Martin-Gatton College of Agriculture, Food and Environment | Plant Pathology

Plant Disease Diagnostic Laboratory Summary

2023

by:

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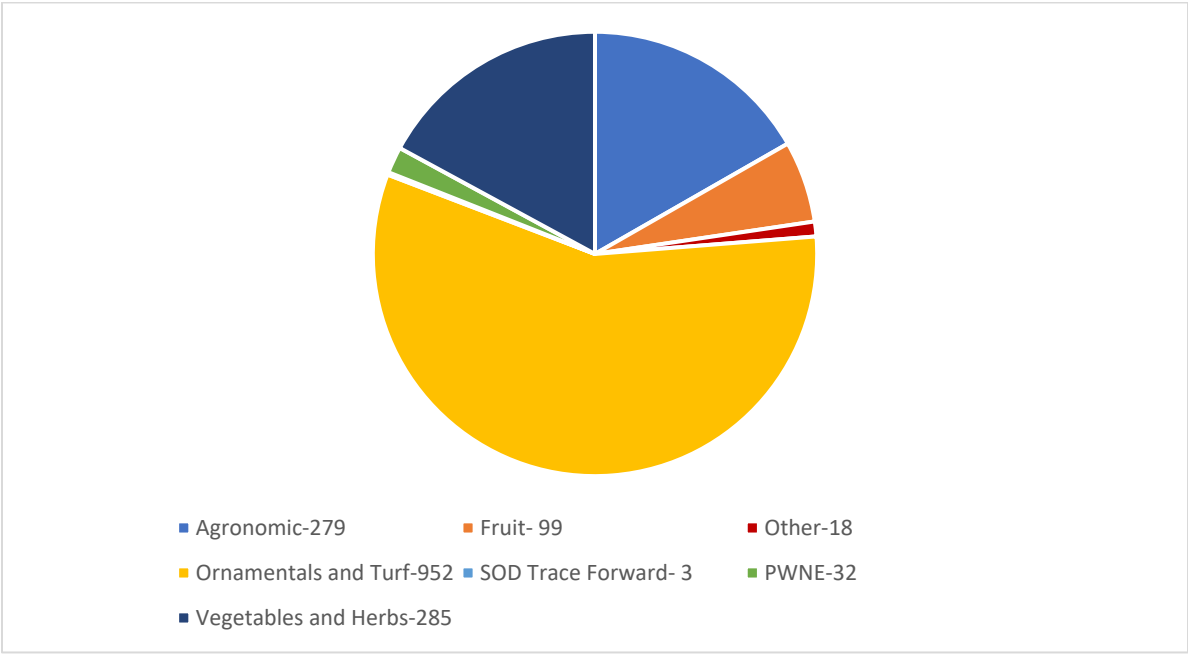
INTRODUCTION

The UK Plant Disease Diagnostic Laboratory (PDDL) processed 1668 plant samples in 2023. Many plant samples had more than one problem which added an additional 675 diagnoses, bringing the total number of diagnoses to **2343**. Of the samples submitted, the majority (1633) were routine plant samples, while a few samples were submitted for specific testing including 3 from a commercial nursery involved in a Sudden Oak Death (SOD) pathogen trace forward event and 32 Eastern red cedar (*Juniperus virginiana*) samples from commercial lumber companies for pinewood nematode extraction (PWNE). Sample totals by crop category are summarized in Figure 1 below.

Figure 1. Plant Disease Diagnostic Laboratory- 2023 samples



Routine samples	**1633**
Trace forward	**3**
Pinewood nematode	**32**
+ Additional diagnoses	**675**
	2343

NATURE OF WORK

Plant disease diagnosis is an ongoing educational and research activity of the UK Department of Plant Pathology. During 2023 all PDDL samples were processed at the laboratory on the UK campus in Lexington. Diagnosis of plant diseases requires keen observation and investigation into the possible causes of plant problems. Most visual diagnoses involve microscopy to determine which plant parts are affected and to identify the pathogen(s) involved. In addition, many specimens require special tests such as moist chamber incubation, pathogen isolation from plant tissue, enzyme-linked immunosorbent assay (ELISA), nematode extraction or soil pH and soluble salts tests. The laboratory uses the polymerase-chain- reaction (PCR) technique for identification of certain pathogens.

A database of laboratory records is maintained to provide information for conducting plant disease surveys, identifying new disease outbreaks, and formulating educational programs. In addition, information from the laboratory provides the basis for timely news of plant disease problems through the Kentucky Pest News newsletter, social media, radio, television, and plant health care workshops. All plant disease diagnoses entered into the database are reported to USDA-APHIS as part of the National Plant Diagnostic Network.

ACKNOWLEDGEMENTS

The contributions of the following are gratefully acknowledged:

Ed Dixon, Henry Smith, and Jason Travis (technical support)

UK Extension Specialists and Researchers (sample diagnosis/consultation- see Table 8)

Southern Plant Diagnostic Network, Kentucky Integrated Pest Management Program, and Altria Leaf Department (supplemental funding)

EXPLANATORY REMARKS

The UK-PDDL uses the PClinic laboratory information management system (LIMS) to document samples received and record all pathogens, insects and other disorders observed on each plant sample. The main body of this report (Table 9) consists of three columns; the first column contains the total number of diagnoses, followed by columns for the diagnosis and causal agent.

Referrals and consultations: Insect problems were generally identified or verified by a specialist in the Entomology Department. Suspected chemical injuries on all commercially grown crops were diagnosed by a weed control specialist or crop specialist. Specialists in other departments at UK may have also provided input on diagnosis of abiotic problems.

Table 1. SUMMARY OF DIAGNOSES[a] BY CROP CATEGORY AND CAUSAL AGENT TYPE							
Crop Category	**Abiotic Problems**	**Biotic[b] Problems**	**Chemical Injury**	**Inadequate Specimen**	**Insect Injury**	**Other[c]**	**Total Diagnoses**
Agronomic							
Corn	19	59	2	0	3	3	86
Forages	14	49	0	0	6	0	69
Hemp	0	2	1	0	0	0	3
Small grains	11	17	0	0	0	1	29
Soybeans	22	57	3	0	6	3	91
Tobacco	32	86	12	2	2	4	138
Fruit							
Small fruit	22	29	2	1	5	5	64
Tree fruit	14	47	1	1	14	0	77
Herbs	3	5	0	0	2	2	12
Identifications	0	5	0	2	0	2	9
Ornamentals							
Herbaceous/Indoor Plants	48	88	8	6	19	19	188
Turfgrass	12	39	0	2	0	6	59
Woody[d]	328	524	17	16	210	78	1173
Vegetables	69	170	29	21	31	15	335
Miscellaneous	3	2	1	0	3	1	10
Total	597	1179	76	51	301	139	2343

[a]Totals include all diagnoses entered in the PDDL database.

[b]Refer to Table 2 for further breakdown of this category.

[c]Includes the causal agent categories: No disease and Unknown.

[d]Total includes 3 SOD trace forward samples and 32 PWNE juniper samples.

Table 2. SUMMARY OF BIOTIC PROBLEMS[a] BY CROP CATERGORY					
Crop Category	**Bacterial**	**Fungal**	**Nematode**	**Virus**	**Other[b]**
Agronomic					
Corn	0	59	0	0	0
Forages	1	48	0	0	0
Hemp	0	2	0	0	0
Small grains	4	9	0	4	0
Soybeans	0	35	12	10	0
Tobacco	23	51	0	12	0
Fruit					
Small fruit	0	29	0	0	0
Tree fruit	5	42	0	0	0
Herbs	0	5	0	0	0
Identifications	0	5	0	0	0
Ornamentals					
Herbaceous/Indoor Plants	9	73	2	4	0
Turfgrass	0	37	0	0	2
Woody	22	493	0	4	5
Vegetables	20	118	4	28	0
Miscellaneous	0	2	0	0	0
Total	84	1008	18	62	7

[a]Totals include all diagnoses entered into the PDDL database.

[b]Includes these categories: Animal (rodent and bird damage), Plant (parasitic or problematic plants), and Alga, Lichen and Phytoplasma.

Table 3. NUMBER OF ROUTINE PLANT SAMPLES AND DIAGNOSES BY CROP

Crop Category	No. of samples	% total samples	No. of diagnoses	% total diagnoses
Agronomic				
Corn	61	3.66	86	3.67
Forages	35	2.1	69	2.94
Hemp	3	0.18	3	0.13
Small grains	23	1.38	29	1.24
Soybeans	55	3.3	91	3.88
Tobacco	102	6.12	138	5.89
Fruit				
Small fruit	46	2.76	64	2.73
Tree fruit	53	3.18	77	3.29
Herbs	12	0.72	12	0.51
Identifications	9	0.54	9	0.38
Ornamentals				
Herbaceous/Indoor Plants	148	8.87	188	8.02
Turfgrass	43	2.58	59	2.52
Woody[a]	796	47.72	1173	50.06
Vegetables	273	16.37	335	14.3
Miscellaneous	9	0.54	10	0.43
Total	1668	100	2343	100

[a]Includes 3 SOD trace forward samples and 32 PWNE juniper samples.

Table 4. SUMMARY OF ROUTINE SAMPLES RECEIVED BY GROWER TYPE AND CROP CATEGORY

	Grower Type							
	Commercial		Homeowner		Research		Institution	
Crop Group	**Ext[a]**	**NE[b]**	**Ext[a]**	**NE[b]**	**Ext[a]**	**NE[b]**	**Ext[a]**	**NE[b]**
Agronomic								
Corn	53	2	0	0	0	4	2	0
Forages	31	1	0	0	1	2	0	0
Hemp	2	0	0	0	1	0	0	0
Small grains	18	3	0	0	0	2	0	0
Soybeans	49	3	0	0	2	1	0	0
Tobacco	95	1	0	0	3	3	0	0
Fruit								
Small fruit	23	2	20	0	0	1	0	0
Tree fruit	7	0	43	0	0	0	3	0
Herbs	9	0	2	0	0	1	0	0
Identifications	2	0	7	0	0	0	0	0
Ornamental								
Herbaceous/Indoor plants	78	3	46	1	0	6	13	1
Turfgrass	14	14	13					2
Woody	133	91	533	10	1	1	23	4
Vegetable	152	3	108	2	3	0	5	0
Miscellaneous	2	0	1	0	0	6	0	0
Total	668	123	773	13	11	27	46	7
Total by Grower type	791		786		38		53	
Total number of samples = 1668								

[a]Ext= Extension samples submitted via county extension agents or extension specialists

[b]NE= Non-extension samples submitted directly by the grower or other non-extension clients.

Table 5. NUMBER OF ROUTINE SAMPLES REFERRED TO OTHER DEPATMENTS, UK LABORATORY FACILITIES OR OUTSIDE AGENCIES FOR DIAGNOSIS OR CONSULTATION

Department, Facility or Outside Agency	Total
Agdia, Inc.	7
Entomology Department	17
Forestry Department	3
Horticulture Department	18
Plant & Soil Sciences Department	89
Total number of sample referrals	**134**
Total number of samples received	**1668**
% of specimens referred outside of PDDL for diagnosis	**8%**

Table 6. SPECIAL LABORATORY TESTS[a] PERFORMED BY PLANT DISEASE DIAGNOSTIC LABORATORY

Test	Total
Culture	65
Incubation	305
Microscope	1,387
Molecular (PCR)	10
Nematode Extraction[b]	33
Serological (ELISA)	235
Soil Analysis	144
Visual Observation	654
Total	**2,833**

[a]Many samples require more than one test and all tests performed in 2023 are recorded above

[b]Includes 32 PWNE samples

Table 7. NUMBER OF ROUTINE PLANT SAMPLES RECEIVED BY COUNTY AND CROP CATEGORY (KY AND OUT-OF-STATE SOURCES)

County	Total	Agronomic	Tobacco	Fruit	Ornamentals	Vegetables	Other
Adair	3	1	1	0	0	1	0
Allen	11	0	2	1	3	5	0
Anderson	2	1	0	0	1	0	0
Ballard	2	2	0	0	0	0	0
Barren	7	1	4	0	1	1	0
Bath	3	1	0	0	1	1	0
Bell	5	0	0	0	4	1	0
Boone	70	0	0	2	42	18	8
Bourbon	19	2	2	1	13	1	0
Boyd	5	0	0	0	5	0	0
Boyle	8	1	1	0	5	1	0
Bracken	1	0	1	0	0	0	0
Breathitt	4	0	0	1	3	0	0
Breckinridge	22	3	4	5	6	4	0
Bullitt	3	0	0	0	3	0	0
Butler	9	4	0	1	2	2	0
Caldwell	5	3	0	0	2	0	0
Calloway	8	1	2	2	2	1	0
Campbell	26	1	0	0	20	5	0
Carlisle	1	0	0	0	1	0	0
Carroll	5	1	0	0	3	0	1
Carter	3	0	0	0	3	0	0
Casey	15	1	2	3	8	1	0
Christian	35	5	10	0	12	8	0
Clark	2	0	0	0	2	0	0
Clay	4	0	0	2	1	1	0
Clinton	18	2	3	0	8	5	0
Crittenden	7	0	0	4	3	0	0
Cumberland	2	1	0	0	0	1	0
Daviess	64	14	1	3	33	13	0
Edmonson	5	0	0	0	4	1	0
Estill	1	0	0	0	0	1	0
Fayette	224	12	3	6	185	9	9
Fleming	6	4	1	0	1	0	0
Floyd	2	0	0	0	1	1	0
Franklin	5	0	0	0	4	1	0
Fulton	4	0	0	0	3	1	0
Gallatin	4	1	0	0	0	3	0
Garrard	6	1	0	0	3	2	0
Grant	10	0	0	1	5	4	0

County	Total	Agronomic	Tobacco	Fruit	Ornamentals	Vegetables	Other
Graves	3	2	0	1	0	0	0
Grayson	13	0	3	0	9	1	0
Greenup	9	1	0	0	7	1	0
Hancock	6	1	2	0	0	3	0
Hardin	16	10	0	0	3	3	0
Harlan	1	0	0	0	1	0	0
Harrison	11	1	1	1	8	0	0
Hart	20	4	0	4	6	6	0
Henderson	1	1	0	0	0	0	0
Henry	9	2	3	0	3	1	0
Hickman	7	1	0	0	0	6	0
Hopkins	12	2	0	0	8	2	0
Jackson	7	0	0	1	4	2	0
Jefferson	188	0	0	8	167	11	2
Jessamine	19	0	0	1	13	4	1
Johnson	2	0	0	0	0	2	0
Kenton	38	1	0	0	37	0	0
Knott	1	0	0	0	1	0	0
Knox	3	1	0	0	0	2	0
Larue	13	4	0	1	0	8	0
Laurel	31	0	0	6	14	11	0
Lee	2	1	0	0	0	1	0
Leslie	1	0	0	0	0	1	0
Letcher	5	0	0	1	1	3	0
Lewis	5	1	0	0	4	0	0
Lincoln	17	4	1	0	4	8	0
Livingston	1	1	0	0	0	0	0
Logan	12	1	7	0	4	0	0
Lyon	8	2	0	0	2	4	0
Madison	13	0	0	0	8	5	0
Marion	17	2	3	1	8	2	1
Marshall	15	0	1	1	12	1	0
Martin	1	0	0	1	0	0	0
Mason	43	3	2	1	31	5	1
McCracken	32	3	0	2	22	3	2
McLean	3	2	1	0	0	0	0
Meade	16	5	0	4	4	3	0
Menifee	6	0	0	2	4	0	0
Mercer	6	2	0	0	3	1	0
Metcalfe	12	1	6	4	1	0	0
Monroe	13	0	6	1	2	4	0

County	Total	Agronomic	Tobacco	Fruit	Ornamental	Vegetables	Other
Montgomery	6	0	0	0	3	3	0
Morgan	3	0	0	1	1	1	0
Muhlenberg	6	0	1	1	1	3	0
Nelson	16	2	3	2	7	2	0
Nicholas	8	3	2	0	0	3	0
Ohio	2	0	0	1	0	1	0
Oldham	28	4	0	2	22	0	0
Owen	4	0	0	1	3	0	0
Owsley	1	0	0	0	0	1	0
Pendelton	2	0	1	1	0	0	0
Perry	3	0	0	0	3	0	0
Pike	10	0	0	0	6	4	0
Powell	1	0	0	0	1	0	0
Pulaski	19	2	0	2	9	6	0
Robertson	8	0	0	2	3	3	0
Rockcastle	4	1	0	0	0	3	0
Rowan	1	0	0	1	0	0	0
Russell	9	4	0	0	4	0	1
Scott	33	2	1	0	27	3	0
Shelby	45	7	1	2	30	5	0
Simpson	5	1	0	0	4	0	0
Spencer	6	0	0	0	2	4	0
Taylor	49	5	1	1	31	10	1
Todd	33	11	7	2	4	9	0
Trigg	11	0	6	1	2	2	0
Trimble	3	0	0	0	2	0	1
Union	7	4	0	2	1	0	0
Warren	37	3	1	1	29	3	0
Washington	5	1	0	1	3	0	0
Wayne	5	0	1	0	0	4	0
Webster	2	2	0	0	0	0	0
Whitley	4	0	0	0	0	3	1
Wolfe	2	0	0	0	0	1	1
Woodford	16	3	4	2	5	2	0
Total	**1668**	**177**	**102**	**99**	**987**	**273**	**30**

Table 8. NUMBER OF PRIMARY DIAGNOSES AND CONSULTATIONS MADE BY UK EXTENSION SPECIALISTS AND RESEARCHERS

Specialist/Researcher	Department	Consultations
Bailey, WA	Plant & Soil Science	7
Becker, DW	Horticulture	1
Bessin, RT	Entomology	6
Bradley, CA	Plant Pathology	1
Dutton, SR	Horticulture	4
Eation, M	Forestry	3
Green, JD	Plant & Soil Science	49
Larson, J	Entomology	7
Lee, CD	Plant & Soil Science	4
Legleiter, T	Plant & Soil Science	1
Newton, B	Entomology	1
Pearce, RC	Plant & Soil Science	23
Phillips, TD	Plant & Soil Science	2
Smith, SR	Plant & Soil Science	3
Strang, JG	Horticulture	3
Rudolph, RE	Horticulture	7
Villaneuva, R	Entomology	3
Wilson, P	Horticulture	1
Wise, KA	Plant Pathology	1
Wright, S	Horticulture	2

Table 9. DIAGNOSIS OF INDIVIDUAL SAMPLES BY CROP AND DISEASE/DISORDER

CORN		
Corn		
1	Abnormal plant growth	*Abiotic disorder*
2	Anthracnose stalk rot	*Colletotrichum graminicola*
1	Chimera	*Abiotic disorder*
6	Common corn rust	*Puccinia sorghi*
13	Corn gray leaf spot	*Cercospora zeae-maydis*
2	Corn stalk rot	*Fusarium graminearum*
5	Corn tar spot	*Phyllachora maydis*
1	Cultural/environmental problem	*Abiotic disorder*
1	Curvularia leaf spot	*Curvularia lunata*
2	Diplodia ear rot	*Stenocarpella (Diplodia) maydis*
1	Diplodia leaf streak	*Diplodia macrospora*

2	Drought stress damage	*Abiotic disorder*
2	Flooding injury	*Abiotic disorder*
1	Fusarium crown rot	*Fusarium sp./spp.*
1	Fusarium stalk rot	*Fusarium subglutinans*
2	Herbicide injury/exposure suspected	*Chemical*
3	Insect damage	*Unidentified insect*
1	Leaf scorch	*Abiotic disorder*
1	Leaf spot- abiotic	*Abiotic disorder*
2	Magnesium deficiency	*Nutritional disorder*
1	Mold	*Unidentified fungus*
2	No pathogen found	*Undetermined*
4	Northern corn leaf blight; leaf spot	*Setosphaeria turcica (turcicum)*
1	Penicillium ear rot	*Penicillium sp./spp.*
1	Penicillium seed rot; Seedling rot	*Penicillium sp./spp.*
2	Physoderma brown spot; Stalk rot	*Physoderma maydis*
2	Planting too shallow	*Abiotic disorder*
1	Poor root development	*Abiotic disorder*
1	Potassium deficiency	*Nutritional disorder*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
2	Scald; scorch	*Abiotic disorder*
1	Soil compaction	*Abiotic disorder*
13	Southern corn rust	*Puccinia polysora*
2	Trichoderma ear rot	*Trichoderma viride*
2	Wind damage	*Abiotic disorder*
86	**Total for Corn**	

	FORAGES	
Alfalfa		
6	Anthracnose	*Colletotrichum trifolii*
3	Charcoal rot	*Macrophomina sp./spp.*
2	Clover root curculio	*Sitona hispidulus (hispidula)*
1	Cultural/environmental problem	*Abiotic disorder*
1	Drought stress damage	*Abiotic disorder*
3	Freeze; frost; cold damage	*Abiotic disorder*
3	Poor nodulation (not on list)	*Abiotic disorder*
4	Potato leafhopper	*Empoasca fabae*
4	Rhizoctonia root; crown rot	*Rhizoctonia sp./spp.*
1	Spring black stem	*Phoma medicaginis*
11	Summer black stem; leaf spot	*Cercospora medicaginis*
39	**Total for Alfalfa**	

Clover		
1	Powdery mildew	*Erysiphe betae (polygoni)*
1	Southern anthracnose	*Colletotrichum trifoliorum*
2	**Total for Clover**	

Fescue		
1	Anthracnose	*Colletotrichum graminicola*
1	Brown patch	*Rhizoctonia sp./spp.*
1	Environmental stress; problem	*Abiotic disorder*
1	Rodent damage	*Abiotic disorder*
4	**Total for Fescue**	

Johnsongrass		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	**Total for Johnsongrass**	

Orchardgrass		
7	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
7	Brown stripe	*Graminopassalora graminis*
4	Drought stress damage	*Abiotic disorder*
1	Fusarium crown rot	*Fusarium sp./spp.*
3	Leaf rust; rust	*Puccinia sp./spp.*
22	**Total for Orchardgrass**	

Pea		
1	Bacterial leaf blight	*Pseudomonas sp./spp.*
1	**Total for Pea**	

	HEMP	
Hemp		
1	Fusarium stem rot	*Fusarium sp./spp.*
1	Glyphosate injury suspected	*Chemical*
1	Septoria leaf spot	*Septoria sp./spp.*
3	**Total for Hemp**	

SOYBEAN		
Soybean		
1	Broad mite	*Polyphagotarsonemus latus*
1	Charcoal rot	*Macrophomina phaseolina*
2	Chemical injury suspected	*Chemical*
1	Fertilizer injury	*Nutritional disorder*
1	Growth regulator effect suspected	*Chemical*
1	Insect damage	*Unidentified insect*
2	Japanese beetle	*Popillia japonica*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Lesion nematodes	*Pratylenchus sp./spp.*
3	No pathogen found	*Undetermined*
2	Poor nodulation (not on list)	*Abiotic disorder*
1	Poor root development	*Abiotic disorder*
7	Potassium deficiency	*Nutritional disorder*
1	Purple seed-stain; leaf blight	*Cercospora kikuchii*
2	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Root-knot nematodes	*Meloidogyne sp./spp.*
10	Soil compaction	*Abiotic disorder*
4	Soybean brown spot	*Septoria glycines*
10	Soybean cyst nematode (SCN)	*Heterodera glycines*
1	Soybean downy mildew	*Peronospora manshurica*
2	Soybean frogeye leaf spot	*Cercospora sojina*
5	Soybean Phytophthora root and stem rot	*Phytophthora sojae*
2	Soybean pod and stem blight	*Diaporthe phaseolorum*
16	Soybean sudden death syndrome	*Fusarium virguliforme*
10	Soybean vein necrosis	*Soybean Vein Necrosis Virus (SVNV)*
1	Thrips	*Order Thysanoptera*
1	Twospotted spider mite	*Tetranychus urticae*
91	**Total for Soybean**	

SMALL GRAINS		
Oats		
1	Crown rust; Rust	*Puccinia coronata*
1	Dry halo blight (Bacterial)	*Pseudomonas syringae*
1	Loose smut	*Ustilago avenae*
1	Oat leaf spot; Seedling blight	*Pyrenophora avenae*
4	**Total for Oats**	

Pearl Millet		
1	Smut	*Ustilago sp./spp.*
1	**Total for Pearl Millet**	

Rye		
1	Drought stress damage	*Abiotic disorder*
1	**Total for Rye**	

Sorghum		
1	Northern corn leaf blight; Leaf spot	*Exserohilum turcicum*
1	Root problems	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
3	**Total for Sorghum**	

Wheat		
3	Bacterial stripe; Black chaff	*Xanthomonas campestris*
1	Barley yellow dwarf	*Barley Yellow Dwarf Vir (BYDV)*
1	Chlorosis	*Unidentified agent*
1	Excessive water	*Abiotic disorder*
3	Freeze; frost; cold damage	*Abiotic disorder*
2	Head blight	*Fusarium graminearum*
3	Nutritional deficiency	*Nutritional disorder*
1	Rodent damage	*Abiotic disorder*
2	Take-all	*Gaeumannomyces graminis var. tritici*
3	Unidentified virus	*Unidentified virus*
20	**Total for Wheat**	

TOBACCO		
Tobacco		
2	Alfalfa mosaic	*Alfalfa Mosaic Virus (AMV)*
15	Angular leaf spot	*Pseudomonas syringae tabaci*
1	Aphids	*Family Aphididae*
1	Bacterial soft rot; blackleg	*Pectobacterium carotovorum subsp. carotovorum*
22	Black shank	*Phytophthora nicotianae*
1	Boron deficiency	*Nutritional disorder*
5	Brown spot	*Alternaria alternata*
5	Chemical injury suspected	*Chemical*
1	Cultural/environmental problem	*Abiotic disorder*
1	Environmental stress; problem	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*

2	Frenching/ high soil moisture	*Abiotic disorder*
8	Frogeye leaf spot	*Cercospora nicotianae*
1	Fusarium wilt	*Fusarium oxysporum*
4	Growth regulator effect suspected	*Chemical*
2	Herbicide injury suspected	*Chemical*
1	High soluble salt	*Nutritional disorder*
1	Insect damage	*Unidentified insect*
2	Insufficient sample	*Undetermined*
5	Leaf spot- abiotic	*Abiotic disorder*
2	Low pH damage	*Nutritional disorder*
2	Manganese toxicity	*Nutritional disorder*
3	No pathogen found	*Undetermined*
1	Physiological responses (early bloom)	*Abiotic disorder*
1	Phytotoxicity	*Chemical*
3	Potassium deficiency	*Nutritional disorder*
1	Potato virus Y (PVY)	*Potyvirus Potato Virus Y*
7	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Scald; scorch	*Abiotic disorder*
4	Soil compaction	*Abiotic disorder*
7	Soreshin (Rhizoctonia stem rot)	*Rhizoctonia sp./spp.*
1	Target spot	*Rhizoctonia sp./spp.*
1	Temporary phosphorus deficiency	*Nutritional disorder*
7	Tobacco hollow stalk; leaf rot	*Erwinia carotovora carotovora*
9	Tomato spotted wilt	*Tomato Spotted Wilt Virus (TSWV)*
6	Transplant shock; stress	*Abiotic disorder*
1	Unknown abiotic disorder	*Abiotic disorder*
138	**Total for Tobacco**	

	SMALL FRUIT	
Blackberry		
5	Anthracnose	*Elsinoe veneta*
6	Cane blight; canker	*Coniothyrium fuckelii*
3	Cercospora leaf spot	*Cercospora sp./spp.*
1	Double blossom (Rosette)	*Cercosporella rubi*
3	Environmental stress; problem	*Abiotic disorder*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Glyphosate injury suspected	*Chemical*
1	Insufficient sample	*Undetermined*
2	No pathogen found	*Undetermined*
1	Rednecked cane borer	*Agrilus ruficollis*
1	Soil compaction	*Abiotic disorder*

1	Spider mite	*Family Tetranychidae*
2	Spur blight	*Didymella applanata*
1	Winter injury	*Abiotic disorder*
29	**Total for Blackberry**	

Blueberry		
2	Decline; dieback	*Abiotic disorder*
1	Freeze; frost; cold damage	*Abiotic disorder*
2	High soluble salt	*Nutritional disorder*
1	Iron deficiency	*Nutritional disorder*
2	Low pH damage	*Nutritional disorder*
2	No pathogen found	*Undetermined*
2	Phomopsis canker and twig blight	*Diaporthe vaccinii*
3	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
3	Soil compaction	*Abiotic disorder*
1	Transplant shock; stress	*Abiotic disorder*
19	**Total for Blueberry**	

Gooseberry		
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	**Total for Gooseberry**	

Grape		
1	Black rot	*Guignardia bidwellii*
1	Grape downy mildew	*Plasmopara viticola*
1	Grape phylloxera	*Daktulosphaira vitifoliae*
1	Growth regulator effect suspected	*Chemical*
1	Nutritional disorder suspected	*Nutritional disorder*
1	Twospotted spider mite	*Tetranychus urticae*
6	**Total for Grape**	

Raspberry		
1	Environmental stress; problem	*Abiotic disorder*
1	**Total for Raspberry**	

Strawberry		
1	Hail damage	*Abiotic disorder*
1	No pathogen found	*Undetermined*
1	Phomopsis leaf blight	*Phomopsis obscurans*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*

1	Strawberry black root rot complex	*Various fungi*
1	Strawberry leather rot	*Phytophthora cactorum*
1	Twospotted spider mite	*Tetranychus urticae*
1	Wind damage	*Abiotic disorder*
8	**Total for Strawberry**	

	TREE FRUIT	
Apple		
2	Apple twig blight; dieback; canker	*Botryosphaeria obtusa*
1	Armillaria root rot	*Armillaria sp./spp.*
1	Bitter pit	*Abiotic disorder*
2	Bitter rot	*Colletotrichum sp./spp.*
10	Cedar-apple rust	*Gymnosporangium juniperi-virginianae*
1	Cicada egg-laying injury	*Unidentified cicada*
1	Codling moth (CM)	*Cydia pomonella*
1	Cultural/environmental problem	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Excessive water	*Abiotic disorder*
4	Fire blight	*Erwinia amylovora*
4	Frogeye leaf spot	*Botryosphaeria obtusa*
1	Fungal wood rot	*Schizophyllum commune*
1	Fusarium canker	*Fusarium sp./spp.*
1	Granulate Ambrosia beetle	*Xylosandrus crassiusculus*
1	Herbicide injury/exposure suspected	*Chemical*
1	Insect damage	*Unidentified insect*
1	Internal bark necrosis; measles	*Abiotic disorder*
1	Marssonina blotch	*Diplocarpon mali*
3	Plum curculio	*Conotrachelus nenuphar*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Rosy apple aphid	*Dysaphis plantaginea*
1	Spider mite injury	*Unidentified spider mite*
1	Sunscald	*Abiotic disorder*
1	Thread blight	*Ceratobasidium (Corticium) ochroleucum (stevensii)*
2	White rot	*Botryosphaeria dothidea*
47	**Total for Apple**	

Cherry		
1	Insect damage	*Unidentified insect*
1	**Total for Cherry**	

Common Fig		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	**Total for Common Fig**	

Pawpaw		
1	Thread blight	*Ceratobasidium (Corticium) ochroleucum (stevensii)*
1	**Total for Pawpaw**	

Peach		
1	Decline; dieback	*Abiotic disorder*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Nutritional disorder suspected	*Nutritional disorder*
1	Oriental fruit moth	*Grapholita molesta*
1	Peach leaf curl	*Taphrina deformans*
1	Plum curculio	*Conotrachelus nenuphar*
1	Scab	*Fusicladium carpophilum*
1	Transplant shock; stress	*Abiotic disorder*
8	**Total for Peach**	

Pear		
1	Bitter rot	*Colletotrichum sp./spp.*
1	Fire blight	*Erwinia amylovora*
1	Pear decline	*Abiotic disorder*
6	Rust	*Gymnosporangium sp./spp.*
9	**Total for Pear**	

Pecan		
1	Insufficient sample	*Undetermined*
1	Pecan shoot Curculio complex	*Conotrachelus aratus*
1	Pecan weevil	*Curculio caryae*
4	Pecan; hickory scab	*Cladosporium caryigenum*
2	Physiological responses (poor kernel fill)	*Abiotic disorder*
1	Wind damage	*Abiotic disorder*
10	**Total for Pecan**	

HERBS		
Basil		
1	Cultural/environmental problem	*Abiotic disorder*
1	Low soluble salt	*Abiotic disorder*
2	No pathogen found	*Undetermined*
3	Pythium root and/or crown rot	*Pythium sp./spp.*
7	**Total for Basil**	
Cilantro		
1	Nutritional deficiency	*Nutritional disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Cilantro**	
Dill		
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	**Total for Dill**	
Mint		
1	Fourlined plant bug	*Poecilocapsus lineatus*
1	**Total for Mint**	
Oregano		
1	Fourlined plant bug	*Poecilocapsus lineatus*
1	**Total for Oregano**	

FUNGAL IDENTIFICATION		
Fungus Id Request		
1	Mold; Mildew	*Penicillium sp./spp.*
1	No pathogen found	*Undetermined*
1	Wood rot fungus	*Ganoderma sp./spp.*
3	**Total for Fungus Id Request**	
Mushroom		
1	Basidiomycete	*Unidentified Basidiomycete*
1	Earth ball	*Scleroderma sp./spp.*
2	Insufficient sample	*Undetermined*
1	Wood rot fungus	*Ganoderma sp./spp.*
5	**Total for Mushroom**	

PLANT IDENTIFICATION		
Plant Id Request		
1	Normal plant growth	*Undetermined*
1	**Total for Plant Id Request**	

MISCELLANEOUS		
Arabidopsis		
1	Thrips	*Order Thysanoptera*
1	**Total for Arabidopsis**	
Barrel Medic		
1	Cultural/environmental problem	*Abiotic disorder*
1	**Total for Barrel Medic**	
Chia		
1	Herbicide injury/exposure suspected	*Chemical*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	White mold	*Sclerotinia sp./spp.*
3	**Total for Chia**	
Nicotiana		
1	Cultural/environmental problem	*Abiotic disorder*
1	**Total for Nicotiana**	
Not Found On List		
1	Aphids	*Family Aphididae*
1	Foliar distortion	*Unidentified agent*
2	**Total for Not Found On List**	
Porcelain berry		
1	Broad mite	*Polyphagotarsonemus latus*
1	**Total for Porcelain berry**	
Sugarcane		
1	Soil compaction	*Abiotic disorder*
1	**Total for Sugarcane**	

HERBACEOUS ORNAMENTALS		
Allium; Onions; Leeks; Garlic		
1	Normal plant growth	*Undetermined*
1	**Total for Allium; Onions; Leeks; Garlic**	
Aster		
1	Aster rust; Rust	*Puccinia cnici-oleracei*
1	Powdery mildew	*Erysiphe sp./spp.*
2	**Total for Aster**	
Bacopa		
1	Foliar distortion	*Unidentified agent*
1	**Total for Bacopa**	
Begonia		
2	No pathogen found	*Undetermined*
2	**Total for Begonia**	
Bishop's Goutweed		
1	Insect damage	*Unidentified insect*
1	**Total for Bishop's Goutweed**	
Boston Fern		
1	Cultural/environmental problem	*Abiotic disorder*
1	Mealybugs	*Family Pseudococcidae*
1	No pathogen found	*Undetermined*
3	**Total for Boston Fern**	
Cardinalflower		
1	Herbicide injury/exposure suspected	*Chemical*
1	**Total for Cardinalflower**	
Chrysanthemum		
1	Cercospora leaf spot	*Cercospora sp./spp.*
3	Cultural/environmental problem	*Abiotic disorder*
2	Heat stress	*Abiotic disorder*

2	High pH; low soluble salt damage	*Nutritional disorder*
1	Insufficient sample	*Undetermined*
2	Leaf scorch	*Abiotic disorder*
1	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional disorder*
9	Pythium root and/or crown rot	*Pythium sp./spp.*
3	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Rodent damage	*Abiotic disorder*
26	**Total for Chrysanthemum**	

Cockscomb		
1	No pathogen found	*Undetermined*
1	Root-knot nematodes	*Meloidogyne sp./spp.*
2	**Total for Cockscomb**	

Coleus		
1	Downy mildew	*Peronospora sp./spp.*
1	**Total for Coleus**	

Coneflower		
1	Anthracnose basal rot; crown rot	*Colletotrichum sp./spp.*
1	Cultural/environmental problem	*Abiotic disorder*
2	Excessive water	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
5	**Total for Coneflower**	

Dahlia		
4	Bacterial soft rot	*Erwinia sp./spp.*
1	Chlorosis	*Unidentified agent*
1	Leaf spot	*Undetermined*
1	No pathogen found	*Undetermined*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Southern blight	*Athelia (Sclerotium) rolfsii*
3	Unidentified virus	*Unidentified virus*
12	**Total for Dahlia**	

Daylily		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Cultural/environmental problem	*Abiotic disorder*
1	Daylily leaf streak	*Collecephalus hemerocallidis*

1	Freeze; frost; cold damage	*Abiotic disorder*
1	No pathogen found	*Undetermined*
5	**Total for Daylily**	

Geranium		
1	Black root rot	*Berkeleyomyces (Thielaviopsis) basicola*
2	Crown gall	*Agrobacterium sp./spp.*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Iron toxicity	*Nutritional disorder*
1	Low pH damage	*Nutritional disorder*
1	Low soluble salt	*Abiotic disorder*
1	Nutritional deficiency	*Nutritional disorder*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
10	**Total for Geranium**	

Gerber Daisy		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Nutritional deficiency	*Nutritional disorder*
2	**Total for Gerber Daisy**	

Goldenrod		
1	Foliar distortion	*Unidentified agent*
1	**Total for Goldenrod**	

Heuchera; Coral Bells		
1	Spider mite injury	*Unidentified spider mite*
1	**Total for Heuchera; Coral Bells**	

Hosta		
1	Slime mold	*Class Myxomycetes; Myxomycota*
1	Sooty mold	*Unidentified fungus*
2	**Total for Hosta**	

Indian-pink		
1	Growth regulator effect suspected	*Chemical*
1	**Total for Indian-pink**	

Iris		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Iris borer	*Macronoctua onusta*
4	Iris leaf spot	*Heterosporium iridis*
1	Scald; scorch	*Abiotic disorder*
1	Sooty mold	*Unidentified fungus*
8	**Total for Iris**	

Joe-pye Weed; Purple Boneset		
1	Growth regulator effect suspected	*Chemical*
1	**Total for Joe-pye Weed; Purple Boneset**	

Lily		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
4	**Total for Lily**	

Lilyturf		
1	Anthracnose basal rot; crown rot	*Colletotrichum sp./spp.*
2	Crown and root rot	*Phytophthora sp./spp.*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
4	**Total for Lilyturf**	

Lobelia		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Fungus gnat	*Mycetophila sp./spp.*
1	Twospotted spider mite	*Tetranychus urticae*
3	**Total for Lobelia**	

Mexican Petunia		
1	Eriophyid mites	*Family Eriophyidae*
1	**Total for Mexican Petunia**	

Milkweed		
1	Excessive water	*Abiotic disorder*
1	**Total for Milkweed**	

Million Bells		
1	Growth regulator effect suspected	*Chemical*
1	High pH damage	*Nutritional disorder*
1	High pH; low soluble salt damage	*Nutritional disorder*
1	Nutritional deficiency	*Nutritional disorder*
5	Nutritional disorder suspected	*Nutritional disorder*
1	Powdery mildew	*Oidium sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Thrips	*Order Thysanoptera*
13	**Total for Million Bells**	

New Guinea Impatiens		
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
2	**Total for New Guinea Impatiens**	

Pachysandra		
4	Leaf and stem blight	*Volutella pachysandrae*
4	**Total for Pachysandra**	

Pansy		
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	**Total for Pansy**	

Peony		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Botrytis blight	*Botrytis sp./spp.*
1	Foliar nematodes	*Family Aphelenchoididae*
2	Herbicide injury/exposure suspected	*Chemical*
1	High soil moisture	*Abiotic disorder*
1	Peony leaf blotch	*Cladosporium paeoniae*
1	Powdery mildew	*Erysiphe sp./spp.*
8	**Total for Peony**	

Petunia		
1	Air pollution suspected	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*

1	Nutritional disorder suspected	*Nutritional disorder*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Unidentified virus	*Unidentified virus*
10	**Total for Petunia**	

Phlox		
1	Anthracnose	*Colletotrichum sp./spp.*
1	Black root rot	*Berkeleyomyces (Thielaviopsis) basicola*
2	**Total for Phlox**	

Prairie Blazing Star		
1	Foliar distortion	*Unidentified agent*
1	**Total for Prairie Blazing Star**	

Rudbeckia		
1	Cultural/environmental problem	*Abiotic disorder*
1	**Total for Rudbeckia**	

Shooting Stars		
1	Excessive water	*Abiotic disorder*
2	Foliar distortion	*Unidentified agent*
3	**Total for Shooting Stars**	

Snapdragon		
1	Foliar distortion	*Unidentified agent*
1	**Total for Snapdragon**	

Spiderwort		
1	Septoria leaf spot	*Septoria sp./spp.*
1	**Total for Spiderwort**	

Sunflower		
1	Charcoal rot	*Macrophomina sp./spp.*
1	Soybean stem borer	*Dectes texanus*
1	Sunflower leaf spot	*Septoria helianthi*
3	**Total for Sunflower**	

Sweetpotato		
1	Intumescence	*Abiotic disorder*
1	**Total for Sweetpotato**	

Sword Fern		
1	Foliar distortion	*Unidentified agent*
1	**Total for Sword Fern**	

Tulip		
3	Blue mold rot	*Penicillium sp./spp.*
1	Bulb mite	*Rhizoglyphus sp./spp.*
1	Fusarium dry rot; Bulb rot	*Fusarium sp./spp.*
1	Tulip fire; blight	*Botrytis tulipae*
6	**Total for Tulip**	

Verbena		
1	Nutritional deficiency	*Nutritional disorder*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
2	**Total for Verbena**	

Zinnia		
1	Chlorosis	*Unidentified agent*
1	Insufficient sample	*Undetermined*
2	**Total for Zinnia**	

INDOOR PLANTS		
Ceriman		
1	Insufficient sample	*Undetermined*
1	**Total for Ceriman**	

Citrus		
1	Cultural/environmental problem	*Abiotic disorder*
1	Scale insects	*Order Homoptera*
2	**Total for Citrus**	

Elephant Ear Plant		
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*

2	**Total for Elephant Ear Plant**	

Fig		
1	Insufficient sample	*Undetermined*
1	**Total for Fig**	

Gardenia		
1	Aphids	*Family Aphididae*
1	Insufficient sample	*Undetermined*
1	Sooty mold	*Unidentified fungus*
1	Spider mite injury	*Unidentified spider mite*
4	**Total for Gardenia**	

Hibiscus		
1	Growth regulator effect suspected	*Chemical*
1	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
3	**Total for Hibiscus**	

Lemon		
1	Brown soft scale	*Coccus hesperidum*
2	Cultural/environmental problem	*Abiotic disorder*
1	Nutritional deficiency (citrus)	*Nutritional disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
5	**Total for Lemon**	

Mandevilla		
2	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Spider mite injury	*Unidentified spider mite*
3	**Total for Mandevilla**	

Orchids		
1	Spider mite injury	*Unidentified spider mite*
1	**Total for Orchids**	

Oxalis		
1	Thrips	*Order Thysanoptera*
1	**Total for Oxalis**	

Palm		
1	Spider mite injury	*Unidentified spider mite*
1	**Total for Palm**	

Schefflera		
1	Mealybugs	*Family Pseudococcidae*
1	**Total for Schefflera**	

	TURFGRASS	
Bentgrass		
4	Anthracnose	*Colletotrichum graminicola*
1	Black layer of turfgrass	*Abiotic disorder*
5	Dense thatch layer	*Abiotic disorder*
4	No pathogen found	*Undetermined*
6	Pythium root dysfunction	*Pythium sp./spp.*
6	Take-all	*Gaeumannomyces graminis var. avenae*
26	**Total for Bentgrass**	

Bermudagrass		
1	No pathogen found	*Undetermined*
1	Pythium blight; cottony blight	*Pythium sp./spp.*
2	**Total for Bermudagrass**	

Bluegrass		
1	Brown patch	*Rhizoctonia sp./spp.*
1	Chilling injury	*Abiotic disorder*
1	Cultural/environmental problem	*Abiotic disorder*
1	Drought stress damage	*Abiotic disorder*
3	Leaf rust; rust	*Puccinia sp./spp.*
1	No pathogen found	*Undetermined*
1	Red thread	*Laetisaria fuciformis*
1	Summer patch	*Magnaporthe poae*
10	**Total for Bluegrass**	

Fescue		
2	Brown patch	*Rhizoctonia sp./spp.*
1	Drought stress damage	*Abiotic disorder*
1	Freeze; frost; cold damage	*Abiotic disorder*

1	Heat stress	*Abiotic disorder*
1	Helminthosporium diseases	*Pyrenophora sp./spp.*
1	Leptosphaerulina leaf spot	*Leptosphaerulina sp./spp.*
1	Slime mold	*Class Myxomycetes; Myxomycota*
8	**Total for Fescue**	

Ryegrass		
1	Brown patch	*Rhizoctonia sp./spp.*
2	Curvularia blight; Leaf spot	*Curvularia sp./spp.*
1	Leptosphaerulina leaf spot	*Leptosphaerulina sp./spp.*
4	**Total for Ryegrass**	

Turfgrass		
1	Brown patch	*Rhizoctonia sp./spp.*
2	Dollar spot	*Clarireedia homoeocarpa*
2	Insufficient sample	*Undetermined*
1	Leaf rust; rust	*Puccinia sp./spp.*
2	Nimblewill	*Muhlenbergia schreberi*
1	Red thread	*Laetisaria fuciformis*
9	**Total for Turfgrass**	

WOODY ORNAMENTALS		
Arborvitae		
1	Arborvitae leafminer	*Argyresthia thuiella*
4	Arborvitae needle blight	*Phyllosticta thujae*
1	Bagworm	*Thyridopteryx ephemeraeformis*
4	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
4	Environmental stress; problem	*Abiotic disorder*
1	Excessive water	*Abiotic disorder*
2	High soluble salt	*Nutritional disorder*
5	Pestalotiopsis needle blight; tip blight	*Pestalotiopsis sp./spp.*
3	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Seiridium canker	*Seiridium unicorne*
7	Spider mite injury	*Unidentified spider mite*
2	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
8	Winter injury	*Abiotic disorder*
45	**Total for Arborvitae**	

Ash		
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	**Total for Ash**	

Aucuba		
1	Winter injury	*Abiotic disorder*
1	**Total for Aucuba**	

Azalea		
1	Armillaria root rot	*Armillaria sp./spp.*
1	Azalea lace bug	*Stephanitis pyriodes*
2	Decline; dieback	*Abiotic disorder*
2	Iron deficiency	*Nutritional disorder*
1	Transplant shock; stress	*Abiotic disorder*
7	**Total for Azalea**	

Baldcypress		
1	Cultural/environmental problem	*Abiotic disorder*
1	Lichens	*Lichenes*
1	Transplant shock; stress	*Abiotic disorder*
3	**Total for Baldcypress**	

Barberry		
1	No pathogen found	*Undetermined*
1	**Total for Barberry**	

Beautyberry		
1	Insufficient sample	*Undetermined*
1	**Total for Beautyberry**	

Beech		
1	Anthracnose	*Apiognomonia sp./spp.*
3	Aphids	*Family Aphididae*
1	Eriophyid mites	*Family Eriophyidae*
5	**Total for Beech**	

Birch		
1	Anthracnose	*Gloeosporium sp./spp.*
1	Cryptocline leaf spot	*Cryptocline betularum*

2	Iron deficiency	*Nutritional disorder*
4	**Total for Birch**	

Black Gum		
1	Armillaria root rot	*Armillaria sp./spp.*
1	Decline; dieback	*Abiotic disorder*
1	Insect damage	*Unidentified insect*
1	Iron deficiency	*Nutritional disorder*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Poor growing conditions	*Abiotic disorder*
1	Transplant shock; stress	*Abiotic disorder*
7	**Total for Black Gum**	

Bluebeard		
1	Growth regulator effect suspected	*Chemical*
1	**Total for Bluebeard**	

Boxwood		
1	Animal urine damage	*Abiotic disorder*
3	Boxwood blight; leaf and stem blight	*Calonectria pseudonaviculatum*
57	Boxwood leafminer	*Monarthropalpus flavus (buxi)*
6	Boxwood psyllid	*Psylla buxi*
190	Boxwood Volutella canker	*Volutella buxi*
1	Decline; dieback	*Abiotic disorder*
1	High soil moisture	*Abiotic disorder*
1	Leaf scorch	*Abiotic disorder*
1	Leaf spot- abiotic	*Abiotic disorder*
67	Macrophoma dieback	*Macrophoma sp./spp.*
1	Nutritional disorder suspected	*Nutritional disorder*
1	Scald; scorch	*Abiotic disorder*
16	Spider mite injury	*Unidentified spider mite*
10	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
64	Winter injury; winter desiccation	*Abiotic disorder*
421	**Total for Boxwood**	

Butterfly Bush		
1	Spider mite injury	*Unidentified spider mite*
1	**Total for Butterfly Bush**	

Buttonbush		
1	Anthracnose	*Unidentified fungus*
1	Decline; dieback	*Abiotic disorder*
2	**Total for Buttonbush**	

Cedar		
1	Decline; dieback	*Abiotic disorder*
1	**Total for Cedar**	

Cherry		
1	Decline; dieback	*Abiotic disorder*
1	Japanese maple scale	*Lopholeucaspis japonica*
2	Leaf spot; shothole	*Blumeriella jaapii*
1	Lichens	*Lichenes*
1	Phoma leaf spot	*Phoma sp./spp.*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	Shothole borer	*Scolytus rugulosus*
2	Stonefruit bacterial spot	*Xanthomonas campestris pv. pruni*
1	Transplant shock; stress	*Abiotic disorder*
11	**Total for Cherry**	

Cherry laurel		
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Scald; scorch	*Abiotic disorder*
1	Winter injury	*Abiotic disorder*
3	**Total for Cherry laurel**	

Chestnut		
1	Chestnut blight	*Cryphonectria parasitica*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Insect damage	*Unidentified insect*
1	Twig pruner	*Elaphidionoides villosus*
4	**Total for Chestnut**	

Chokeberry		
1	Lace bugs	*Family Tingidae*
1	**Total for Chokeberry**	

Clethra		
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*

1	**Total for Clethra**	

Crabapple		
2	Apple scab	*Venturia inaequalis*
2	**Total for Crabapple**	

Crape Myrtle		
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Crapemyrtle bark scale	*Acanthococcus lagerstroemiae*
1	Insufficient information	*Undetermined*
1	No pathogen found	*Undetermined*
1	Powdery mildew	*Erysiphe sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
6	**Total for Crape Myrtle**	

Cryptomeria		
1	Algae	*General*
3	Winter injury	*Abiotic disorder*
4	**Total for Cryptomeria**	

Dogwood		
1	Cultural/environmental problem	*Abiotic disorder*
3	Decline; dieback	*Abiotic disorder*
3	Dogwood anthracnose	*Discula destructiva*
1	Dogwood leaf spot	*Septoria cornicola*
3	Dogwood powdery mildew	*Erysiphe pulchra*
2	Growth regulator effect suspected	*Chemical*
1	Hail damage	*Abiotic disorder*
1	Herbicide drift suspected	*Chemical*
1	Iron deficiency	*Nutritional disorder*
1	No pathogen found	*Undetermined*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
3	Spot anthracnose	*Elsinoe corni*
4	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
27	**Total for Dogwood**	

Elderberry		
2	Eriophyid mites	*Family Eriophyidae*

1	Growth regulator effect suspected	*Chemical*
3	**Total for Elderberry**	

Elm		
3	Anthracnose	*Asteroma inspicuum*
3	Anthracnose; black spot	*Stegophora ulmea*
1	Elm sack gall aphid	*Tetraneura ulmi*
1	Endothia canker	*Endothia gyrosa*
1	Insect damage	*Unidentified insect*
1	Japanese maple scale	*Lopholeucaspis japonica*
1	Spider mite injury	*Unidentified spider mite*
11	**Total for Elm**	

Euonymus		
1	Crown gall	*Agrobacterium sp./spp.*
1	Decline; dieback	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
3	No pathogen found	*Undetermined*
2	Spider mite injury	*Unidentified spider mite*
4	Winter injury	*Abiotic disorder*
12	**Total for Euonymus**	

Falsecypress		
1	Natural senescence	*Abiotic disorder*
1	Needle blight	*Phyllosticta sp./spp.*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
5	Spider mite injury	*Unidentified spider mite*
1	Tip blight	*Kabatina sp./spp.*
1	Winter injury	*Abiotic disorder*
10	**Total for Falsecypress**	

Filbert		
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
2	Eastern filbert blight	*Cryptosporella anomala*
1	Septoria leaf spot	*Septoria sp./spp.*
4	**Total for Filbert**	

Fir		
1	Cytospora canker; Dieback	*Cytospora sp./spp.*
1	Heat stress	*Abiotic disorder*

7	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
4	Soil compaction	*Abiotic disorder*
13	**Total for Fir**	

Ginkgo		
3	No pathogen found	*Undetermined*
3	**Total for Ginkgo**	

Hackberry		
2	Hackberry nipplegall maker	*Pachypsylla celtidismamma*
1	Powdery mildew	*Erysiphe sp./spp.*
3	**Total for Hackberry**	

Hawthorn		
1	Herbicide drift suspected	*Chemical*
1	**Total for Hawthorn**	

Heavenly Bamboo		
2	Winter injury	*Abiotic disorder*
2	**Total for Heavenly Bamboo**	

Hemlock		
2	Elongate hemlock scale	*Fiorinia externa*
1	Hemlock borer	*Melanophila fulvoguttata*
3	**Total for Hemlock**	

Hickory		
1	Anthracnose	*Gnomonia caryae*
3	Hickory leaf stem gallmakers	*Phylloxera sp./spp.*
1	Leaf spot	*Unidentified fungus*
5	**Total for Hickory**	

Holly		
3	Black root rot	*Berkeleyomyces (Thielaviopsis) basicola*
2	Cottony camellia scale	*Pulvinaria floccifera*
8	Decline; dieback	*Abiotic disorder*
1	High soil moisture	*Abiotic disorder*
1	Japanese maple scale	*Lopholeucaspis japonica*
1	No pathogen found	*Undetermined*

1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
2	Whiteflies	*Family Aleyrodidae*
11	Winter injury	*Abiotic disorder*
31	**Total for Holly**	

Honeysuckle		
1	Fourlined plant bug	*Poecilocapsus lineatus*
1	Wood decay fungus	*Unidentified fungus*
2	**Total for Honeysuckle**	

Hornbeam		
1	Bacterial wetwood; slime flux	*Various pathogens*
1	Canker- unidentified fungus	*Unidentified fungus*
1	Decline; dieback	*Abiotic disorder*
1	Flathead; Metallic wood borers	*Family Buprestidae*
4	**Total for Hornbeam**	

Horsechestnut; Buckeye		
1	Leaf Blotch	*Guignardia aesculi*
1	**Total for Horsechestnut; Buckeye**	

Hydrangea		
1	Aphids	*Family Aphididae*
4	Armillaria root rot	*Armillaria sp./spp.*
1	Bacterial leaf spot	*Xanthomonas campestris*
9	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Fungal leaf spot	*Cercospora hydrangeae*
1	Growth regulator effect suspected	*Chemical*
1	Insufficient information	*Undetermined*
1	Leaf scorch	*Abiotic disorder*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
2	Spider mite injury	*Unidentified spider mite*
1	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
26	**Total for Hydrangea**	

Juniper		
3	Decline; dieback	*Abiotic disorder*

1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Low pH damage	*Nutritional disorder*
2	Pestalotiopsis needle blight; tip blight	*Pestalotiopsis sp./spp.*
2	Phomopsis tip blight; needle blight	*Phomopsis juniperovora*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
2	Seiridium canker	*Seiridium unicorne*
1	Spider mite injury	*Unidentified spider mite*
2	Winter injury	*Abiotic disorder*
15	**Total for Juniper**	

Kentucky Coffee Tree		
1	Decline; dieback	*Abiotic disorder*
1	**Total for Kentucky Coffee Tree**	

Larch		
1	No pathogen found	*Undetermined*
1	**Total for Larch**	

Leyland Cypress		
2	Needle blight	*Phyllosticta sp./spp.*
1	Pestalotiopsis needle blight; tip blight	*Pestalotiopsis sp./spp.*
6	Seiridium canker	*Seiridium unicorne*
7	Winter injury; winter desiccation	*Abiotic disorder*
16	**Total for Leyland Cypress**	

Lilac		
1	Cultural/environmental problem	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Iron deficiency	*Nutritional disorder*
1	Leaf scorch	*Abiotic disorder*
1	Oedema; edema	*Abiotic disorder*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
2	Powdery mildew	*Microsphaera sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
9	**Total for Lilac**	

Linden		
1	Insect damage	*Unidentified insect*
1	**Total for Linden**	

Locust		
1	Growth regulator effect suspected	*Chemical*
1	**Total for Locust**	

Magnolia		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
2	Decline; dieback	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*
1	Insufficient sample	*Undetermined*
1	Magnolia leafminer	*Phyllocnistis magnoliella*
2	Magnolia scale	*Neolecanium cornuparvum*
1	Natural senescence	*Abiotic disorder*
1	No pathogen found	*Undetermined*
1	Powdery mildew	*Erysiphe sp./spp.*
1	Sooty mold	*Unidentified fungus*
12	**Total for Magnolia**	

Maple		
2	Cicada egg-laying injury	*Unidentified cicada*
1	Cottony mapleleaf scale	*Pulvinaria acericola*
2	Cultural/environmental problem	*Abiotic disorder*
1	Cytospora canker; Dieback	*Cytospora sp./spp.*
4	Decline; dieback	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Fusarium canker	*Fusarium sp./spp.*
1	Gloomy scale	*Melanaspis tenebricosa*
1	Glyphosate injury suspected	*Chemical*
1	Growth regulator effect suspected	*Chemical*
2	Insect damage	*Unidentified insect*
1	Japanese beetle	*Popillia japonica*
1	Japanese maple scale	*Lopholeucaspis japonica*
1	Leaf scorch	*Abiotic disorder*
1	Leaf spot	*Undetermined*
2	Lecanium scales	*Lecanium sp./spp.*
6	Maple anthracnose	*Aureobasidium apocryptum*
18	Maple decline	*Complex*
18	Maple leaf blister	*Taphrina carveri*
1	Maple leaf spot	*Phyllosticta minima*
6	No pathogen found	*Undetermined*

2	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
2	Potato leafhopper	*Empoasca fabae*
1	Powdery mildew	*Oidium sp./spp.*
1	Spider mite injury	*Unidentified spider mite*
8	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury	*Undetermined*
1	Verticillium wilt	*Verticillium sp./spp.*
1	Whitetrunk rot; Heart rot	*Phellinus igniarius*
91	**Total for Maple**	

New Jersey Tea		
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	**Total for New Jersey Tea**	

Ninebark		
1	Powdery mildew	*Podosphaera sp./spp.*
1	**Total for Ninebark**	

Oak		
7	Actinopelte leaf spot	*Tubakia dryina*
13	Anthracnose	*Apiognomonia sp./spp.*
2	Aphids	*Family Aphididae*
16	Bacterial leaf scorch	*Xylella fastidiosa*
2	Cicada egg-laying injury	*Unidentified cicada*
9	Decline; dieback	*Abiotic disorder*
1	Endothia canker	*Endothia gyrosa*
2	Environmental stress; problem	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*
1	Fusarium canker	*Fusarium sp./spp.*
3	Gall wasps	*Family Cynipidae*
2	Gouty oak gall wasp	*Callirhytis quercus*
1	Herbicide drift suspected	*Chemical*
1	Horned oak gall wasp	*Callirhytis cornigera*
2	Insect damage	*Unidentified insect*
1	Insect gall	*Insect gall*
1	Insufficient sample	*Undetermined*
4	Iron deficiency	*Nutritional disorder*
1	Jumping oak gall wasp	*Neuroterus saltatorius*
1	Lace bugs	*Family Tingidae*
2	Lichens	*Lichenes*

3	No pathogen found	*Undetermined*
1	Normal plant growth	*Undetermined*
3	Oak powdery mildew	*Erysiphe (Oidium) alphitoides*
9	Oak shothole leafminer	*Agromyza viridula*
2	Oak twig canker and dieback	*Botryosphaeria quercuum*
4	Oak vein pocket gallmaker	*Macrodiplosis quercusoruca*
2	Oak wilt	*Bretziella fagacearum*
1	Solitary oak leafminer	*Cameraria hamadryadella*
3	Transplant shock; stress	*Abiotic disorder*
7	Undetermined injury	*Undetermined*
1	Wood rot fungus	*Inonotus sp./spp.*
109	**Total for Oak**	

Pear		
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Fire blight	*Erwinia amylovora*
1	Phoma leaf spot	*Phoma sp./spp.*
1	Rust	*Gymnosporangium sp./spp.*
1	Scald; scorch	*Abiotic disorder*
5	**Total for Pear**	

Persimmon		
1	No pathogen found	*Undetermined*
1	**Total for Persimmon**	

Pine		
1	Bark beetle	*Ips sp./spp.*
1	Cultural/environmental problem	*Abiotic disorder*
2	Dothistroma needle blight	*Dothistroma pini*
1	Excessive water	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
3	No pathogen found	*Undetermined*
1	Pestalotiopsis needle blight; tip blight	*Pestalotiopsis sp./spp.*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Pine needle scale	*Chionaspis pinifoliae*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Soil compaction	*Abiotic disorder*
1	Transplant shock; stress	*Abiotic disorder*
2	White pine decline	*Abiotic disorder*
1	Winter injury	*Abiotic disorder*
1	Wood boring insect damage	*Unidentified insect*

20	**Total for Pine**	

Privet		
1	Insufficient information	*Undetermined*
1	Winter injury	*Abiotic disorder*
2	**Total for Privet**	

Quince		
1	Cedar-quince rust	*Gymnosporangium clavipes*
1	Fourlined plant bug	*Poecilocapsus lineatus*
2	**Total for Quince**	

Redbud		
1	Cicada egg-laying injury	*Unidentified cicada*
1	Cultural/environmental problem	*Abiotic disorder*
2	Decline; dieback	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*
1	Insect damage	*Unidentified insect*
1	Scald; scorch	*Abiotic disorder*
7	**Total for Redbud**	

Rhododendron		
2	Iron deficiency	*Nutritional disorder*
1	Winter injury	*Abiotic disorder*
3	**Total for Rhododendron**	

Rose		
1	Black spot	*Diplocarpon rosae*
1	Botrytis blight	*Botrytis sp./spp.*
2	Chemical injury suspected	*Chemical*
1	Cultural/environmental problem	*Abiotic disorder*
2	Decline; dieback	*Abiotic disorder*
1	Dieback; canker	*Nectria sp./spp.*
3	Foliar distortion	*Unidentified agent*
1	Glyphosate injury suspected	*Chemical*
1	Growth regulator effect suspected	*Chemical*
1	Powdery mildew	*Sphaerotheca sp./spp.*
1	Rose mosaic	*Ilarvirus Prunus Necrotic Ringspot Virus*
2	Rose rosette disease suspected	*Rose rosette-associated*
4	Roseslug	*Endelomyia sp./spp.*

2	Spider mite injury	*Unidentified spider mite*
1	Spot anthracnose	*Elsinoe rosarum*
1	Transplant shock; stress	*Abiotic disorder*
25	**Total for Rose**	

Rose-of-sharon		
1	Aphids	*Family Aphididae*
1	Normal plant growth	*Undetermined*
1	Thrips	*Order Thysanoptera*
1	Winter injury	*Abiotic disorder*
4	**Total for Rose-of-sharon**	

Sassafras		
1	Foliar distortion	*Unidentified agent*
1	Insufficient sample	*Undetermined*
1	No pathogen found	*Undetermined*
1	Yellow-poplar weevil	*Odontopus calceatus*
4	**Total for Sassafras**	

Serviceberry		
1	Cicada egg-laying injury	*Unidentified cicada*
1	Lace bugs	*Family Tingidae*
2	**Total for Serviceberry**	

Seven Sons Flower		
1	Decline; dieback	*Abiotic disorder*
1	**Total for Seven Sons Flower**	

Spice Bush		
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Growth regulator effect suspected	*Chemical*
1	Lindera severe mosaic (LSMaV)	*Lindera severe mosaic-associated emaravirus*
1	Twig blight	*Diaporthe sp./spp.*
4	**Total for Spice Bush**	

Spirea		
1	Decline; dieback	*Abiotic disorder*
1	**Total for Spirea**	

Spruce		
1	Cultural/environmental problem	*Abiotic disorder*
13	Decline; dieback	*Abiotic disorder*
6	Dothistroma needle blight	*Dothistroma sp./spp.*
2	Insufficient sample	*Undetermined*
2	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
12	Rhizosphaera needle cast	*Rhizosphaera kalkhoffii*
9	Spider mite injury	*Unidentified spider mite*
3	Stigmina needle blight	*Stigmina lautii*
2	Transplant shock; stress	*Abiotic disorder*
51	**Total for Spruce**	

Sumac		
1	Canker; Stem blight; Dieback	*Botryosphaeria dothidea*
1	**Total for Sumac**	

Sweetgum		
2	Anthracnose	*Gloeosporium sp./spp.*
2	Decline; dieback	*Abiotic disorder*
1	No pathogen found	*Undetermined*
5	**Total for Sweetgum**	

Sweetshrub; Carolina Allspice		
1	Chlorosis	*Unidentified agent*
1	Sooty mold	*Unidentified fungus*
2	**Total for Sweetshrub; Carolina Allspice**	

Sycamore		
1	Canker	*Biscogniauxia sp./spp.*
1	Hail damage	*Abiotic disorder*
1	No pathogen found	*Undetermined*
2	Powdery mildew	*Erysiphe sp./spp.*
5	Sycamore anthracnose	*Apiognomonia veneta*
10	**Total for Sycamore**	

Taxus		
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*

2	Taxus decline; dieback	*Abiotic disorder*
4	**Total for Taxus**	

Tulip Tree		
1	Aphids	*Family Aphididae*
1	Cultural/environmental problem	*Abiotic disorder*
2	Decline; dieback	*Abiotic disorder*
1	Foliar distortion	*Unidentified agent*
1	Hail damage	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
1	Physiological responses	*Abiotic disorder*
2	Physiological responses (summer leaf drop)	*Abiotic disorder*
1	Powdery mildew	*Erysiphe liriodendri*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined injury	*Undetermined*
14	**Total for Tulip Tree**	

Viburnum		
1	Fourlined plant bug	*Poecilocapsus lineatus*
1	Insufficient sample	*Undetermined*
1	Transplant shock; stress	*Abiotic disorder*
3	**Total for Viburnum**	

Walnut		
1	Black walnut petiole gall mite	*Eriophyes caulis*
1	Mycosphaerella leaf spot	*Mycosphaerella juglandis*
1	No pathogen found	*Undetermined*
3	**Total for Walnut**	

Weigela		
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Leaf scorch	*Abiotic disorder*
1	Spider mite injury	*Unidentified spider mite*
3	**Total for Weigela**	

Willow		
1	Armillaria root rot	*Armillaria sp./spp.*
1	**Total for Willow**	

Witchhazel		
1	Insufficient sample	*Undetermined*
1	Leaf scorch	*Abiotic disorder*
2	**Total for Witchhazel**	

Yellowwood		
1	Anthracnose	*Gloeosporium sp./spp.*
1	Cicada egg-laying injury	*Unidentified cicada*
1	No pathogen found	*Undetermined*
1	Southwest injury	*Abiotic disorder*
4	**Total for Yellowwood**	

	***PHYTOPHTHORA RAMORUM* TRACE FORWARD**	
Azalea		
3	No pathogen found	*Undetermined*
3	**Total for Azalea**	

	PINEWOOD NEMATODE EXTRACTION	
Juniper		
2	Insufficient sample	*Undetermined*
32	PWNE-no pathogen found	*Undetermined*
34	**Total for Juniper**	

	VEGETABLES	
Arugula		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Nutritional deficiency	*Nutritional disorder*
1	Penicillium seed rot; seedling rot	*Penicillium sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
4	**Total for Arugula**	

Bean		
1	Aphids	*Family Aphididae*
2	Bean angular leaf spot	*Phaeoisariopsis griseola*
3	Bean anthracnose	*Colletotrichum lindemuthianum*
1	Chemical injury suspected	*Chemical*
3	Insufficient sample	*Undetermined*

2	Mexican bean beetle	*Epilachna varivestis*
1	No pathogen found	*Undetermined*
2	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Spider mite	*Family Tetranychidae*
3	Thrips	*Order Thysanoptera*
1	Undetermined injury	*Undetermined*
22	**Total for Bean**	

Beet		
1	Insect damage	*Unidentified insect*
1	**Total for Beet**	

Bok Choy; Chinese Cabbage		
2	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Bok Choy; Chinese Cabbage**	

Broccoli		
1	Boron deficiency	*Nutritional disorder*
1	**Total for Broccoli**	

Cabbage		
1	Crucifer bacterial black rot	*Xanthomonas campestris*
1	**Total for Cabbage**	

Cauliflower		
1	Cabbage maggot	*Delia radicum*
1	**Total for Cauliflower**	

Corn		
2	Southern corn rust	*Puccinia polysora*
1	Zinc deficiency	*Nutritional disorder*
3	**Total for Corn**	

Cucumber		
4	Anthracnose	*Colletotrichum orbiculare*
1	Broad mite	*Polyphagotarsonemus latus*
1	Cercospora leaf spot	*Cercospora citrullina*
1	Cucurbit bacterial wilt	*Erwinia tracheiphila*

1	Cucurbit downy mildew	*Pseudoperonospora cubensis*
1	Cucurbit gummy stem blight	*Didymella bryoniae*
1	Cucurbit powdery mildew	*Golovinomyces cichoracearum*
2	High soluble salt	*Nutritional disorder*
1	Insufficient sample	*Undetermined*
1	Magnesium deficiency	*Nutritional disorder*
1	No pathogen found	*Undetermined*
1	Nutritional disorder suspected	*Nutritional disorder*
1	Poor pollination	*Abiotic disorder*
1	Potassium deficiency	*Nutritional disorder*
2	Root-knot nematodes	*Meloidogyne sp./spp.*
2	Scald; scorch	*Abiotic disorder*
1	Target spot	*Corynespora cassiicola*
2	Thrips	*Order Thysanoptera*
25	**Total for Cucumber**	

Eggplant		
1	No pathogen found	*Undetermined*
1	Scald; scorch	*Abiotic disorder*
2	**Total for Eggplant**	

Hyacinth Bean		
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
1	Spider mite injury	*Unidentified spider mite*
2	**Total for Hyacinth Bean**	

Lettuce		
1	Fungus gnat	*Mycetophila sp./spp.*
1	Leaf /stem blight; Rot; Gray mold	*Botrytis cinerea*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Spider mite	*Family Tetranychidae*
4	Thrips	*Order Thysanoptera*
8	**Total for Lettuce**	

Melon		
1	Anthracnose	*Colletotrichum orbiculare*
1	Aphids	*Family Aphididae*
1	Cercospora leaf spot	*Cercospora citrullina*
1	Drought stress damage	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*
1	Insufficient sample	*Undetermined*

6	**Total for Melon**	

Okra		
1	Fusarium stem rot	*Fusarium sp./spp.*
1	Growth regulator effect suspected	*Chemical*
1	High temperature damage	*Abiotic disorder*
1	Scald; scorch	*Abiotic disorder*
4	**Total for Okra**	

Onion		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Nutritional disorder suspected	*Nutritional disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Stemphylium leaf blight	*Stemphylium vesicarium*
5	**Total for Onion**	

Pea		
1	Insufficient sample	*Undetermined*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
3	**Total for Pea**	

Pepper		
2	Foliar distortion	*Unidentified agent*
3	High soluble salt	*Nutritional disorder*
1	High temperature damage	*Abiotic disorder*
2	Pepper bacterial spot	*Xanthomonas campestris pv. vesicatoria*
1	Pepper mild mottle (PMMOV)	*Tobamovirus Pepper Mild Mottle Virus*
1	Physiological responses	*Abiotic disorder*
1	Phytophthora blight	*Phytophthora capsici*
1	Phytophthora fruit rot; blight	*Phytophthora capsici*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Soil compaction	*Abiotic disorder*
1	Thrips	*Order Thysanoptera*
1	Tomato russet mite	*Aculops lycopersici*
4	Tomato spotted wilt	*Tomato Spotted Wilt Virus (TSWV)*
22	**Total for Pepper**	

Potato		
1	Black leg	*Pectobacterium atrosepticum*
1	Potato blackheart	*Abiotic disorder*
1	Scald; scorch	*Abiotic disorder*
1	Tomato spotted wilt	*Tomato Spotted Wilt Virus (TSWV)*
4	**Total for Potato**	

Pumpkin		
2	Anthracnose	*Colletotrichum orbiculare*
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Bacterial spot (fruit decay)	*Xanthomonas cucurbitae (campestris)*
1	Cucumber beetles	*Subfamily Galerucinae*
2	Cucurbit gummy stem blight	*Didymella bryoniae*
4	Cucurbit powdery mildew	*Golovinomyces cichoracearum*
1	Fusarium crown rot; foot rot	*Fusarium solani f.sp. cucurbitae*
1	Growth regulator effect suspected	*Chemical*
1	Insufficient sample	*Undetermined*
2	Microdochium blight	*Plectosphaerella cucumerina*
1	No pathogen found	*Undetermined*
1	Phytophthora fruit rot; blight	*Phytophthora capsici*
1	Root problems	*Abiotic disorder*
19	**Total for Pumpkin**	

Rhubarb		
1	Anthracnose	*Colletotrichum sp./spp.*
1	Botrytis blight	*Botrytis sp./spp.*
1	Leaf spot	*Undetermined*
1	Leaf spot- abiotic	*Abiotic disorder*
4	**Total for Rhubarb**	

Sorrel; Dock		
1	Nutritional deficiency	*Nutritional disorder*
1	**Total for Sorrel; Dock**	

Squash		
1	Alternaria fruit rot and spot	*Alternaria sp./spp.*
1	Anthracnose	*Colletotrichum orbiculare*
2	Cucurbit powdery mildew	*Golovinomyces cichoracearum*
1	Growth regulator effect suspected	*Chemical*
1	Insufficient sample	*Undetermined*
1	Mechanical damage	*Abiotic disorder*

2	Microdochium blight	*Plectosphaerella cucumerina*
1	No pathogen found	*Undetermined*
1	Oedema; edema	*Abiotic disorder*
1	Soil compaction	*Abiotic disorder*
1	Squash vine borer	*Melittia cucurbitae*
1	Watermelon mosaic (WMV)	*Potyvirus Watermelon Mosaic Virus*
14	**Total for Squash**	

Sweetpotato		
1	Sweetpotato black rot	*Ceratocystis fimbriata*
1	**Total for Sweetpotato**	

Swiss Chard		
1	No pathogen found	*Undetermined*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
3	**Total for Swiss Chard**	

Tomato		
1	Abnormal plant growth (bullishness)	*Abiotic disorder*
1	Air pollution suspected	*Abiotic disorder*
1	Anthracnose	*Colletotrichum sp./spp.*
4	Bacterial canker	*Clavibacter michiganensis*
1	Bacterial stem rot	*Erwinia carotovora*
1	Blossom end rot	*Abiotic disorder*
1	Buckeye rot	*Phytophthora sp./spp.*
1	Cercospora leaf mold	*Pseudocercospora fuligena*
4	Chemical injury suspected	*Chemical*
1	Chimera	*Abiotic disorder*
3	Cultural/environmental problem	*Abiotic disorder*
10	Early blight; leaf spot	*Alternaria solani*
1	Ethylene exposure suspected	*Abiotic disorder*
1	Flea beetles	*Subfamily Alticinae*
2	Foliar distortion	*Unidentified agent*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Fusarium foot rot	*Fusarium solani*
4	Fusarium wilt	*Fusarium oxysporum*
19	Growth regulator effect suspected	*Chemical*
2	Hail damage	*Abiotic disorder*
3	High soluble salt	*Nutritional disorder*
1	High temperature damage	*Abiotic disorder*
9	Insufficient sample	*Undetermined*

6	Leaf mold	*Passalora fulva*
1	Leaf scorch	*Abiotic disorder*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Low pH; high soluble salt damage	*Nutritional disorder*
3	Magnesium deficiency	*Nutritional disorder*
1	Nitrogen deficiency	*Nutritional disorder*
5	No pathogen found	*Undetermined*
2	Nutritional deficiency	*Nutritional disorder*
1	Oedema; edema	*Abiotic disorder*
1	Physiological responses (white core)	*Abiotic disorder*
2	Powdery mildew	*Oidium neolycopersici*
5	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
2	Ripe rot	*Colletotrichum sp./spp.*
2	Root-knot nematodes	*Meloidogyne sp./spp.*
2	Scald; scorch	*Abiotic disorder*
8	Septoria leaf spot	*Septoria lycopersici*
1	Soil compaction	*Abiotic disorder*
1	Southern blight	*Athelia (Sclerotium) rolfsii*
1	Spider mite	*Family Tetranychidae*
1	Tobacco mosaic	*Tobacco Mosaic Virus (TMV)*
1	Tomato bacterial speck	*Pseudomonas tomato*
2	Tomato bacterial spot	*Xanthomonas sp./spp.*
1	Tomato pinworm	*Keiferia lycopersicella*
4	Tomato pith necrosis	*Pseudomonas sp./spp.*
1	Tomato russet mite	*Aculops lycopersici*
20	Tomato spotted wilt	*Tomato Spotted Wilt Virus (TSWV)*
2	Twospotted spider mite	*Tetranychus urticae*
2	Undetermined injury	*Undetermined*
5	Walnut wilt/ juglone toxicity suspected	*Abiotic disorder*
5	White mold (stem rot); timber rot	*Sclerotinia sclerotiorum*
165	**Total for Tomato**	

Watermelon		
1	Anthracnose	*Colletotrichum orbiculare*
1	Cercospora leaf spot	*Cercospora citrullina*
1	Chemical injury suspected	*Chemical*
2	Cucurbit gummy stem blight	*Didymella bryoniae*
4	Insufficient sample	*Undetermined*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*

1	Spider mite	*Family Tetranychidae*
12	**Total for Watermelon**	