentgrass	

BERMUDAGRASS

1	Brown Patch	Rhizoctonia solani
1	Curvularia Blight	Curvularia intermedia
1	Low pH	
3	Total for Bermudagrass	

BLUEGRASS

2	Insufficient Sample	
2	Total for Bluegrass	

CLOVER

1	Bacterial Blight	Pseudomonas syringae
1	Mites	
2	Total for Clover	

FESCUE

24	Brown Patch	Rhizoctonia solani
1	Cultural Problem	
2	Dollar Spot	Sclerotinia homeocarpa
3	Fusarium Blight	Fusarium sp.
1	Fusarium Patch	Microdochium nivale
1	Gray Leaf Spot	Pyricularia grisea
2	Helminthosporium Blight	Drechslera dictyoides
1	Insufficient Sample	
2	Low pH	
1	Red Thread	Laetisaria fuciformis
2	Rust	Puccinia graminis
1	Slime Mold	Physarum sp.
1	Suspect Chemical Injury	
1	Yellow Patch	Rhizoctonia cerealis
43	Total for Fescue	

RYEGRASS

1	Winter Injury	
1	Total for Ryegrass	

Plant Disease Clinic

TURFGRASS

1	Anthracnose	Colletotrichum graminicola
10	Brown Patch	Rhizoctonia solani
1	Cultural Problem	
1	Fusarium Blight	Fusarium sp.
6	Insufficient Sample	
1	Melting Out	Drechslera poae
1	Moss	
1	Negative for Disease	
1	Nimblewill Encroachment	Muhlenbergia schreberi
1	Rust	Puccinia graminis

24	Total for Turfgrass	

ZOYSIA

1	Cultural Problem	
1	Low pH	
1	Rust	Puccinia zoysiae
1	Zoysia Patch	Rhizoctonia solani

4	Total for Zoysia	

VEGETABLES AND HERBS

ASPARAGUS

1 Fusarium Crown Rot	Fusarium oxysporum
----	
1 Total for Asparagus	

BAY LAUREL

1 Scales	
----	
1 Total for Bay Laurel	

BEAN

1 Anthracnose	Colletotrichum lindemuthianum
1 Cause of Problem Unknown	
1 Chemical Injury	
3 Fusarium Root Rot	Fusarium solani
2 Insufficient Sample	
1 Low pH	
1 Pythium Root Rot	Pythium sp.
2 Rhizoctonia Root Rot	Rhizoctonia solani
2 Rhizoctonia Stem and Root Rot	Rhizoctonia solani
----	
14 Total for Bean	

BEET

1 Rhizoctonia Stem Rot	Rhizoctonia solani
----	
1 Total for Beet	

BROCCOLI

1 High pH	
1 Soft Rot	Erwinia carotovora
----	
2 Total for Broccoli	

BRUSSELS SPROUTS

1 Nutrient Deficiency	
----	
1 Total for Brussels Sprouts	

CABBAGE

1 Sclerotinia White Rot	Sclerotinia sclerotiorum
----	
1 Total for Cabbage	

CANTALOUPE

1 Downy Mildew	Pseudoperonospora cubensis
1 Pythium Root Rot	Pythium sp.
----	
2 Total for Cantaloupe	

Plant Disease Clinic

CARROT

1	Alternaria Leaf Blight	Alternaria dauci
1	Total for Carrot	

CUCUMBER

1	Alternaria Leaf Spot	Alternaria cucumerina
1	Anthracnose	Colletotrichum lagenarium
1	Bacterial Wilt	Erwinia tracheiphila
2	Downy Mildew	Pseudoperonospora cubensis
1	Insects	
1	Powdery Mildew	Sphaerotheca fuliginea
7	Total for Cucumber	

EGGPLANT

2	Insufficient Sample	
2	Total for Eggplant	

GARLIC

2	White Rot	Sclerotium cepivorum
2	Total for Garlic	

GINSENG

1	Phytophthora Root Rot	Phytophthora cactorum
1	Total for Ginseng	

GOURD

1	Insufficient Sample	
1	Total for Gourd	

KALE

1	Pythium Root Rot	Pythium sp.
1	Total for Kale	

LIMA BEAN

1	Low pH	
1	Total for Lima Bean	

PEPPER

1	Anthracnose	Colletotrichum gloeosporioides
1	Aphids	
2	Blossom End Rot	
2	Chemical Injury	
1	Excess Soluble Salts	
2	Insufficient Sample	
1	Pythium Stem Rot	Pythium sp.
1	Rhizoctonia Root Rot	Rhizoctonia solani
11	Total for Pepper	

PLANTS, MISCELLANEOUS

1	Chemical Injury	
1	Suspect Chemical Injury	
2	Total for Plants, Miscellaneous	

POTATO

1	Blackleg	Erwinia carotovora
1	Common Scab	Streptomyces scabies
1	Fusarium Wilt	Fusarium sp.
1	Potato Fruit	
4	Total for Potato	

PUMPKIN

1	Cause of Problem Unknown	
2	Chemical Injury	
3	Downy Mildew	Pseudoperonospora cubensis
1	Insufficient Sample	
1	Powdery Mildew	Sphaerotheca fuliginea
2	Suspect Fertilizer Burn	
10	Total for Pumpkin	

RHUBARB

1	Cladosporium Leaf Spot	Cladosporium sp.
1	Total for Rhubarb	

ROSEMARY

1	Adventitious Roots	
1	Environmental Stress	
1	Phytophthora Root Rot	Phytophthora sp.
1	Web Blight	Rhizoctonia solani
4	Total for Rosemary	

SAGE

1	Four-lined Plant Bugs	
1	Total for Sage	

SQUASH

1	Chemical Injury	
1	Low pH	
1	Phytophthora Crown and Root Rot	Phytophthora capsici
1	Pythium Root Rot	Pythium sp.
4	Total for Squash	

SWEET CORN

1	Bacterial Stalk Rot	Erwinia chrysanthemi
1	Southern Corn Leaf Blight	Bipolaris maydis
2	Total for Sweet Corn	

Plant Disease Clinic

SWEET POTATO		
1	Fusarium End Rot	Fusarium oxysporum
1	Physiological Problem	
1	Wireworms	

3	Total for Sweet Potato	
TANSY		
1	Insufficient Sample	

1	Total for Tansy	
TOMATO		
1	Abiotic Problem	
1	Adventitious Roots	
1	Anthracnose	Colletotrichum coccodes
1	Aphids	
1	Bacterial Canker	Clavibacter michiganense
4	Bacterial Wilt	Ralstonia solanacearum
1	Catfacing	
12	Chemical Injury	
1	Cucumber Mosaic Virus	
2	Cultural Problem	
3	Early Blight	Alternaria solani
1	Environmental Stress	
1	Excess Soluble Salts	
1	Fertilizer Burn	
3	Fusarium Wilt	Fusarium oxysporum
1	Insufficient Information	
11	Insufficient Sample	
1	Magnesium Deficiency	
2	Mites	
2	Negative for Disease	
3	Nutrient Deficiency	
1	Phoma Fruit Rot	Phoma destructiva
1	Physiological Leaf Roll	
1	Physiological Problem	
1	Pith Necrosis	Pseudomonas corrugata
1	Poor Drainage	
1	Possible Herbicide Injury	
1	Root Knot Nematodes	Meloidogyne sp.
6	Septoria Leaf Spot	Septoria lycopersici
3	Stinkbugs	
1	Suspect Bacterial Wilt	Ralstonia solanacearum
1	Suspect Boron Deficiency	
1	Suspect Chemical Injury	
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Suspect Fertilizer Burn	
1	Suspect Frost Injury	
1	Suspect Nutrient Deficiency	
18	Tomato Spotted Wilt Virus	

96	Total for Tomato	

Plant Disease Clinic

TURNIP

1	Cercosporella Leaf Spot	Cercosporella brassicae
1	Nutrient Deficiency	
2	Total for Turnip	

WATERMELON

2	Alternaria Leaf Spot	Alternaria cucumerina
4	Chemical Injury	
2	Gummy Stem Blight	Mycosphaerella citrullina
1	Pythium Root Rot	Pythium sp.
9	Total for Watermelon	

ZUCCHINI

1	Squash Bugs	
1	Total for Zucchini	

WOODY ORNAMENTALS

AUCUBA

2	Insufficient Sample	
2	Total for Aucuba	

AZALEA

1	Cultural Problem	
1	Fibrous Material	
2	Insects	
3	Insufficient Sample	
2	Lacebugs	
1	Leaf and Flower Gall	Exobasidium vaccinii
1	Lichens	
1	Phomopsis Dieback	Phomopsis sp.
1	Phyllosticta Leaf Spot	Phyllosticta sp.
1	Sooty Mold	
1	Suspect Cercospora Leaf Spot	Cercospora handelii
1	Winter Injury	
16	Total for Azalea	

BARBERRY

1	Low pH	
1	Total for Barberry	

BAYBERRY

1	Cercospora Leaf Spot	Cercospora sp.
1	Clitocybe Root Rot	Clitocybe tabescens
1	Insufficient Sample	
3	Total for Bayberry	

BEARBERRY

1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
1	Total for Bearberry	

BOXWOOD

1	Adequate, Sample and Information	
11	Cultural Problem	
14	English Boxwood Decline	Paecilomyces buxi
1	Environmental Stress	
1	Insects	
17	Insufficient Sample	
1	Negative for Root Disease	
13	Negative for Root Rot Fungi	
2	Nematodes	
1	Oedema	
5	Phytophthora Root Rot	Phytophthora parasitica
1	Poor Drainage	
1	Psyllids	
2	Ring Nematodes	Criconemella sp.

7 Spiral Nematodes	Rotylenchus buxophilus
1 Suspect Chemical Injury	
1 Suspect Salt Injury	
1 Volutella Blight	Volutella buxi
1 Winter Injury	
----	
82 Total for Boxwood	

BURNING BUSH

1 Poor Drainage	
1 Suspect Chemical Injury	
----	
2 Total for Burning Bush	

BUTTERFLY BUSH

1 Artillery Fungus	Sphaerobolus stellatus
2 Mites	
1 Phomopsis Leaf Spot	Phomopsis sp.
----	
4 Total for Butterfly Bush	

CAMELLIA

1 Cause of Problem Unknown	
3 Eriophyid Mites	
2 Insufficient Sample	
1 Leaf and Flower Gall	Exobasidium camelliae
1 Suspect Winter Injury	
1 Winter Injury	
----	
9 Total for Camellia	

CHERRYLAUREL

1 Borers	
1 Clitocybe Root Rot	Clitocybe sp.
2 Cultural Problem	
2 Environmental Stress	
2 Insects	
9 Insufficient Sample	
1 Lacebugs	
1 Mites	
1 Mycosphaerella Leaf Spot	Mycosphaerella sp.
1 Normal Condition - Glands	
----	
21 Total for Cherrylaurel	

CHOKEBERRY

1 Botryosphaeria Dieback	Botryosphaeria sp.
----	
1 Total for Chokeberry	

CLEYERA

1 Cultural Problem	
----	
1 Total for Cleyera	

CRAPE MYRTLE

2 Chemical Injury	
1 Negative for Disease	
3 Total for Crape Myrtle	

CYPRESS

1 Phyllosticta Tip Blight	Phyllosticta sp.
1 Total for Cypress	

DAPHNE

1 Insufficient Sample	
1 Normal Condition	
2 Total for Daphne	

ELAEAGNUS

1 Insufficient Sample	
1 Total for Elaeagnus	

ENGLISH IVY

3 Anthracnose	Colletotrichum trichellum
1 Bacterial Leaf Spot	Xanthomonas hederae
1 Bacterial Stem Canker	Xanthomonas hederae
1 Insufficient Sample	
1 Mites	
1 Nutrient Deficiency	
3 Phyllosticta Leaf Spot	Phyllosticta sp.
1 Phytophthora Root Rot	Phytophthora parasitica
1 Sooty Mold	
1 Winter Injury	
14 Total for English Ivy	

EUONYMUS

2 Crown Gall	Agrobacterium tumefaciens
1 Environmental Stress	
2 Insufficient Sample	
5 Total for Euonymus	

FILBERT

2 Eastern Filbert Blight	Anisogramma anomala
2 Total for Filbert	

FORSYTHIA

1 Insects	
2 Insufficient Sample	
3 Total for Forsythia	

HIBISCUS

1	Insects	
1	Suspect Nutrient Deficiency	
2	Total for Hibiscus	

HOLLY

1	Anthracnose	Gloeosporium sp.
10	Black Root Rot	Thielaviopsis basicola
2	Botryosphaeria Dieback	Botryosphaeria sp.
1	Cercospora Leaf Spot	Cercospora sp.
1	Cold Injury	
1	Cultural Problem	
2	Environmental Stress	
13	Insufficient Sample	
1	Mechanical Injury	
1	Negative for Root Disease	
1	Phomopsis Canker	Phomopsis sp.
1	Phytophthora Root Rot	Phytophthora parasitica
1	Planthoppers	
2	Rootbound	
1	Scales	
1	Sooty Mold	
1	Spine Spot	
1	Suspect Chemical Injury	
1	Suspect Cold Injury	
1	Suspect Hail Injury	
1	Suspect Sapsucker Injury	
1	Suspect Winter Injury	
2	Winter Injury	
48	Total for Holly	

HYDRANGEA

1	Artillery Fungus	Sphaerobolus stellatus
1	Cercospora Leaf Spot	Cercospora hydrangeae
1	Environmental Stress	
3	Insufficient Sample	
2	Mites	
1	Powdery Mildew	Erisyphe polygoni
1	Thrips	
10	Total for Hydrangea	

HYPERICUM

1	Rust	Uromyces triquestrus
1	Total for Hypericum	

INKBERRY

1	Environmental Stress	
1	Insufficient Sample	
1	Phytophthora Root Rot	Phytophthora cinnamomi
3	Total for Inkberry	

Plant Disease Clinic

JUNIPER

1	Cause of Problem Unknown	
1	Cedar-Quince Rust	Gymnosporangium clavipes
9	Cultural Problem	
7	Environmental Stress	
1	High pH	
13	Insufficient Sample	
2	Kabatina Tip Blight	Kabatina juniperi
2	Low pH	
7	Mites	
4	Negative for Root Disease	
1	Negative for Tip Blight	
5	Phomopsis Tip Blight	Phomopsis juniperovora
3	Phytophthora Root Rot	Phytophthora sp.
1	Rootbound	
1	Suspect Cultural Problem	
1	Suspect Nutrient Deficiency	
1	Web Blight	Rhizoctonia solani
60	Total for Juniper	

LILAC

1	Artillery Fungus	Sphaerobolus stellatus
1	Botryosphaeria Dieback	Botryosphaeria sp.
2	Insufficient Sample	
1	Negative for Leaf Disease	
5	Total for Lilac	

MOUNTAIN LAUREL

1	Environmental Stress	
2	Insufficient Sample	
3	Total for Mountain Laurel	

NANDINA

1	Phyllosticta Leaf Spot	Phyllosticta sp.
1	Physiological Problem	
1	Suspect Cercospora Leaf Spot	Cercospora sp.
3	Total for Nandina	

PHOTINIA

1	Botryosphaeria Dieback	Botryosphaeria sp.
5	Entomosporium Leaf Spot	Entomosporium mespili
1	Insufficient Sample	
7	Total for Photinia	

PIERIS

1	Botryosphaeria Dieback	Botryosphaeria sp.
1	Insects	
1	Phyllosticta Leaf Spot	Phyllosticta andromedae
2	Phytophthora Root Rot	Phytophthora cinnamomi
1	Scales	
1	Thrips	

7	Total for Pieris	

PLANTS, MISCELLANEOUS

1	Chemical Injury	
1	Insects	

2	Total for Plants, Miscellaneous	

PRIVET

1	Alternaria Leaf Spot	Alternaria alternata
1	Insufficient Sample	
1	Phyllosticta Leaf Spot	Phyllosticta sp.

3	Total for Privet	

PYRACANTHA

1	Phomopsis Dieback	Phomopsis sp.
1	Scab	Spilocaea pyracanthae

2	Total for Pyracantha	

RED CEDAR

1	Cedar-Apple Rust	Gymnosporangium juniperi-virginianae
1	Insufficient Information	

2	Total for Red Cedar	

RHODODENDRON

1	Abiotic Problem	
1	Artillery Fungus	Sphaerobolus stellatus
3	Botryosphaeria Dieback	Botryosphaeria sp.
2	Cercospora Leaf Spot	Cercospora handelii
1	Cultural Problem	
3	Cylindrocladium Blight	Cylindrocladium scoparium
1	High pH	
1	Insects	
5	Insufficient Sample	
2	Lacebugs	
1	Mycosphaerella Leaf Spot	Mycosphaerella sp.
2	Negative for Root Disease	
1	Oedema	
1	Pestalotia Leaf Spot	Pestalotia sp.
1	Phomopsis Dieback	Phomopsis sp.
1	Physiological Problem	
1	Phytophthora Dieback	Phytophthora sp.
1	Phytophthora Root Rot	Phytophthora sp.
1	Poor Drainage	
4	Rootbound	

1	Scorch	
1	Suspect Botryosphaeria Dieback	Botryosphaeria sp.
36	Total for Rhododendron	

ROSE

1	Black Spot	Diplocarpon rosae
2	Common Canker	Coniothyrium fuckelii
1	Downy Mildew	Peronospora sparsa
1	Insufficient Information	
3	Insufficient Sample	
1	Negative for Canker Disease	
1	Powdery Mildew	Sphaerotheca pannosa
3	Rose Rosette	
1	Suspect Chemical Injury	
2	Suspect Rose Rosette	
16	Total for Rose	

ROSE-OF-SHARON

1	Insufficient Sample	
1	Total for Rose-of-sharon	

SANTOLINA

1	Environmnetal Stress	
1	Total for Santolina	

SNOWBALL BUSH

1	Spot Anthracnose	Sphaceloma viburni
1	Total for Snowball Bush	

SPIREA

1	Insufficient Sample	
1	Total for Spirea	

STEWARTIA

1	Kabatiella Leaf Spot	Kabatiella sp.
1	Mites	
2	Total for Stewartia	

SUMMERSWEET

1	Foliar Nematodes	Aphelenchoides sp.
1	Negative for Foliar Nematodes	
2	Total for Summersweet	

SWEETSPIRE

1	Insects	
1	Total for Sweetspire	

VIBURNUM

2	Botryosphaeria Dieback	Botryosphaeria sp.
1	Botrytis Blight	Botrytis cinerea
1	Cause of Problem Unknown	
1	Cercospora Leaf Spot	Cercospora sp.
1	Chemical Injury	
2	Insufficient Sample	
2	Mites	
1	Negative for Phytophthora	
2	Negative for Root Rot	
1	Southern Blight	Sclerotium rolfsii

14	Total for Viburnum	

WEIGELA

1	Mites	

1	Total for Weigela	

WITCHHAZEL

1	Phyllosticta Leaf Blight	Phyllosticta hamamelidis

1	Total for Witchhazel	

YEW

1	Cultural Problem	
4	Insufficient Sample	
4	Phytophthora Root Rot	Phytophthora cinnamomi
1	Sooty Mold	

10	Total for Yew	

Plant Disease Clinic

Summary of Plant Identifications
2004

Higher Plants (28)

Family: Aceraceae	
Acer negundo	Boxelder
Family: Araliaceae	
Hedera helix (2)	English Ivy
Family: Asteraceae	
Cirsium arvense	Canada Thistle
Family: Caprifoliaceae	
Viburnum prunifolium	Blackhaw Viburnum
Family: Cucurbitaceae	
Cucurbita pepo	Squash
Lagenaria sp.	Speckled Swan Gourd
Family: Cyperaceae	
Kyllinga pumila	Green Kyllinga
Family: Elaeagnaceae	
Elaeagnus pungens	Thorny Eleagnus
Family: Euphorbiaceae	
Euphorbia lathyris	Caper Spurge
Family: Fabaceae	
Medicago sativa	Alfalfa
Vigna unguiculata	Cowpea
Family: Fagaceae	
Quercus prinus	Chestnut Oak
Family: Hippocastanaceae	
Aesculus pavia	Red Buckeye
Family: Lamiaceae	
Stachys floridana	Florida Hedge Nettle
Family: Liliaceae	
Allium moly	Lily Leek
Family: Moraceae	
Broussonetia papyrifera	Paper Mulberry
Family: Nyssaceae	
Nyssa sylvatica	Black Gum
Family: Oleaceae	
Fraxinus pennsylvanica	Green Ash

Family: Poaceae		
	Muhlenbergia shreveri	Nimblewill
	Pennisetum sp.	Pennisetum
Family: Primulaceae		
	Lysimachia ciliata	Fringed Loosestrife
Family: Rosaceae		
	Photinia X fraseri	Photinia
Family: Scrophulariaceae		
	Penstemon digitalis	Beardtongue
Family: Tiliaceae		
	Tilia americana	American Linden
Family: Urticaceae		
	Urtica dioica	Stinging Nettle
Family: Verbenaceae		
	Clerodendrum trichotomum	Harlequin Glorybower

Fungi (9)

Ganoderma applanatum	Artist's Conk
Ganoderma sp.	Ganoderma
Lepiota naucina	Smooth Parasol Mushroom
Lepiota sp.	Parasol Mushroom
Physarum cinereum	Slime Mold
Scleroderma aurantium	Earthball
Scleroderma geaster (2)	Dead Man's Hand
Unidentified Genus	Slime Mold

All Others (4)

Algae
Crystalline Substance (2)
Insufficient Sample