The Plant Disease Clinic and Weed Identification Lab Annual Report 2012

Department of Plant Pathology, Physiology, and Weed Science
Virginia Polytechnic Institute and State University
Blacksburg, Virginia

The Plant Disease Clinic and Weed Identification Laboratory
2012 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 plant tissue, maintain records, answer the telephone, keep track of samples, and send out reports. In 2010, diagnoses in the Plant Disease Clinic in Blacksburg were performed by Mary Ann Hansen and Elizabeth Bush, with valuable assistance from Charlotte Oliver and Katie Dougherty.

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. Shawn Askew
Dr. Anton Baudoin
Dr. Jeff Derr
Ms. Katie Doughterty
Dr. Jon Eisenback
Dr. Gary Griffin
Dr. Scott Hagood
Mr. Lloyd Hipkins
Dr. Chuan Hong
Dr. Charles Johnson
Mr. David McCall
Dr. Mizuho Nita
Dr. Pat Phipps
Ms. Angela Post
Dr. Steven Rideout
Dr. Curt Roane
Dr. Erik Stromberg
Dr. Sue Tolin
Dr. Keith Yoder
Mr. Andrew Mike

Entomology
Mr. Eric Day
Dr. Thomas Kuhar
Dr. Doug Pfeiffer

Horticulture
Dr. Roger Harris
Dr. Joyce Latimer
Dr. Alex Niemiera
Dr. Mizuho Nita
Dr. Holly Scoggins
Dr. Greg Welbaum
Dr. Tony Wolf

Crop, Soil, and Environmental Sciences
Dr. Erik Ervin
Dr. John Fike
Dr. Michael Goatley
Mr. Steve Heckendorn
Ms. Pat Hipkins
Dr. Wade Thomasen

Biology
Mr. Tom Wieboldt

Fisheries and Wildlife
Dr. Jim Parkhurst

The Weed Identification Clinic is operated by Dr. Scott Hagood with the assistance of Ms. Angela Post, Mr. Lloyd Hipkins and Mr. Claude Kenley. 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. Andrew Mike for IT support during the year.

Katie Dougherty painstakingly compiled the annual report. The annual report 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. Plant specimens that were submitted to and diagnosed at the Agricultural Research and Extension Centers throughout the Commonwealth are not included in this report. Note that the number of diagnoses performed was higher than the number of samples received because some samples are diagnosed with 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 does 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, either diagnosed by an antibody test involving the use of immunostrips or they were sent to a private lab for antibody testing at a cost to the grower. 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 for 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 plant samples from which no pathogen could be isolated and for which no obvious environmental or cultural condition could be associated with the problem. Trees have more samples 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. Samples with known insect problems should be sent directly to the Insect ID Lab with the appropriate form.

We occasionally receive digital images or email messages regarding plant problems. For the most part, it is difficult to diagnose diseases without a 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. Total numbers of email and digital image inquiries are listed on p.13.

Reports are mailed electronically to the local Extension Office from which the sample originated. Upon request, we will simultaneously send electronic reports to one or more individual Extension personnel. Since implementing electronic mailing, we have discontinued faxing or mailing hard copies of reports. Relevant fact sheets for some diseases are available on the Web at http://pubs.ext.vt.edu/category/plant-diseases.html.

DISEASE HIGHLIGHTS 2012

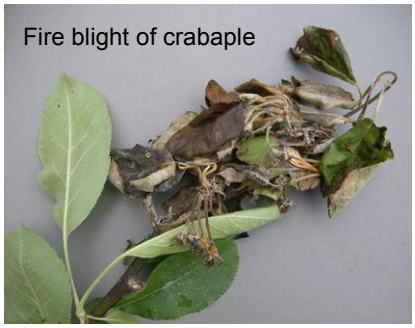
The Plant Disease Clinic (PDC) performed 1742 diagnoses on a total of 1553 samples in 2012. Diseases that were either prevalent in or new to Virginia in 2012, with additional detail on select diseases, are listed below.

Fruit Crops

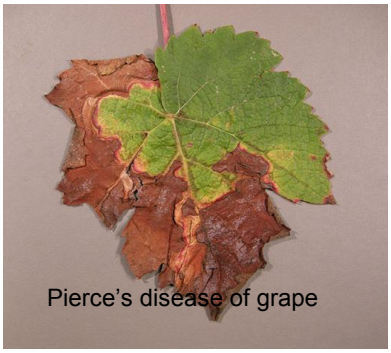
- Apple – bitter rot (*Glomerella cingulata*)
- Apple – cedar-apple rust (*Gymnosporangium juniper-virginianae*)
- Apple, Pear – fire blight (*Erwinia amylovora*)
- Blackberry – white drupelet disorder (abiotic)
- Grape – Pierce's disease (*Xylella fastidiosa*)
- Pear – pear leaf blister mites (mites)
- Strawberry – anthracnose crown rot (*Colletotrichum acutatum*)
- Strawberry – Phytophthora crown rot (*Phytophthora cactorum*)


Bitter rot of apple

Prolonged warm weather in the spring of 2012 provided favorable conditions for bitter rot of apple, and in some areas frequent rains reduced fungicide efficacy, leading to severe symptoms. These weather conditions also favored cedar-apple rust, which is present to some degree every year. Fire blight was common on both apple and pear in 2012, and even some ornamental pears, which have resistance to fire blight, developed symptoms. Pear leaf blister mite damage was mistaken for fungal leaf spot disease on several pear samples submitted to the Clinic. The mites cause puckered areas on the leaves that turn a dark brown color. Often there is a distinct pattern to the spots that helps to distinguish this damage from a leaf spot disease.


Fire blight of crabaple

Prolonged high temperatures in eastern Virginia in 2012 led to an abiotic problem called "white drupelet disorder" in blackberry. Clusters of drupelets of a berry appear white in contrast to normal ripe drupelets. This disorder is thought to be a result of high temperatures and high solar radiation. It is more common in raspberry than blackberry; however, the PDC received only blackberry samples with these symptoms. (Note that scattered, individual, white drupelets can be due to stinkbug or mite injury.) Pierce's disease, caused by a xylem-limited bacterium that is transmitted by sharpshooter insects, was prevalent in grapes. Symptoms of this disease vary with the season and variety, but may include stunting, delayed bud break, leaf scorch, wilt, uneven maturation of shoots, premature color development on berries, and decline of the roots and vine. The disease is more common following a mild winter, which favors vector survival, and vines that are stressed (e.g. drought-stressed) show the most severe symptoms. Mildly affected vines may recover in locations where freezing temperatures occur; however, severely infected vines usually die within 5 years of infection and should be removed.


Pierce's disease of grape

Strawberries are susceptible to several different crown rot diseases. In 2012, we received samples with anthracnose crown rot, caused by the fungus *Colletotrichum acutatum*, as well as several cases of Phytophthora crown rot, caused by the oomycete, *Phytophthora cactorum*. Anthracnose commonly comes in on new transplants, whereas Phytophthora crown rot tends to be a problem in wet or poorly drained soils. Both cause a reddish brown internal rot of the crown, which leads to wilting and death of the plants. Crown rot caused by *Phytophthora cactorum* often starts from the top of the crown and moves down.


Phytophthora crown rot of strawberry

Herbaceous Ornamentals

- Various species – black root rot (*Thielaviopsis basicola*)
- Impatiens Downy Mildew (*Plasmopara obducens*)

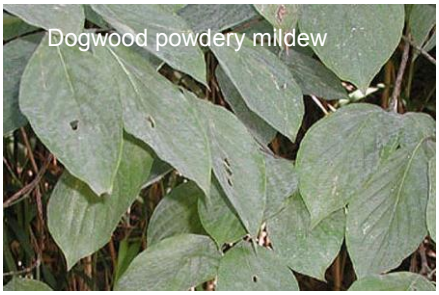

Impatiens downy mildew

The fungal disease, black root rot, is common on certain hollies, including Japanese holly (Ilex crenata) and inkberry (Ilex glabra); however, it also occurs on many herbaceous species as well. Black root rot was diagnosed on coral bells and columbine in 2012. A new disease for Virginia, impatiens downy mildew, was diagnosed on garden impatiens (*Impatiens walleriana*) for the first time in 2012. This disease results in yellowing and severe defoliation of impatiens. Plants also develop a wet stem rot. The disease had been found only in commercial production prior to 2011, but became epidemic in both commercial and landscape settings in Virginia in 2012. Although New Guinea impatiens is resistant to the disease, garden impatiens is highly susceptible. No resistant varieties of garden impatiens are available at this time and fungicides are effective only if applied preventatively. (Note that downy mildews occur on other plant species as well, but impatiens downy mildew is specific to impatiens.)


Impatiens downy mildew

Trees

- Dogwood – powdery mildew (*Oidium* sp.)
- Oak – leaf blister (*Taphrina caerulescens*)
- Oak – leaf button galls (insects)
- Pine – Dothistroma needle blight (*Dothistroma pini*)
- Spruce –Rhizosphaera needle blight (*Rhizosphaera kalkhoffii*)
- Spruce – Stigmina needle blight (*Stigmina lautii*)


Dogwood powdery mildew

Powdery mildew of dogwood, which has been found in Virginia since the early 1990's, has occurred on dogwoods to some extent every year since then; however, the number of samples diagnosed by the PDC was especially high in 2012. Powdery mildews of other plant species tend to be very visible and easy to diagnose, but on dogwood, symptoms are subtle. Leaves often simply look water-stressed, exhibiting general browning, early fall coloration and puckering or downward curling. The white, powdery, fungal growth on leaf and bud surfaces that is so obvious with other powdery mildews may only be visible with magnification on dogwoods.

Spring rains favored oak leaf blister, a fungal disease. Light green, scattered "blisters" are visible on leaves in early spring. Later in the season the blisters turn brown and look like other fungal leaf spots. In years with favorable weather conditions, significant leaf drop may occur; however, this disease does not pose a long-term threat to the health of the trees unless trees are defoliated several years in a row. Oak leaf button galls were also prevalent on oaks in 2012. These galls are caused by an insect, but may be mistaken for a leaf disease. The galls often drop off the leaf, leaving a small, round, brown spot. Dothistroma needle blight, a fungal disease, was prevalent on pines, especially Austrian pine (*Pinus nigra*). Symptoms on needles are usually first visible in late summer or fall following earlier spring infection. Spots girdle the needle, which turns brown above the spot, while the base of the needle remains green. Eventually whole needles turn brown and fall from the tree. Two needle diseases of spruce, Rhizosphaera needle blight and Stigmina needle blight, were common on blue spruce (*Picea pungens*). Both of these fungal diseases affect the older needles, causing the interior needles to turn brown and eventually drop.


Oak leaf blister

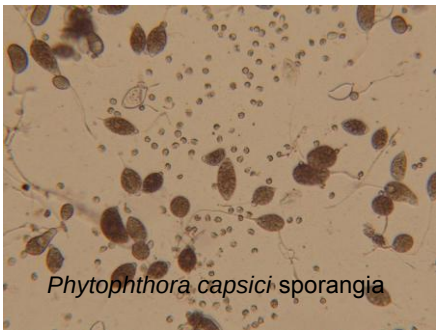

Rhizosphaera needle blight


Dothistroma needle blight

Vegetables

- Basil – downy mildew (*Plasmopara belbahrii*)
- Cucumber – downy mildew (*Pseudoperonospora cubensis)*
- Pumpkin, Squash – Phytophthora Crown and Root Rot, Fruit Rot (*Phytophthora capsici*)
- Tomato – Fusarium wilt (*Fusarium oxysporum*)
- Tomato – bacterial wilt (*Ralstonia solanacearum*)
- Tomato – chemical injury due to growth regulator herbicides
- Tomato, Potato – late blight (*Phytophthora infestans*)
- Tomato – Septoria leaf spot (*Septoria lycopersici*)
- Tomato – Tomato Spotted Wilt Virus

Basil downy mildew causes a general discoloration of basil leaves that can be mistaken for water stress or nutrient deficiency. The downy mildew pathogen produces spores on the lower leaf surface, which can be seen with magnification; however, symptoms may be present without sporulation. Basil downy mildew has only recently been found in the United States, but has since spread to most basil-growing areas on the East Coast. No resistant varieties are available and many fungicides are not registered for use on herbs. For greenhouse-grown basil, controlling environmental conditions is crucial. Avoiding prolonged leaf wetness by watering early in the day and ventilating well are important control measures. Downy mildew of cucurbits was also prevalent in 2012. This downy mildew is a different species than the downy mildew that attacks basil. It typically is blown in on wind currents from areas south of Virginia. Dense plant canopies, which favor high humidity, are conducive to the disease. Adequate plant spacing, resistant varieties of some cucurbit species, and fungicides can be used for disease control.


Phytophthora capsici sporangia

The PDC received samples of pumpkin and squash with Phytophthora crown and root rot and Phytophthora root rot. Phytophthora diseases are mainly a problem in cucurbits under wet field conditions. The pathogen can also rot fruit in contact with the soil. Once the disease occurs in a field, the pathogen can overwinter and infect plants the following year, so rotation with crops other than cucurbits or solanaceous crops is recommended. Cucurbits should be planted in well-drained soil or planted on raised mounds so that water does not form around the base of the plants.


Phytophthora fruit rot on pumpkin

Several wilt diseases were prevalent in tomato in 2012, including Fusarium wilt and bacterial wilt. Both pathogens infect the xylem or water-conducting vessels of the plant and impede water flow to leaves. Resistant varieties of tomato are commercially available for Fusarium wilt, but bacterial wilt resistance is limited. Both pathogens are soil-borne and rotation with nonsolanaceous crops is recommended. Care should be taken to avoid transporting soil from infested to non-infested areas. Late blight also occurred in tomatoes in many areas of Virginia in 2012. This disease affects leaves, stems and fruit, and can spread rapidly when the weather is cool and wet. Fungicides are effective if applied preventatively; however, once symptoms are noticed, it is usually too late for effective control.


Bacterial wilt on tomato


Late blight on tomato

Some resistant varieties are available. Septoria leaf spot was widespread and severe in 2012. This fungal disease starts as a browning of lower leaves and symptoms appear to move up the plant. Severe spotting causes total browning of the leaves. The fungus does not infect the fruit, but can cause serious yield loss. Preventative fungicides, applied on a regular basis, will control this disease. Tomato Spotted Wilt Virus (TSWV) can also cause leaf spotting, but, in contrast to Septoria leaf spot, the spots appear on younger leaves. Fruit of plants infected with TSWV may also develop severe distortion with brown ring spots. This viral disease is transmitted by thrips and plants are often infected in the greenhouse prior to transplanting to the field. Thrips control in the greenhouse is the best way to avoid this disease. The PDC also received many cases of growth regulator

herbicide injury to tomato plants in home gardens in 2012. The severe distortion associated with this type of injury is often caused by herbicide residues in compost, mulch or manure from animals that fed on treated pasture. Tomato plants are especially sensitive to growth regulator herbicides. Care should be taken to research the history of compost, mulch or manure used in home gardens prior to application to avoid using products that are contaminated by herbicide residues.

Woody Ornamentals

- Rose – downy mildew (*Peronspora sparsa*)
- Rose – Cercospora leaf spot (*Cercospora rosicola*)

Downy mildew was common not only in vegetable crops, but also in roses in 2012. The rose downy mildew pathogen is a different species from the downy mildews that affect cucurbits and basil; however, it is favored by the same environmental conditions: cool, humid weather. Downy mildew is especially difficult to diagnose on roses because it produces very few spores, hence the Latin name, *Peronospora "sparsa*". It can remain dormant in rose stems for long periods of time. Maintaining low humidity and high temperatures in the greenhouse can help to prevent this disease. Another disease diagnosed in roses in 2012 was Cercospora leaf spot, a fungal disease that could be confused with black spot, a different but common disease of roses.

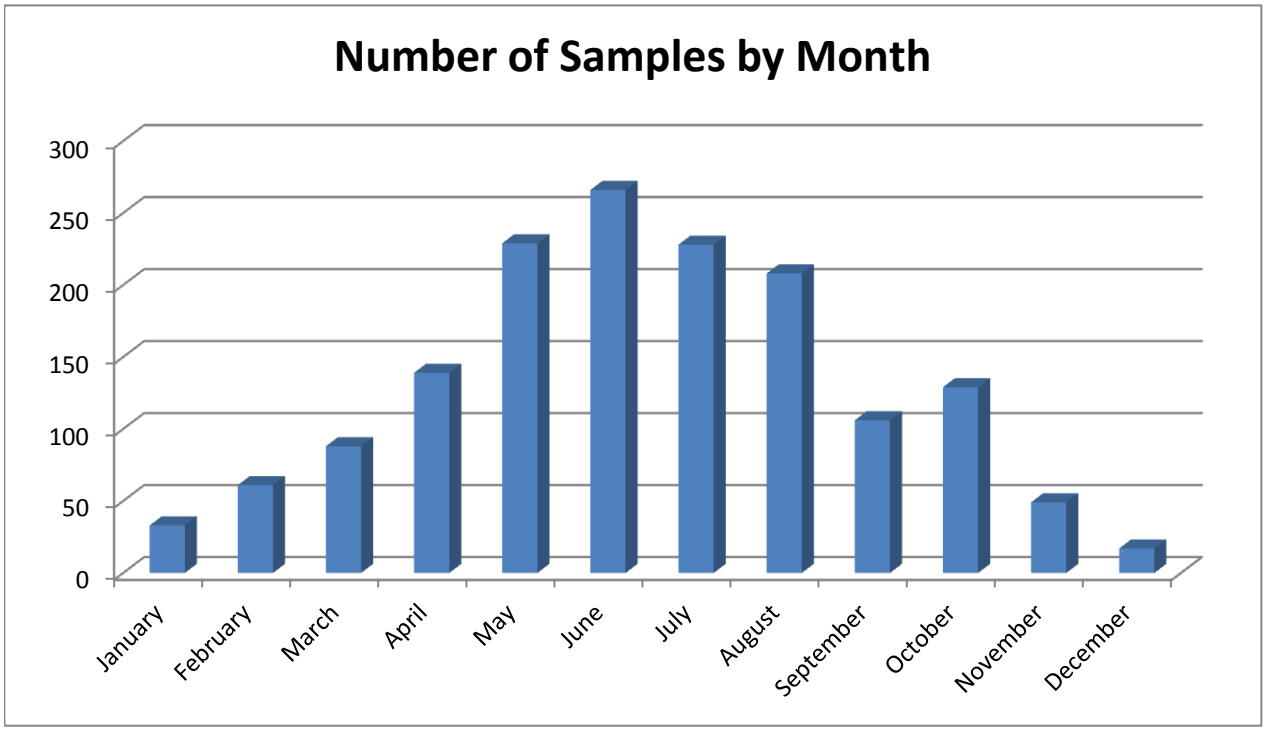
Downy mildew on rose

New Clinic Records for 2012:

- Impatiens – impatiens downy mildew (*Plasmospara obducens*)
- Blackberry – white drupelet disorder (abiotic)

Monthly Submission Summary

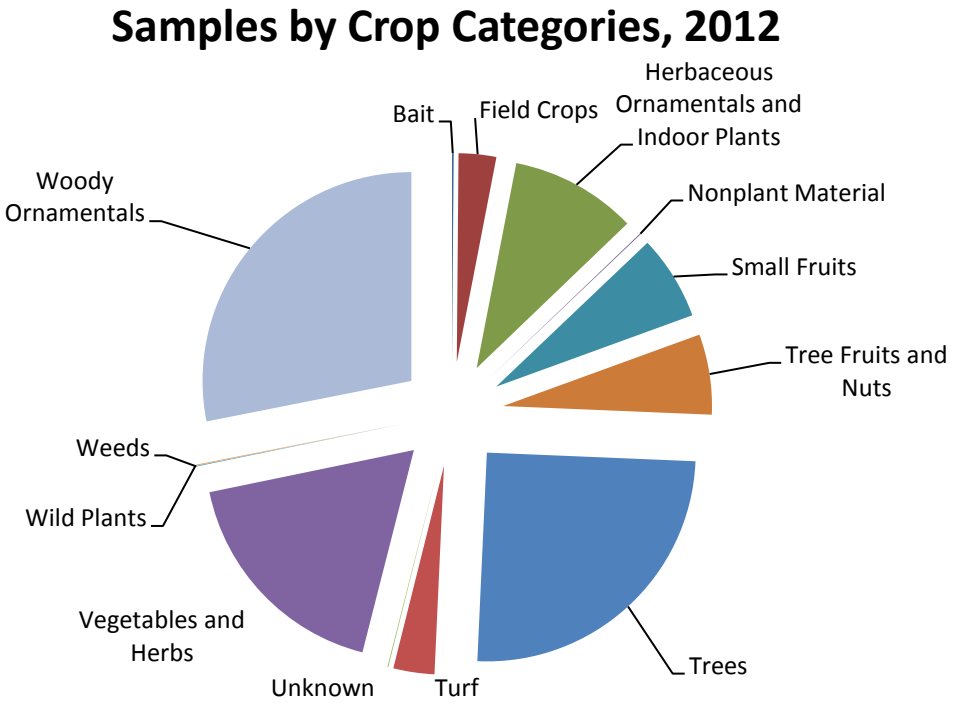
Month	# Samples
January	33
February	61
March	88
April	139
May	229
June	266
July	228
August	208
September	106
October	129
November	49
December	17
Total	**1,553**



Crop Category Summary for Diagnostic Samples

Sample totals by major crop categories e xcluding plant identification

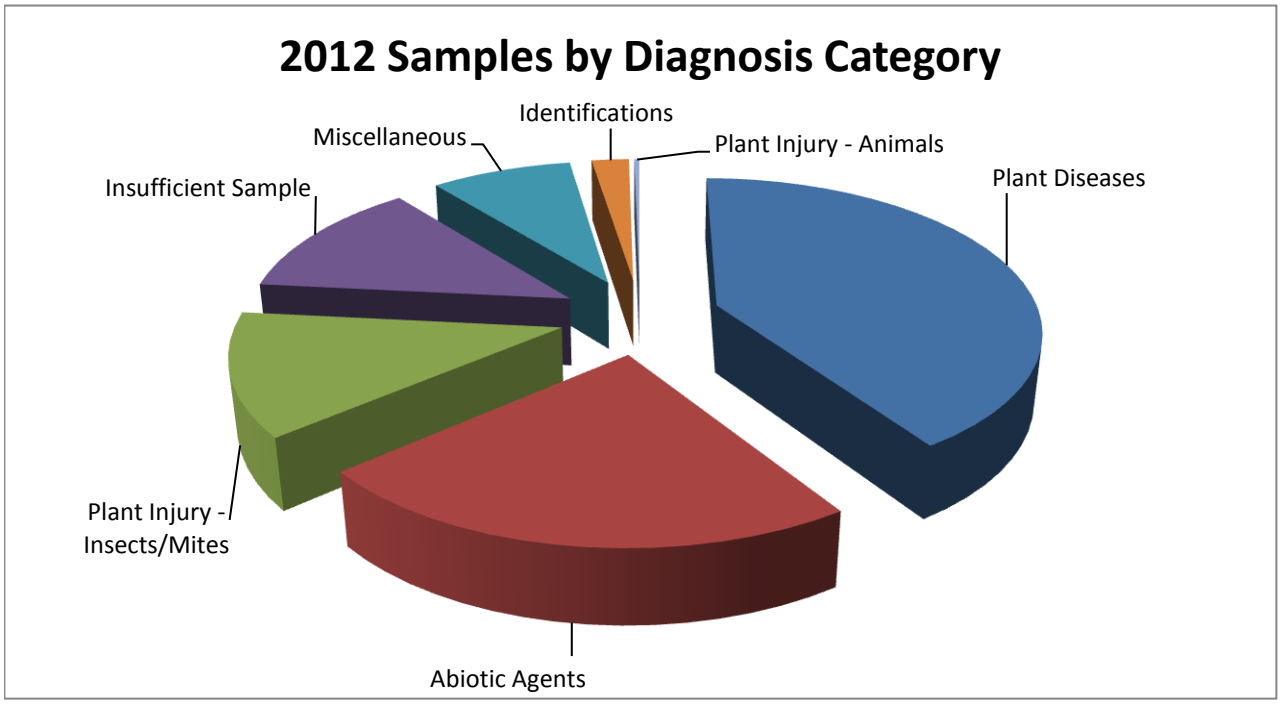
Crop Category	# of Samples	% of Total
Bait	2	0.1
Field Crops	44	2.9
Herbaceous Ornamentals and Indoor Plants	148	9.8
Nonplant Material	1	0.1
Small Fruits	99	6.5
Tree Fruits and Nuts	94	6.2
Trees	379	25.1
Turf	48	3.2
Unknown	1	0.1
Vegetables and Herbs	269	17.8
Weeds	1	0.1
Wild Plants	1	0.1
Woody Ornamentals	425	28.1
Total	**1,512**	
Diagnosis samples with no crop category entered	**1**	

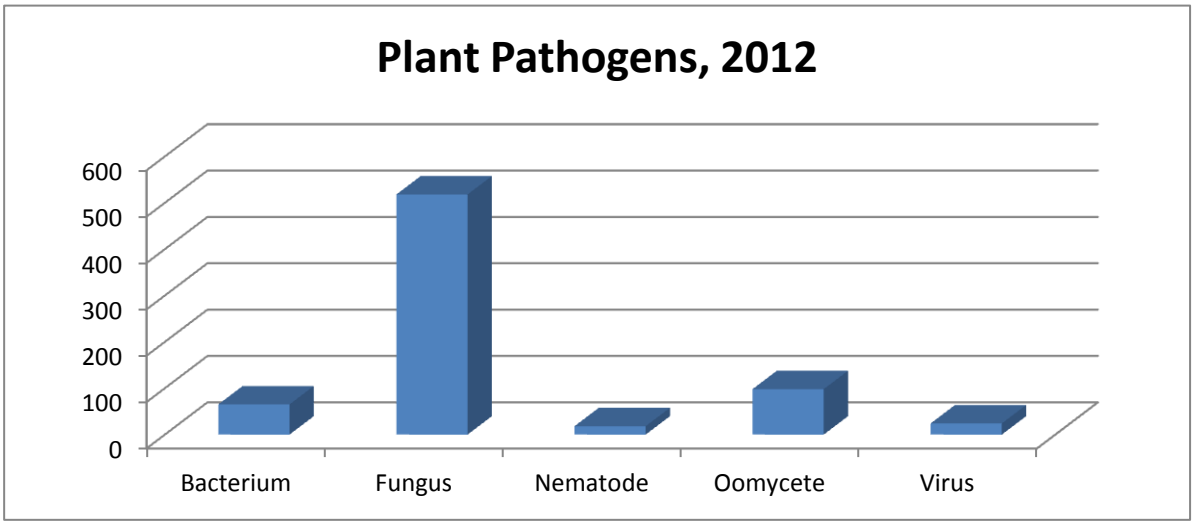


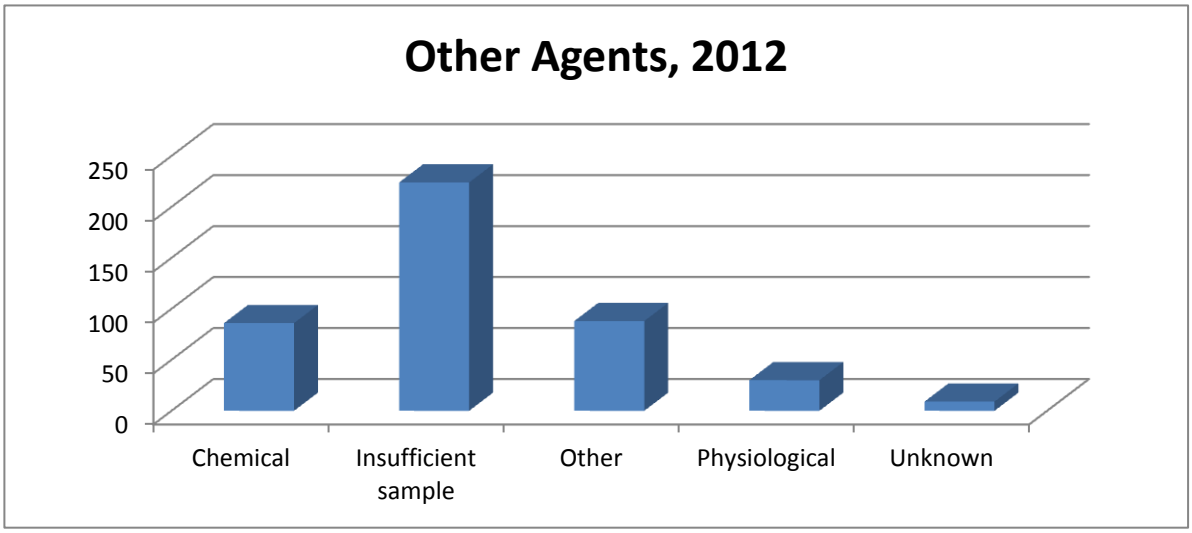
Diagnosis/Identification Category Summary

	# of Diagnoses/IDs	% of Total
Plant Diseases - Biotic Agents	**687**	**40.7**
Bacterium	65	
Fungus	518	
Nematode	18	
Oomycete	98	
Virus	24	
Plant Injury - Abiotic Agents	**411**	**23.1**
Chemical	86	
Environmental/Cultural	315	
Mechanical	10	
Plant Injury - Insects or Mites	**228**	**12.8**
Insects or Mites	228	
Insufficient Sample or Cause Unknown	**224**	**12.6**
Insufficient sample or information	215	
Unknown	9	
Miscellaneous	**148**	**8.3**
Algae	2	
Lichen	8	
Moss	1	
Normal Condition	18	
Other	88	
Physiological/Genetic	30	
Phytoplasma	1	
Identifications	**39**	**2.2**
Bacterium	1	
Fungi	12	
Other Substance	4	
Plant	21	
Unable to Identify	1	
Plant Injury - Animals	**5**	**0.3**
Birds	1	
Mammals	4	
Total	**1778**	
Identifications with no Identification Category entered	**1**	

Other Assistance, 2012	
Type	# of Inquires
Email	111
Digital Images	93
Phone Calls	102


2012 Samples by Diagnosis Category
Identifications
Miscellaneous
Plant Injury - Animals
Insufficient Sample
Plant Diseases
Plant Injury - Insects/Mites
Abiotic Agents


Plant Pathogens, 2012
600
500
400
300
200
100
0
Bacterium
Fungus
Nematode
Oomycete
Virus


Other Agents, 2012
250
200
150
100
50
0
Chemical
Insufficient sample
Other
Physiological
Unknown

County	# of Samples
Out of State	1
ACCOMACK	8
ALBEMARLE	56
ALEXANDRIA CITY	1
ALLEGHANY	9
AMELIA	6
APPOMATTOX	4
ARLINGTON	8
AUGUSTA	19
BATH	1
BEDFORD	15
BLAND	1
BOTETOURT	21
BRUNSWICK	3
BUCKINGHAM	1
CAMPBELL	13
CAROLINE	7
CARROLL	1
CHARLES CITY	4
CHESAPEAKE CITY	34
CLARKE	1
CRAIG	6
CULPEPER	6
DANVILLE CITY	9
DICKENSON	6
DINWIDDIE	2
ESSEX	5
FAIRFAX	19
FAUQUIER	15
FLOYD	17
FLUVANNA	16
FRANKLIN	33
FREDERICK	35
GILES	8
GLOUCESTER	15
GOOCHLAND	27
GRAYSON	1
GREENE	14
GREENSVILLE	15
HALIFAX	4
HAMPTON CITY	40
HANOVER	45
HENRICO	69
HENRY	4
HIGHLAND	1
JAMES CITY	23
KING AND QUEEN	2
KING GEORGE	1
KING WILLIAM	4

County	# of Samples
LANCASTER	7
LEE	2
LOUDOUN	15
LOUISA	41
LYNCHBURG CITY	37
MADISON	5
MATHEWS	3
MECKLENBURG	3
MIDDLESEX	9
MONTGOMERY	130
NELSON	80
NEW KENT	18
NEWPORT NEWS CITY	4
NORFOLK CITY	12
NORTHUMBERLAND	33
NOTTOWAY	12
ORANGE	3
PAGE	3
PATRICK	9
PETERSBURG CITY	1
PITTSYLVANIA	22
PORTSMOUTH CITY	11
POWHATAN	20
PRINCE GEORGE	2
PRINCE WILLIAM	17
PULASKI	4
RAPPAHANNOCK	16
RICHMOND CITY	3
ROANOKE	40
ROCKBRIDGE	10
ROCKINGHAM	42
RUSSELL	5
SCOTT	6
SHENANDOAH	4
SOUTHAMPTON	5
SPOTSYLVANIA	54
STAFFORD	46
SUFFOLK CITY	2
SURRY	1
SUSSEX	3
TAZEWELL	4
VIRGINIA BEACH	28
WARREN	5
WASHINGTON	6
WESTMORELAND	39
WISE	13
WYTHE	5
YORK	57
Total	**1,553**

Diagnosis Appendix

Information about diseases/pests diagnosed by the laboratory

Field Crops		
Alfalfa		
1	Leptosphaerulina Leaf Spot	*Leptosphaerulina briosiana*
1	Sclerotinia Crown and Root Rot	*Sclerotinia trifoliorum*
1	Suspect Nutrient Imbalance	
3	**Total for Alfalfa**	
Barley		
1	High pH	
1	**Total for Barley**	
Corn		
2	Chemical Injury	
1	Gray Leaf Spot	*Cercospora zeae-maydis*
1	Low pH	
3	Nitrogen Deficiency	
1	Northern Corn Leaf Blight	*Setosphaeria turcica*
1	Potassium Deficiency	
1	Southern Corn Leaf Blight	*Bipolaris maydis*
10	**Total for Corn**	
Fescue		
2	Negative for Disease	
2	**Total for Fescue**	
Hay		
1	Chemical Residue Injury	
1	Stagonospora Leaf Spot	*Stagonospora sp.*
2	**Total for Hay**	
Orchardgrass		
2	Anthracnose	*Colletotrichum graminicola*
2	Leaf Streak	*Cercosporidium graminis*
1	Low pH	
5	**Total for Orchardgrass**	
Sorghum		
2	Physiological Leaf Spot	
2	**Total for Sorghum**	

Soybean		
3	Charcoal Rot	*Macrophomina phaseolina*
1	Chemical Injury	
2	Essex Syndrome	*Fusarium oxysporum*
1	High pH	
1	Insufficient Sample	
1	Lance Nematodes	*Hoplolaimus sp.*
1	Leafhoppers	
2	Negative for Disease	
1	Root Knot Nematodes	*Meloidogyne incognita*
1	Soybean Vein Necrosis Virus	
1	Stinkbugs	
1	Suspect Boron Toxicity	
16	**Total for Soybean**	

Tobacco		
1	Black Shank	*Phytophthora nicotianae*
1	Brown Spot	*Alternaria alternata*
1	Thrips	
3	**Total for Tobacco**	

Wheat		
1	Ascochyta Leaf Spot	*Ascochyta tritici*
1	Barley Yellow Dwarf Virus	
1	Frost Injury	
1	Insufficient Sample	
1	Low pH	
1	Scab	*Fusarium graminearum*
1	Tan Spot	*Pyrenophora tritici-repentis*
7	**Total for Wheat**	

Herbaceous Ornamentals and Indoor Plants		
African Violet		
1	Insects	
1	**Total for African Violet**	
Agastache		
1	Abiotic Problem	
1	Insufficient Sample	
2	**Total for Agastache**	
Ajuga		
1	Phytophthora Root Rot	*Phytophthora nicotianae*
1	Southern Blight	*Sclerotium rolfsii*
2	**Total for Ajuga**	
Anemone		
1	Suspect Chemical Injury	
1	**Total for Anemone**	
Arabidopsis		
1	High Soluble Salts	
1	Thrips	
2	**Total for Arabidopsis**	
Astilbe		
1	Abiotic Problem	
1	**Total for Astilbe**	
Bedding Plants, Miscellaneous		
1	Insufficient Sample	
1	Suspect Chemical Injury	
2	**Total for Bedding Plants, Miscellaneous**	
Bee Balm		
1	Insects	
1	**Total for Bee Balm**	
Begonia		
1	Environmental Stress	
1	**Total for Begonia**	
Black-eyed Susan		
1	Aphids	
1	Insufficient Sample	
2	**Total for Black-eyed Susan**	

Celosia		
1	Genetic Trait	
1	**Total for Celosia**	

Chinese Fringe Flower		
1	Artillery Fungus	*Sphaerobolus stellatus*
1	**Total for Chinese Fringe Flower**	

Chrysanthemum		
1	Pythium Stem and Root Rot	*Pythium sp.*
1	**Total for Chrysanthemum**	

Coleus		
1	Rhizoctonia Root Rot	*Rhizoctonia solani*
1	**Total for Coleus**	

Columbine		
1	Black Root Rot	*Thielaviopsis basicola*
1	**Total for Columbine**	

Coneflower		
1	Abiotic Problem	
1	Fusarium Crown and Root Rot	*Fusarium sp.*
1	Insufficient Sample	
1	Negative for Aster Yellows	
1	Negative for Disease	
1	Suspect Coneflower Rosette Mite	
6	**Total for Coneflower**	

Coral Bells		
1	Black Root Rot	*Thielaviopsis basicola*
1	Botrytis Blight	*Botrytis cinerea*
1	Negative for Disease	
3	**Total for Coral Bells**	

Coreopsis		
1	Physiological Leaf Spot	
1	Powdery Mildew	*Oidium sp.*
2	**Total for Coreopsis**	

Creeping Jenny		
1	Cultural Problem	
1	**Total for Creeping Jenny**	

Dahlia		
1	Abiotic Problem	
1	Pythium Root Rot	*Pythium sp.*
1	Rhizoctonia Root and Tuber Rot	*Rhizoctonia sp.*
3	**Total for Dahlia**	

Daisy		
1	Healthy	
1	**Total for Daisy**	

Daylily		
2	Leaf Streak	*Aureobasidium microstictum*
2	**Total for Daylily**	

Dianthus		
2	Environmental Stress	
1	Pythium Root and Stem Rot	*Pythium spp.*
3	**Total for Dianthus**	

Euphorbia		
1	Botrytis Blight	*Botrytis cinerea*
1	**Total for Euphorbia**	

Fern		
1	Abiotic Problem	
1	Environmental Stress	
1	Negative for Disease	
1	Suspect Cultural Problem	
4	**Total for Fern**	

Fountain Grass		
1	Insects	
1	Insufficient Sample	
1	Weed Encroachment	
3	**Total for Fountain Grass**	

Gaillardia		
1	Thrips	
1	**Total for Gaillardia**	

Gardenia		
1	Insects	
1	Insufficient Sample	
1	Negative for Root Disease	
1	No Disease Found	
1	Normal Condition	
1	Phytophthora Root Rot	*Phytophthora nicotianae*
1	Sooty Mold	
7	**Total for Gardenia**	

Gaura		
1	Physiological Leaf Spot	
1	**Total for Gaura**	

Geum		
1	Physiological Leaf Spot	
1	**Total for Geum**	

Golden Toadlily		
1	Cultural Problem	
1	**Total for Golden Toadlily**	

Hellebore		
1	Abiotic Problem	
1	Pythium Root Rot	*Pythium sp.*
1	Suspect Genetic Abnormality	
3	**Total for Hellebore**	

Hen and Chickens		
1	Negative for Virus	
1	**Total for Hen and Chickens**	

Hollyhock		
1	Rust	*Puccinia malvacearum*
1	**Total for Hollyhock**	

Hops		
1	Cultural Problem	
1	Mites	
2	**Total for Hops**	

Hyacinth		
1	Sour Mulch	
1	**Total for Hyacinth**	

Impatiens		
1	Chemical Injury	
8	Downy Mildew	*Plasmopara obducens*
1	Impatiens Necrotic Spot Virus	
1	Negative for Virus	
2	Thrips	
13	**Total for Impatiens**	

Iris		
1	Bacterial Soft Rot	*Erwinia sp.*
1	Insects	
2	**Total for Iris**	

Jacob's Ladder		
1	Phytophthora Root Rot	*Phytophthora sp.*
1	**Total for Jacob's Ladder**	

Jade		
1	Oedema	
1	**Total for Jade**	

Lantana		
1	Pythium Root Rot	*Pythium sp.*
1	**Total for Lantana**	

Lavender		
1	Bacterial Leaf Spot	*Xanthomonas campestris*
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
2	Gray Mold	*Botrytis cinerea*
1	Insufficient Sample	
1	Negative for Disease	
6	**Total for Lavender**	

Liriope		
1	Anthracnose	*Colletotrichum sp.*
3	Fusarium Crown and Leaf Rot	*Fusarium sp.*
4	**Total for Liriope**	

Lupine		
1	Fusarium Crown Rot	*Fusarium oxysporum*
1	Nitrogen-fixing Nodules	*Bradyrhizobium sp.*
2	**Total for Lupine**	

Madagascar Periwinkle		
1	Cultural Problem	
1	**Total for Madagascar Periwinkle**	

Mandevilla		
1	Cultural Problem	
1	**Total for Mandevilla**	

Marigold		
1	Mammalian Injury	
1	**Total for Marigold**	

Marjoram		
1	Botrytis Blight	*Botrytis cinerea*
1	**Total for Marjoram**	

Orchid		
1	Anthracnose	*Colletotrichum sp.*
1	Fusarium Wilt	*Fusarium sp.*
2	**Total for Orchid**	

Pachysandra		
1	Volutella Blight	*Volutella pachysandrae*
1	**Total for Pachysandra**	

Pansy		
1	Botrytis Blight	*Botrytis cinerea*
1	High pH	
1	Low Soluble Salts	
3	**Total for Pansy**	

Passionflower		
1	Negative for Virus	
1	Thrips	
2	**Total for Passionflower**	

Penstemon		
1	Pythium Root Rot	*Pythium sp.*
1	**Total for Penstemon**	

Peony		
1	Chemical Injury	
1	Insufficient Sample	
1	Negative for Root Disease	
1	Rhizoctonia Root and Stem Rot	*Rhizoctonia solani*
1	Suspect Tobacco Rattle Virus	
5	**Total for Peony**	

Perilla		
1	Downy Mildew	*Peronospora sp.*
1	**Total for Perilla**	

Periwinkle		
1	Abiotic Problem	
2	Negative for Disease	
2	Phoma Dieback	*Phoma sp.*
1	Phyllosticta Stem Rot	*Phyllosticta sp.*
1	Phyllosticta Stem Rot and Leaf Spot	*Phyllosticta sp.*
7	**Total for Periwinkle**	

Persian Shield		
1	Pythium Root Rot	*Pythium sp.*
1	**Total for Persian Shield**	

Petunia		
2	Insufficient Sample	
3	Phytophthora Root Rot	*Phytophthora nicotianae*
1	Rhizoctonia Root and Stem Rot	*Rhizoctonia sp.*
6	**Total for Petunia**	

Philodendron		
1	Insects	
1	Suspect Cultural Problem	
2	**Total for Philodendron**	

Phlox		
1	Negative for Foliar Disease	
1	Pythium Root Rot	*Pythium sp.*
2	**Total for Phlox**	

Physostegia		
1	Southern Blight	*Sclerotium rolfsii*
1	**Total for Physostegia**	

Plant, Unknown		
1	Insufficient Information	
1	**Total for Plant, Unknown**	

Plants, Miscellaneous		
1	Insufficient Sample	
1	Sour Mulch	
2	**Total for Plants, Miscellaneous**	

Ranunculus		
1	Pythium Root Rot	*Pythium sp.*
1	**Total for Ranunculus**	

Red Hot Poker		
1	Low pH	
1	**Total for Red Hot Poker**	

Rockfoil		
1	Web Blight	*Rhizoctonia solani*
1	**Total for Rockfoil**	

Rudbeckia		
2	Insufficient Sample	
1	Pythium Root Rot	*Pythium sp.*
1	Septoria Leaf Spot	*Septoria rudbeckiae*
4	**Total for Rudbeckia**	

Sedum		
3	Fusarium Stem Rot	*Fusarium sp.*
3	**Total for Sedum**	

Snapdragon		
1	Pythium Root Rot	*Pythium sp.*
1	**Total for Snapdragon**	

Violet		
1	Botrytis Blight	*Botrytis cinerea*
1	Phytophthora Crown Rot	*Phytophthora nicotianae*
2	**Total for Violet**	

Small Fruits		
Blackberry		
2	Borers	
1	Botryosphaeria Cane Canker	*Botryosphaeria dothidea*
1	Cane and Leaf Rust	*Kuehneola uredinis*
1	Cane Botrytis	*Botrytis cinerea*
1	Girdling Roots	
1	Gray Mold	*Botrytis cinerea*
3	Insufficient Sample	
1	Mites	
1	Suspect Raspberry Leaf Curl Virus	*Raspberry Leaf Curl Virus*
5	White Drupelet Disorder	
17	**Total for Blackberry**	
Blueberry		
1	Abiotic Problem	
3	Environmental Stress	
3	High Soluble Salts	
3	Insects	
5	Insufficient Sample	
6	Low pH	
1	Negative for Bacterial Leaf Scorch	*Xylella fastidiosa*
3	Negative for Disease	
3	Phytophthora Root Rot	*Phytophthora cinnamomi*
2	Scorch	
1	Suspect Insects	
31	**Total for Blueberry**	
Fig		
2	Insufficient Sample	
2	**Total for Fig**	

Grape		
2	Bitter Rot	*Greeneria uvicola*
4	Black Rot	*Guignardia bidwellii*
2	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Cause of Problem Unknown	
4	Downy Mildew	*Plasmopara viticola*
1	Flea Beetles	
1	Fungal Growth on Medium	
1	Grape Berry Moths	
2	Insufficient Sample	
1	Negative for Disease	
7	Negative for Pierce's Disease	
1	Petri Disease	*Phaeoacremonium aleophilum*
1	Petri Disease	*Phaeoacremonium sp.*
1	Phomopsis Cane and Leaf Blight	*Phomopsis viticola*
1	Phylloxera Galls	
4	Pierce's Disease	*Xylella fastidiosa*
2	Powdery Mildew	*Uncinula necator*
1	Ripe Rot	*Colletotrichum gloeosporioides*
2	Sunburn	
1	Suspect Chemical Injury	
1	Suspect Nutrient Deficiency	
1	Suspect Pierce's Disease	*Xylella fastidiosa*
42	**Total for Grape**	

Raspberry		
1	Abiotic Problem	
2	Cane Blight	*Coniothyrium fuckellii*
1	Cultural Problem	
1	Insufficient Sample	
1	Mites	
1	Negative for Root Disease	
1	Scorch	
1	Suspect Nutrient Deficiency	
9	**Total for Raspberry**	

Strawberry		
3	Anthracnose Crown Rot	*Colletotrichum gloeosporioides*
1	Cause of Problem Unknown	
1	Cultural Problem	
2	Cylindrical Strawberry Gall	
1	High Soluble Salts	
2	Leaf Spot	*Mycosphaerella fragariae*
1	Mites	
2	Negative for Disease	
2	Phytophthora Crown Rot	*Phytophthora cactorum*
1	Pythium Root Rot	*Pythium sp.*
1	Suspect Angular Leaf Spot	*Xanthomonas fragariae*
17	**Total for Strawberry**	

Tree Fruits and Nuts		
Apple		
4	Bitter Rot	*Glomerella cingulata*
1	Black Rot	*Physalospora obtusa*
10	Cedar-Apple Rust	*Gymnosporangium juniperi-virginianae*
1	Cedar-Quince Rust	*Gymnosporangium clavipes*
8	Fire Blight	*Erwinia amylovora*
1	Frogeye Leaf Spot	*Physalospora obtusa*
2	Insects	
5	Insufficient Sample	
1	Phomopsis Canker	*Phomopsis sp.*
1	Powdery Mildew	*Podosphaera leucotricha*
1	Scales	
35	**Total for Apple**	
Apricot		
1	Insufficient Sample	
1	**Total for Apricot**	
Asian Pear		
1	Fire Blight	*Erwinia amylovora*
1	**Total for Asian Pear**	
Cherry		
1	Cherry Leaf Curl	*Taphrina sp.*
1	Insufficient Sample	
1	Mycosphaerella Leaf Spot	*Mycosphaerella sp.*
1	White Rot	*Trametes versicolor*
4	**Total for Cherry**	
Chestnut		
1	Colletotrichum on Nuts	*Colletotrichum sp.*
1	**Total for Chestnut**	
Common Medlar		
1	Cedar-Quince Rust	*Gymnosporangium clavipes*
1	**Total for Common Medlar**	
Crabapple		
1	Cedar-Apple Rust	*Gymnosporangium juniperi-virginianae*
1	Cedar-Quince Rust	*Gymnosporangium clavipes*
1	Cicada Injury	
1	Fire Blight	*Erwinia amylovora*
1	Insufficient Sample	
1	Lichens	
6	**Total for Crabapple**	

Loquat		
1	Eriophyid Mites	
1	**Total for Loquat**	

Mulberry		
1	Cause of Problem Unknown	
1	Mites	
1	Mycosphaerella Leaf Spot	*Mycosphaerella mori*
1	Negative for Disease	
1	Popcorn Disease	*Ciboria carunculoides*
1	Suspect Bacterial Leaf Scorch	*Xylella fastidiosa*
6	**Total for Mulberry**	

Nectarine		
1	Abiotic Problem	
1	**Total for Nectarine**	

Peach		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
3	Brown Rot	*Monilinia fructicola*
1	Cicada Injury	
1	Cultural Problem	
4	Curculios	
1	Frost Injury	
3	Insects	
1	Oriental Fruit Moth	
1	Peach Leaf Curl	*Taphrina deformans*
2	Physiological Leaf Spot	
1	Powdery Mildew	*Oidium sp.*
3	Scab	*Cladosporium carpophilum*
1	Suspect Brown Rot	*Monilinia fructicola*
1	Suspect Cultural Problem	
1	Wood Decay	
25	**Total for Peach**	

Pear		
3	Cedar-Quince Rust	*Gymnosporangium clavipes*
8	Fire Blight	*Erwinia amylovora*
1	Hawthorn Rust	*Gymnosporangium globosum*
1	Insects	
1	Insufficient Sample	
1	Mycosphaerella Leaf Spot	*Mycosphaerella sp.*
1	Negative for Disease	
2	Pear Leaf Blister Mites	
2	Suspect Wood Decay	
20	**Total for Pear**	

Pecan		
1	Mites	
1	Scab	*Cladosporium caryigenum*
2	**Total for Pecan**	

Persimmon		
1	Anthracnose	*Colletotrichum sp.*
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Insufficient Sample	
3	**Total for Persimmon**	

Plum		
2	Black Knot	*Dibotryon morbosum*
1	Brown Rot	*Monilinia fructicola*
1	Insects	
1	Insufficient Sample	
1	Negative for Disease	
1	Suspect Cultural Problem	
7	**Total for Plum**	

Pomegranate		
1	Chemical Injury	
1	**Total for Pomegranate**	

Trees		
Arborvitae		
2	Bagworms	
2	Cultural Problem	
1	Environmental Stress	
4	Insufficient Sample	
3	Mites	
5	Negative for Disease	
1	Phytophthora Root Rot	*Phytophthora sp.*
2	Suspect Cultural Problem	
1	Suspect Dog Urine Injury	
2	Suspect Mechanical Injury	
1	Suspect Seasonal Needle Drop	
24	**Total for Arborvitae**	
Ash		
1	Anthracnose	*Gnomoniella fraxini*
1	Borers	
1	Insufficient Sample	
3	**Total for Ash**	
Beech		
1	Insufficient Sample	
1	**Total for Beech**	
Birch		
1	Environmental Stress	
1	Mites	
1	Negative for Root Disease	
1	Septoria Leaf Spot	*Septoria betulicola*
1	Sooty Mold	
5	**Total for Birch**	
Black Gum		
2	Insufficient Sample	
2	**Total for Black Gum**	
Boxelder		
1	Insects	
1	Suspect Botryosphaeria Canker	*Botryosphaeria sp.*
2	**Total for Boxelder**	
Buckeye		
1	Insufficient Sample	
1	**Total for Buckeye**	

Cedar		
1	Environmental Stress	
1	Insects	
1	Insufficient Sample	
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
4	**Total for Cedar**	

Chestnut		
1	Negative for Root Disease	
1	Poor Pollination	
2	**Total for Chestnut**	

Cryptomeria		
1	Environmental Stress	
3	Insufficient Sample	
1	Pestalotiopsis Tip Blight	*Pestalotiopsis sp.*
1	Suspect Environmental Stress	
6	**Total for Cryptomeria**	

Cypress		
1	Abiotic Problem	
2	Bagworms	
2	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Crystalline Residue	
3	Environmental Stress	
1	Healthy	
1	Insects	
5	Insufficient Sample	
4	Negative for Root Disease	
1	No Disease Found	
1	Praying Mantis Egg Case	
2	Scales	
5	Seasonal Needle Drop	
7	Seiridium Canker	*Seiridium unicorne*
1	Suspect Environmental Stress	
9	Suspect Seiridium Canker	*Seiridium sp.*
46	**Total for Cypress**	

Dogwood		
1	Botryosphaeria Canker	*Botryosphaeria sp.*
1	Chemical Injury	
1	Discula Anthracnose	*Discula destructiva*
1	High Soluble Salts	
1	Insufficient Information	
2	Insufficient Sample	
2	Lichens	
2	Negative for Disease	
16	Powdery Mildew	*Oidium sp.*
2	Scorch	
4	Spot Anthracnose	*Elsinoe corni*
33	**Total for Dogwood**	

Eastern Red Cedar		
1	No Disease Found	
1	**Total for Eastern Red Cedar**	

Elm		
1	Cultural Problem	
2	Elm Bark Beetles	
1	Eriophyid Mites	
2	Suspect Dutch Elm Disease	*Ophiostoma ulmi*
6	**Total for Elm**	

Falsecypress		
1	Environmental Stress	
1	Mites	
1	Negative for Root Disease	
3	Normal Needle Senescence	
1	Suspect Chemical Injury	
7	**Total for Falsecypress**	

Fir		
1	Negative for Disease	
1	**Total for Fir**	

Gingko		
1	Suspect Chemical Injury	
1	**Total for Gingko**	

Hackberry		
1	Insects	
1	**Total for Hackberry**	

Hawthorn		
1	Cedar-Hawthorn Rust	*Gymnosporangium globosum*
3	Cedar-Quince Rust	*Gymnosporangium clavipes*
1	Insects	
5	**Total for Hawthorn**	

Hemlock		
1	Insufficient Sample	
1	Mites	
2	**Total for Hemlock**	

Hickory		
1	Gnomonia Leaf Spot	*Gnomonia caryae*
1	Insect Galls	
1	Scorch	
3	**Total for Hickory**	

Honeylocust		
1	Thyronectria Canker	*Thyronectria austroamericana*
1	**Total for Honeylocust**	

Linden		
1	Botryosphaeria Canker	*Botryosphaeria sp.*
2	Insects	
1	Insufficient Sample	
1	Lichens	
1	Negative for Foliar Disease	
1	Suspect Environmental Stress	
7	**Total for Linden**	

London Planetree		
1	Phyllosticta Leaf Spot	*Phyllosticta sp.*
1	Powdery Mildew	*Oidium sp.*
2	**Total for London Planetree**	

Magnolia		
1	Coniothyrium Leaf Spot	*Coniothyrium sp.*
1	Environmental Stress	
1	Eriophyid Mites	
1	Frost Injury	
2	Insects	
4	Insufficient Sample	
2	Mites	
1	No Disease Found	
1	Plant Hairs - Normal Condition	
1	Sooty Mold	
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Suspect Tatters	
1	Thrips	
1	Winter Injury	
20	**Total for Magnolia**	

Maple		
1	Abiotic Problem	
2	Anthracnose	*Kabatiella sp.*
1	Bacterial Scorch	*Xylella fastidiosa*
1	Botryosphaeria Canker	*Botryosphaeria dothidea*
3	Botryosphaeria Dieback	*Botryosphaeria sp.*
2	Cultural Problem	
1	Cytospora Canker	*Cytospora sp.*
3	Environmental Stress	
10	Insufficient Sample	
2	Negative for Bacterial Scorch	
2	Negative for Verticillium Wilt	
1	Phomopsis Dieback	*Phomopsis sp.*
7	Purple-eye Leaf Spot	*Phyllosticta minima*
1	Sapsucker Injury	
1	Scales	
4	Scorch	
1	Septoria Leaf Spot	*Septoria sp.*
1	Sooty Mold	
2	Suspect Cultural Problem	
2	Suspect Girdling Roots	
1	Suspect Insects	
1	Suspect Verticillium Wilt	*Verticillium albo-atrum*
1	Suspect Wood Decay	
2	Wood Decay	
53	**Total for Maple**	

Mimosa		
1	Insufficient Sample	
1	**Total for Mimosa**	

Oak		
4	Bacterial Scorch	*Xylella fastidiosa*
4	Chemical Injury	
1	Cultural Problem	
2	Environmental Stress	
2	Eriophyid Mites	
1	Frost Injury	
1	Ganoderma Butt Rot	*Ganoderma sp.*
1	Hail Injury	
3	Insects	
2	Insufficient Sample	
1	Negative for Root Disease	
1	No Disease Found	
14	Oak Leaf Blister	*Taphrina caerulescens*
9	Oak Leaf Button Galls	
1	Physiological Problem	
1	Pine-Oak Gall Rust	*Cronartium quercuum*
1	Powdery Mildew	*Oidium sp.*
3	Scales	
1	Sooty Mold	
1	Squirrel Twig Pruning	
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Suspect Hail Injury	
1	Suspect Mechanical Injury	
1	Suspect Meruliporia	*Meruliporia incrassata*
1	Suspect Tatters	
2	Suspect Wood Decay	
2	Tubakia Leaf Spot	*Tubakia dryina*
1	White Flux	
1	White Rot	*Poria sp.*
2	Wood Decay	
68	**Total for Oak**	

Ornamental Cherry

1	Cause of Problem Unknown	
1	Cercospora Leaf Spot	*Pseudocercospora (Cercospora) circumscissa*
1	Cherry Leaf Spot	*Coccomyces hiemalis*
1	Cultural Problem	
1	Environmental Stress	
1	Gummosis	*Botryosphaeria sp.*
1	Insects	
5	Insufficient Sample	
1	Lenticels	
1	Lichens	
1	Negative for Root Disease	
1	Physiological Shothole	
16	**Total for Ornamental Cherry**	

Ornamental Pear

1	Cedar-Hawthorn Rust	*Gymnosporangium globosum*
2	Cedar-Quince Rust	*Gymnosporangium clavipes*
1	Cultural Problem	
3	Fire Blight	*Erwinia amylovora*
1	Insects	
2	Insufficient Sample	
4	Pear Leaf Blister Mites	
1	Suspect Fire Blight	*Erwinia amylovora*
1	Xylaria Root Rot	*Xylaria polymorpha*
16	**Total for Ornamental Pear**	

Pine

1	Cultural Problem	
2	Diplodia Tip Blight	*Diplodia pinea*
5	Dothistroma Needle Blight	*Dothistroma pini*
1	Environmental Stress	
2	Eriophyid Mites	
1	Girdling Roots	
1	Insects	
2	Insufficient Sample	
1	Negative for Needle Cast	
2	Negative for Root Disease	
2	No Disease Found	
1	Phytophthora Root Rot	*Phytophthora sp.*
1	Scales	
1	Slime Mold	
1	Suspect Environmental Stress	
24	**Total for Pine**	

Plum		
1	Insects	
1	Insufficient Sample	
2	**Total for Plum**	

Poplar		
2	Insufficient Sample	
1	Saprophyte	
3	**Total for Poplar**	

Redbud		
1	Abiotic Problem	
1	Insufficient Sample	
1	Mites	
1	Negative for Root Disease	
4	**Total for Redbud**	

Serviceberry		
3	Cedar-Quince Rust	*Gymnosporangium clavipes*
3	**Total for Serviceberry**	

Spruce		
2	Environmental Stress	
7	Insufficient Sample	
3	Mites	
1	Negative for Root Disease	
1	No Disease Found	
5	Rhizosphaera Needle Blight	*Rhizosphaera kalkhoffii*
4	Stigmina Needle Cast	*Stigmina lautii*
1	Suspect Environmental Stress	
24	**Total for Spruce**	

Sumac		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Stem Girdling Roots	
2	**Total for Sumac**	

Sweet Gum		
1	Botryosphaeria Canker	*Botryosphaeria sp.*
1	Negative for Bacterial Scorch	
1	Scorch	
3	**Total for Sweet Gum**	

Sycamore		
1	Phyllosticta Leaf Spot	*Phyllosticta sp.*
1	Suspect Chemical Injury	
2	**Total for Sycamore**	

Tree, Unknown		
1	Insufficient Sample	
1	**Total for Tree, Unknown**	

Trees, Miscellaneous		
1	Insects	
1	Insufficient Sample	
2	**Total for Trees, Miscellaneous**	

Tulip Tree		
1	Suspect Fusarium Canker	*Fusarium sp.*
1	Wood Decay	
2	**Total for Tulip Tree**	

Umbrella Pine		
1	Insufficient Sample	
1	**Total for Umbrella Pine**	

Willow		
1	Cercospora Leaf Spot	*Cercospora salicina*
1	Rust	*Melampsora epitea*
1	Scab	*Venturia saliciperda*
1	Wood Decay	
4	**Total for Willow**	

Yellowwood		
1	Negative for Phytophthora Root Rot	
1	**Total for Yellowwood**	

Zelkova		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Cultural Problem	
1	Insects	
1	Insufficient Sample	
1	Negative for Bacterial Scorch	
5	**Total for Zelkova**	

Turf		
Bentgrass		
1	Algae	
1	Anthracnose	*Colletotrichum graminicola*
1	Cultural Problem	
1	Environmental Stress	
1	Low pH	
1	Moss	
1	Pythium Root Rot	*Pythium sp.*
7	**Total for Bentgrass**	
Bermudagrass		
1	Bipolaris Leaf Spot and Crown Rot	*Bipolaris cynodontis*
1	Cultural Problem	
1	Insufficient Sample	
1	Negative for Disease	
1	Spring Dead Spot	*Ophiosphaerella herpotricha*
5	**Total for Bermudagrass**	
Fescue		
7	Brown Patch	*Rhizoctonia solani*
1	Cultural Problem	
2	Environmental Stress	
1	Fusarium Blight	*Fusarium culmorum*
1	High pH	
2	Negative for Disease	
2	No Disease Found	
3	Rust	*Puccinia graminis*
2	Suspect Cultural Problem	
21	**Total for Fescue**	
Ryegrass		
1	Blue-Green Algae	
1	Pythium Blight	*Pythium sp.*
2	**Total for Ryegrass**	

Turfgrass		
6	Brown Patch	*Rhizoctonia solani*
1	Chemical Injury	
1	Environmental Stress	
1	Fairy Ring	
1	Gray Leaf Spot	*Pyricularia grisea*
1	Helminthosporium Blight	*Drechslera dictyoides*
1	Insufficient Sample	
2	Leaf Rust	*Puccinia graminis*
1	Negative for Disease	
1	Suspect Cultural Problem	
1	Suspect Fairy Ring	
17	**Total for Turfgrass**	

Zoysia	
1	Environmental Stress
1	No Disease Found
1	Nutrient Deficiency
1	Slime Mold
4	**Total for Zoysia**

Vegetables and Herbs		
Asparagus		
1	Soft Rot	*Erwinia carotovora*
1	**Total for Asparagus**	
Basil		
1	Downy Mildew	*Plasmopara belbahrii*
1	Pythium Root Rot	*Pythium sp.*
1	Rhizoctonia Root Rot	*Rhizoctonia solani*
1	Sunscald	
1	Suspect Cultural Problem	
1	Thrips	
6	**Total for Basil**	
Bean		
1	Alternaria Leaf and Pod Spot	*Alternaria alternata*
1	Anthracnose	*Colletotrichum lindemuthianum*
1	Ascochyta Leaf Spot	*Phoma exigua var. exigua*
1	Chemical Injury	
3	Insects	
1	Insufficient Sample	
1	Mites	
1	Rhizoctonia Stem and Root Rot	*Rhizoctonia solani*
1	Southern Blight	*Sclerotium rolfsii*
2	Thrips	
13	**Total for Bean**	
Cabbage		
1	Bacterial Soft Rot	*Erwinia carotovora*
1	Damping-off	*Rhizoctonia solani*
2	**Total for Cabbage**	

Cantaloupe		
2	Aphids	
1	Bacterial Wilt	*Erwinia tracheiphila*
1	Cucumber Beetles	
1	Cultural Problem	
1	Downy Mildew	*Pseudoperonospora cubensis*
1	Environmental Stress	
3	Insufficient Sample	
1	Normal Condition	
1	Powdery Mildew	*Sphaerotheca fuliginea*
1	Root Knot Nematodes	*Meloidogyne incognita*
1	Root Knot Nematodes	*Meloidogyne sp.*
1	Suspect Chemical Injury	
1	Suspect Potyvirus	
16	**Total for Cantaloupe**	

Cauliflower		
1	Insufficient Sample	
1	**Total for Cauliflower**	

Chives		
1	Purple Blotch	*Alternaria porri*
1	Thrips	
2	**Total for Chives**	

Cowpea		
1	Charcoal Rot	*Macrophomina phaseolina*
1	**Total for Cowpea**	

Cucumber		
1	Alternaria Leaf Blight and Spot	*Alternaria cucumerina*
1	Aphids	
9	Downy Mildew	*Pseudoperonospora cubensis*
5	Insufficient Sample	
1	Suspect Cultural Problem	
1	Suspect Virus	
18	**Total for Cucumber**	

Cucurbits, miscellaneous		
1	Damping-off	*Pythium sp.*
1	**Total for Cucurbits, miscellaneous**	

Eggplant		
1	Insufficient Sample	
1	**Total for Eggplant**	

Garlic		
1	Insects	
1	Soft Rot	*Erwinia carotovora*
4	White Rot	*Sclerotium cepivorum*
6	**Total for Garlic**	

Ginger		
1	Fusarium Rhizome Rot	*Fusarium oxysporum*
1	**Total for Ginger**	

Kale		
1	Xanthomonas Leaf Spot	*Xanthomonas campestris pv. raphani*
1	**Total for Kale**	

Lettuce		
1	Insufficient Sample	
1	Negative for Root Disease	
1	Nutrient Deficiency	
1	Pythium Root Rot	*Pythium sp.*
1	Sclerotinia Blight	*Sclerotinia sclerotiorum*
5	**Total for Lettuce**	

Lima Bean		
1	Common Bacterial Blight	*Xanthomonas campestris pv. phaseoli*
1	Insects	
1	Suspect Virus	
3	**Total for Lima Bean**	

Mint		
1	Abiotic Problem	
1	**Total for Mint**	

Onion		
1	Black Mold	*Aspergillus niger*
1	Negative for Nematodes	
2	**Total for Onion**	

Oregano		
1	Negative for Disease	
1	**Total for Oregano**	

Parsley		
1	Insects	
1	**Total for Parsley**	

Pea		
1	Ascochyta Blight	*Ascochyta pinodes*
1	Fusarium Root Rot	*Fusarium solani*
1	Suspect Nutrient Deficiency	
3	**Total for Pea**	

Pepper		
2	Abiotic Problem	
1	Bacterial Soft Rot	*Erwinia carotovora subsp. carotovora*
1	Bacterial Spot	*Xanthomonas campestris pv. vesicatoria*
1	Blossom End Rot	
1	Chemical Injury	
1	Cultural Problem	
2	Insects	
1	Rhizoctonia Root Rot	*Rhizoctonia solani*
1	Southern Blight	*Sclerotium rolfsii*
1	Sunscald	
1	Suspect Chemical Injury	
1	Thrips	
14	**Total for Pepper**	

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

Potato		
2	Blackleg	*Pectobacterium carotovorum*
3	Common Scab	*Streptomyces scabies*
1	Doratomyces Secondary Tuber rot	*Doratomyces stemonitis*
1	Environmental Stress	
2	Flea Beetles	
1	Fusarium Dry Rot	*Fusarium sambucinum*
1	Insects	
1	Late Blight	*Phytophthora infestans*
1	Negative for Late Blight	*Phytophthora infestans*
1	Normal Condition	
1	Oedema	
1	Physiological Problem	
2	Soft Rot	*Erwinia carotovora*
1	Suspect Cultural Problem	
19	**Total for Potato**	

Pumpkin		
1	Abiotic Problem	
2	Chemical Injury	
1	Insufficient Sample	
1	Phytophthora Crown and Root Rot	*Phytophthora capsici*
1	Phytophthora Fruit Rot	*Phytophthora capsici*
1	Plectosporium Blight	*Plectosporium tabacinum*
1	Squash Bugs	
1	Suspect Nutrient Imbalance	
1	Suspect Virus	
10	**Total for Pumpkin**	

Rosemary		
1	Botrytis Blight	*Botrytis cinerea*
1	Gray Mold	*Botrytis cinerea*
1	Negative for Root Disease	
1	Suspect Cultural Problem	
4	**Total for Rosemary**	

Sage		
1	Insufficient Sample	
1	Rhizoctonia Blight	*Rhizoctonia sp.*
2	**Total for Sage**	

Spinach		
1	Cultural Problem	
1	High pH	
2	**Total for Spinach**	

Squash		
1	Aphids	
1	Blossom End Rot	
1	Fusarium Foot Rot	*Fusarium solani*
1	Fusarium Fruit Rot	*Fusarium sp.*
2	Insufficient Sample	
1	Phytophthora Crown and Root Rot	*Phytophthora capsici*
3	Powdery Mildew	*Sphaerotheca fuliginea*
1	Rhizoctonia Root Rot	*Rhizoctonia solani*
1	Squash Bugs	
1	Suspect Cultural Problem	
13	**Total for Squash**	

Sweet Corn		
1	Bacterial Top Rot	*Erwinia chrysanthemi*
1	Low pH	
1	Northern Corn Leaf Blight	*Setosphaeria turcica*
1	Sunscald	
4	**Total for Sweet Corn**	

Sweet Potato		
1	Fusarium Surface Rot	*Fusarium solani*
1	Rhizoctonia Root Rot	*Rhizoctonia solani*
1	Scurf	*Monilochaetes infuscans*
3	**Total for Sweet Potato**	

Tomato		
4	Abiotic Problem	
3	Aphids	
1	Bacterial Soft Rot	*Erwinia carotovora*
1	Bacterial Speck	*Pseudomonas syringae pv. tomato*
2	Bacterial Spot	*Xanthomonas campestris pv. vesicatoria*
4	Bacterial Wilt	*Ralstonia solanacearum*
2	Black Mold Rot	*Alternaria alternata*
1	Blossom End Rot	
2	Catfacing	
1	Cause of Problem Unknown	
27	Chemical Injury	
1	Cracking	
3	Cultural Problem	
1	Early Blight	*Alternaria solani*
3	Fusarium Crown and Root Rot	*Fusarium oxysporum*
4	Fusarium Wilt	*Fusarium oxysporum*
3	High pH	
1	High Soluble Salts	
1	Insects	
1	Insufficient	
11	Insufficient Sample	
7	Late Blight	*Phytophthora infestans*
4	Leaf Mold	*Fulvia fulva*
7	Mites	
7	Negative for Disease	
3	Negative for Foliar Disease	
2	Negative for Late Blight	*Phytophthora infestans*
1	Nutrient Deficiency	
1	Phoma Fruit Rot	*Phoma destructiva*
1	Phoma Rot	*Phoma destructiva*
1	Physiological Leaf Roll	
2	Powdery Mildew	*Oidium sp.*

1	Pythium Root Rot	*Pythium sp.*
1	Root Knot Nematodes	*Meloidogyne sp.*
1	Sclerotinia Stem Rot	*Sclerotinia sclerotiorum*
8	Septoria Leaf Spot	*Septoria lycopersici*
1	Southern Blight	*Sclerotium rolfsii*
1	Spinach Latent Virus	
1	Stinkbugs	
1	Sunscald	
4	Suspect Chemical Injury	
1	Suspect Cultural Problem	
5	Thrips	
6	Tomato Spotted Wilt Virus	
1	Walnut Wilt	
145	**Total for Tomato**	

Vegetables, Miscellaneous

1	Abiotic Problem
2	Chemical Injury
1	Environmental Stress
1	Insufficient Sample
1	Low pH
1	Suspect Cultural Problem
1	Walnut Wilt
8	**Total for Vegetables, miscellaneous**

Watermelon

2	Chemical Injury
1	Cultural Problem
1	High pH
4	Negative for Disease
1	Negative for Foliar Disease
9	**Total for Watermelon**

Weeds	
Virginia Creeper	
1	No Disease Found
1	**Total for Virginia Creeper**

Woody Ornamentals		
Abelia		
1	Mammalian Injury	
1	**Total for Abelia**	
Anise Tree		
1	Pestalotiopsis Leaf Spot	*Pestalotiopsis sp.*
1	**Total for Anise Tree**	
Aucuba		
1	Cultural Problem	
1	Insufficient Sample	
1	No Disease Found	
1	Suspect Chemical Injury	
1	Suspect Environmental Stress	
5	**Total for Aucuba**	
Azalea		
1	Abiotic Problem	
2	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Cause of Problem Unknown	
1	Cylindrocladium Stem Rot	*Cylindrocladium sp.*
1	Environmental Stress	
1	High pH	
8	Insufficient Sample	
3	Lacebugs	
2	Leaf and Flower Gall	*Exobasidium vaccinii*
2	Lichens	
4	Negative for Disease	
1	Negative for Root Disease	
2	Negative for Root Pathogens	
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
1	Scales	
1	Scorch	
1	Sooty Mold	
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Suspect Slime Mold	
1	Wood Decay	
37	**Total for Azalea**	
Barberry		
2	Insects	
2	**Total for Barberry**	

Bayberry		
1	Insufficient Sample	
1	Negative for Root Disease	
1	Phytophthora Root Rot	*Phytophthora sp.*
3	**Total for Bayberry**	

Bluebeard		
1	Chemical Injury	
1	**Total for Bluebeard**	

Boxwood		
1	Abiotic Problem	
4	Cultural Problem	
4	English Boxwood Decline	*Paecilomyces buxi*
2	Environmental Stress	
1	Frost Injury	
1	Insects	
18	Insufficient Sample	
2	Leafminers	
2	Lesion Nematodes	*Pratylenchus sp.*
2	Macrophoma Leaf Spot	*Macrophoma candollei*
9	Mites	
10	Negative for Boxwood Blight	
1	Negative for Disease	
3	Negative for Root Disease	
16	Negative for Root Rot Fungi	
4	Nematodes	
1	No Disease Found	
10	Phytophthora Root Rot	*Phytophthora nicotianae*
6	Possible Nematode Problem	
1	Spiral Nematodes	*Helicotylenchus sp.*
1	Suspect Chemical Injury	
1	Suspect Deep Planting	
1	Suspect Environmental Stress	
8	Volutella Blight	*Volutella buxi*
109	**Total for Boxwood**	

Butterfly Bush		
1	Phytophthora Root Rot	*Phytophthora nicotianae*
1	Powdery Mildew	*Oidium sp.*
1	Suspect Cold Injury	
3	**Total for Butterfly Bush**	

Camellia		
1	Artillery Fungus	*Sphaerobolus stellatus*
1	Leaf and Flower Gall	*Exobasidium camelliae*
1	Mites	
1	Mycosphaerella Leaf Spot	*Mycosphaerella sp.*
2	Scales	
1	Suspect Cultural Problem	
1	Suspect Nutrient Deficiency	
1	Winter Injury	
9	**Total for Camellia**	

Cherrylaurel		
1	Black Vine Weevils	
3	Borers	
1	Botryosphaeria Canker	*Botryosphaeria sp.*
1	Botryosphaeria Dieback	*Botryosphaeria dothidea*
1	Cultural Problem	
1	Environmental Stress	
1	Insects	
1	Insufficient Sample	
2	Negative for Disease	
1	Negative for Root Disease	
3	Physiological Shothole	
1	Suspect Cultural Problem	
17	**Total for Cherrylaurel**	

Cleyera		
1	Environmental Stress	
1	Physiological Leaf Spot	
2	**Total for Cleyera**	

Cotoneaster		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Negative for Foliar Disease	
1	Web Blight	*Rhizoctonia solani*
3	**Total for Cotoneaster**	

Crape Myrtle		
1	Anthracnose	*Colletotrichum sp.*
2	Cercospora Leaf Spot	*Cercospora sp.*
1	Chemical Injury	
2	Insufficient Sample	
4	Powdery Mildew	*Erysiphe lagerstroemiae*
1	Suspect Chemical Injury	
1	Suspect Mechanical Injury	
12	**Total for Crape Myrtle**	

Daphne		
1	Phytophthora Root Rot	*Phytophthora nicotianae*
1	**Total for Daphne**	

English Ivy		
2	Anthracnose	*Colletotrichum trichellum*
1	Insufficient Sample	
1	Phyllosticta Leaf Spot	*Phyllosticta sp.*
2	Phytophthora Root Rot	*Phytophthora nicotianae*
6	**Total for English Ivy**	

Euonymus		
1	Crown Gall	*Agrobacterium tumefaciens*
1	Fusarium Canker	*Fusarium lateritium*
2	Powdery Mildew	*Microsphaera sp.*
2	Scales	
6	**Total for Euonymus**	

Ficus		
1	Insufficient Sample	
1	**Total for Ficus**	

Forsythia		
2	Insufficient Sample	
2	**Total for Forsythia**	

Hibiscus		
1	Insufficient Sample	
1	Negative for Impatiens Necrotic Spot Virus	
2	**Total for Hibiscus**	

Holly		
2	Abiotic Problem	
1	Anthracnose	*Gloeosporium sp.*
1	Artillery Fungus	*Sphaerobolus stellatus*
21	Black Root Rot	*Thielaviopsis basicola*
1	Callus Tissue	
1	Chemical Injury	
1	Deep Planting	
2	Insects	
13	Insufficient Sample	
1	Low pH	
1	Negative for Disease	
1	Negative for Phytophthora Root Rot	
4	Negative for Root Disease	
1	Normal Condition	
2	Normal Leaf Senescence	
1	Physiological Leaf Spot	
1	Physiological Problem	
2	Phytophthora Root Rot	*Phytophthora cinnamomi*
1	Phytophthora Root Rot	*Phytophthora sp.*
1	Rodent Injury	
1	Rootbound	
7	Scales	
2	Sooty Mold	
1	Suspect Cultural Problem	
2	Wood Decay	
72	**Total for Holly**	

Honeysuckle		
1	Environmental Stress	
1	Powdery Mildew	*Oidium sp.*
2	**Total for Honeysuckle**	

Hydrangea		
1	Aphids	
1	Bacterial Leaf Spot	*Xanthomonas campestris*
1	Cultural Problem	
1	Environmental Stress	
1	Insects	
1	Insufficient Sample	
1	Mites	
1	No Disease Found	
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
1	Powdery Mildew	*Erisyphe polygoni*
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Thrips	
13	**Total for Hydrangea**	

Hypericum		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Botrytis Blight	*Botrytis cinerea*
1	Insufficient Sample	
3	**Total for Hypericum**	

Indian Hawthorn		
1	Environmental Stress	
1	**Total for Indian Hawthorn**	

Japanese Meadowsweet		
1	Environmental Stress	
1	**Total for Japanese Meadowsweet**	

Japanese Plum Yew		
1	Environmental Stress	
1	Insufficient Sample	
2	**Total for Japanese Plum Yew**	

Juniper		
1	Deep Planting	
1	Environmental Stress	
7	Insufficient Sample	
2	Kabatina Tip Blight	*Kabatina juniperi*
8	Mites	
3	Negative for Disease	
2	Negative for Foliar Disease	
3	Negative for Root Disease	
1	Normal Condition	
1	Pestalotiopsis Twig Blight	*Pestalotiopsis sp.*
1	Phomopsis Tip Blight	*Phomopsis juniperovora*
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
1	Stem Girdling Roots	
2	Suspect Environmental Stress	
1	Webworms	
35	**Total for Juniper**	

Leucothoe		
1	Powdery Mildew	*Microsphaera sp.*
1	**Total for Leucothoe**	

Lilac		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Chemical Injury	
1	Negative for Phytophthora Root Rot	
1	Negative for Root Disease	
1	Phytophthora Root Rot	*Phytophthora nicotianae*
5	**Total for Lilac**	

Lime		
1	Stem End Rot	*Phomopsis sp.*
1	Stylar-End Rot	
2	**Total for Lime**	

Loropetalum		
1	Negative for Disease	
1	**Total for Loropetalum**	

Mountain Laurel		
3	Cercospora Leaf Spot	*Cercospora kalmiae*
2	High Soluble Salts	
1	Lichens	
1	Pseudocercospora Leaf Spot	*Pseudocercospora kalmiae*
1	Suspect Botryosphaeria Dieback	*Botryosphaeria sp.*
8	**Total for Mountain Laurel**	

Nandina		
1	Alternanthera Mosaic Virus (AltMV)	
1	Negative for Nandina Mosaic Virus (NaMV)	
1	Negative for Verticillium Wilt	
1	Potexvirus group	
4	**Total for Nandina**	

Ninebark		
1	Negative for Root Disease	
1	**Total for Ninebark**	

Osmanthus		
1	Insufficient Sample	
1	**Total for Osmanthus**	

Photinia		
2	Entomosporium Leaf Spot	*Entomosporium mespili*
2	**Total for Photinia**	

Pieris		
1	Anthracnose	*Colletotrichum sp.*
1	Negative for Disease	
1	Negative for Ramorum Blight	
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
1	Suspect Cultural Problem	
1	Suspect Nutrient Deficiency	
6	**Total for Pieris**	

Privet		
1	Abiotic Problem	
2	Environmental Stress	
1	Insufficient Sample	
2	Mycosphaerella Leaf Spot	*Pseudocercospora lisgustri*
1	Powdery Mildew	*Oidium sp.*
1	Suspect Insects	
8	**Total for Privet**	

Pyracantha		
1	Scales	
1	**Total for Pyracantha**	

Quince		
1	Fire Blight	*Erwinia amylovora*
1	**Total for Quince**	

Rhododendron		
1	Ascochyta Leaf Spot	*Ascochyta sp.*
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Cercospora Leaf Spot	*Cercospora handelii*
1	Insufficient Sample	
1	Lacebugs	
1	Negative for Disease	
1	Negative for Ramorum Blight	
1	Negative for Root Disease	
1	No Disease Found	
1	Normal Condition	
1	Pestalotia Leaf Spot	*Pestalotia sp.*
2	Phomopsis Dieback	*Phomopsis sp.*
2	Phytophthora Root Rot	*Phytophthora cinnamomi*
3	Suspect Botryosphaeria Dieback	*Botryosphaeria sp.*
2	Suspect Cultural Problem	
1	Suspect Environmental Stress	
21	**Total for Rhododendron**	

Rose		
1	Abiotic Problem	
1	Aphids	
1	Armillaria Root Rot	*Armillaria sp.*
2	Black Spot	*Diplocarpon rosae*
1	Cercospora Leaf Spot	*Cercospora rosicola*
3	Chemical Injury	
1	Crystalline Residue	
3	Downy Mildew	*Peronospora sparsa*
4	Insects	
3	Insufficient Sample	
1	Low pH	
3	Mites	
2	Negative for Disease	
4	Powdery Mildew	*Sphaerotheca pannosa*
1	Rose Rosette Disease	
1	Scales	
7	Suspect Chemical Injury	
1	Suspect Cultural Problem	
1	Suspect Environmental Stress	
1	Suspect Nutrient Deficiency	
1	Suspect Nutrient Imbalance	
3	Suspect Rose Rosette Disease	
1	Thrips	
47	**Total for Rose**	

Russian Arborvitae		
1	Environmental Stress	
1	Low pH	
2	**Total for Russian Arborvitae**	

Shrub, Unknown		
1	Insects	
1	Scales	
1	Insufficient Sample	
3	**Total for Shrub, Unknown**	

Smoke Tree		
2	Abiotic Problem	
1	Cicada Injury	
1	Negative for Verticillium Wilt	*Verticillium sp.*
4	**Total for Smoke Tree**	

Spirea		
1	Powdery Mildew	*Oidium sp.*
1	Suspect Cultural Problem	
2	**Total for Spirea**	

Viburnum		
1	Botryosphaeria Dieback	*Botryosphaeria sp.*
1	Botrytis Blight	*Botrytis cinerea*
1	Eriophyid Mites	
1	Insects	
6	Insufficient Sample	
1	Negative for Ramorum Blight	
1	Negative for Root Disease	
1	Scorch	
1	Suspect Chemical Injury	
14	**Total for Viburnum**	

Willow		
1	Normal Condition	
1	Vole Injury	
2	**Total for Willow**	

Wintergreen		
1	Cylindrocladium Blight	*Cylindrocladium scoparium*
1	**Total for Wintergreen**	

Wisteria		
1	Insufficient Sample	
1	**Total for Wisteria**	

Yew		
1	Insects	
5	Insufficient Sample	
1	Phytophthora Root Rot	*Phytophthora cinnamomi*
7	**Total for Yew**	

Miscellaneous		
Matrimony Vine		
1	Sooty Mold	
1	**Total for Matrimony Vine**	
Mulch		
1	Saprophytic Fungi	
1	**Total for Mulch**	
Pear Water Bait		
1	Negative for Phytophthora spp.	
1	Phytophthora	*Phytophthora spp.*
2	**Total for Pear Water Bait**	
Unknown Outdoor Plant		
1	Insufficient Sample	
1	**Total for Unknown Outdoor Plant**	

Identification Appendix

---

1. Higher Plants

Family: Apocynaceae	
Amsonia tabernaemontana	Blue Star
Apocynum cannabinum	Hemp Dogbane
Family: Aquifoliaceae	
Ilex verticillata	Winterberry
Family: Araliaceae	
Aralia nudicaulis	Wild Sarsaparilla
Family: Asteraceae	
Aster tataricus	Aster
Family: Berberidaceae	
Mahonia bealei	Leatherleaf Mahonia
Family: Corylaceae	
Carpinus japonica	Japanese Hornbeam
Family: Ebenaceae	
Diospyros virginiana	Persimmon
Family: Fagaceae	
Castanea mollissima	Chinese Chestnut
Family: Oleaceae	
Ligustrum amurense	Privet
Family: Poaceae	
Eragrostis curvula	Weeping Lovegrass
Paspalum sp.	Crowngrass
Setaria sp.	Bristlegrass
Family: Psilotaceae	
Psilotum nudum	Whisk Fern
Family: Rosaceae	
Chaenomeles speciosa	Flowering Quince
Photinia serratifolia	Chinese Photinia

Family: Ulmaceae	
Ulmus alata	Winged Elm
Family: Verbenaceae	
Clerodendrum trichotomum	Harlequin Glorybower
Family: Vitaceae	
Ampelopsis arborea	Peppervine

2. Fungi

Family: Basidiomycetes	
Omphalotus olearius	Jack-o-Lantern Mushroom
Family: Clavariaceae	
	Coral Fungi
Family: Geastraceae	
Radiigera atropurea	False Truffle
Family: Polyporaceae	
Trametes versicolor	Turkey Tail
Family: Sclerodermataceae	
Scleroderma sp. (2)	Earthball
Scleroderma geaster	Earthball
Family: Stereaceae	
Stereum ostrya	False Turkey Tail
Thelephora terrestris	Earth Fan
Family: Unable to Identify	
Unidentified Fungus	Decay Fungus

4. Other IDs

ID Category: Other Substance	
	Crystalline Substance
	Mulch Identification
	Softwood and Hardwood Mulch
	Insufficient Sample
	Plant Roots
Family: Nostocaceae	
Nostoc sp.	Nostoc