College of Agriculture, Food and Environment

Plant Pathology

Plant Disease Diagnostic Laboratory Summary

2019

by:

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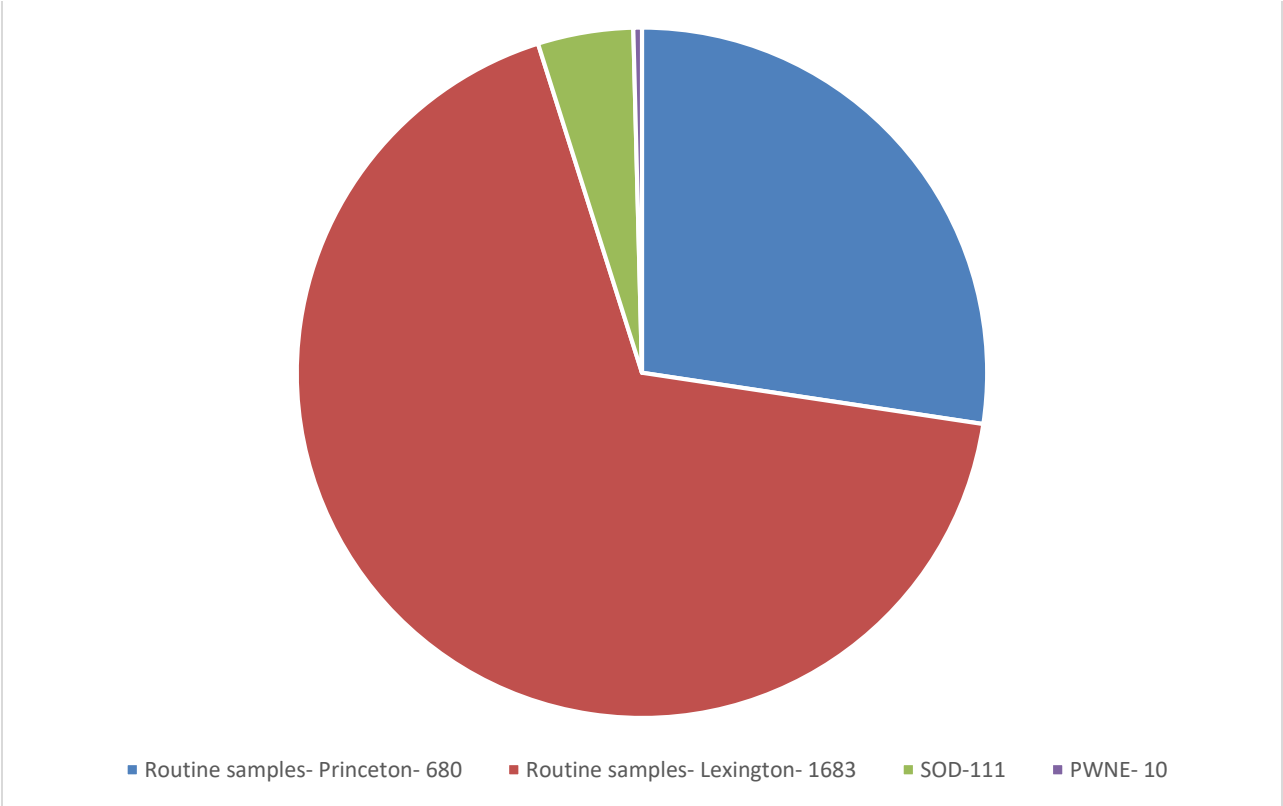
INTRODUCTION

The Plant Disease Diagnostic Laboratory (Lexington and Princeton) processed 2484 plant samples. Many plant samples had more than one problem which added an additional 689 diagnoses, bringing the total number of diagnoses to 3173. The Lexington Laboratory diagnosed 1804 specimens, including 1683 routine plant samples, 111 samples from commercial nurseries surveyed for Phytophthora ramorum, th Sudden Oak Death (SOD) pathogen, and 10 Eastern red cedar (*Juniperus virginiana*) samples from commercial lumber companies for pinewood nematode extraction (PWNE). The Princeton Laboratory was officially closed during the 2019 growing season for construction and renovation of the UK Research and Education building. During this timeframe, a Plant Examination Service was offered, and diagnoses relied solely on symptoms and microscopic examination. The Princeton Plant Examination Service was located within two kitchen areas of the newly constructed conference wing and diagnosed 680 routine plant specimens.
Sample totals are summarized in Figure 1 below.

Figure 1: Plant Disease Diagnostic Laboratory – 2019



Total Samples	**2484**
+ Additional diagnoses	**689**
	3173

NATURE OF WORK

Plant disease diagnosis is an ongoing educational and research activity of the U.K. Department of Plant Pathology. There are two branches of the Plant Disease Diagnostic Laboratory (PDDL), one on the U.K. campus in Lexington, and one at the U.K. Research and Education Center in Princeton.

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 used 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. Both laboratories report diagnoses of plant diseases to USDA-APHIS as part of the National Plant Diagnostic Network.

ACKNOWLEDGMENTS

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UK Extension Specialists and Researchers (Sample diagnosis/consultation – see Table 8);

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EXPLANATORY REMARKS

In 2019 we continued to use the PClinic database system. This system allows us to 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 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. Chemical injuries on all commercially grown crops were diagnosed by a weed control specialist or crop specialist. Specialists in other departments at UK also may have provided input on diagnoses 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	14	54	3	1	8	5	85
Forages	6	42	1	0	7	1	57
Hemp	55	118	3	6	29	9	220
Small grains	4	11	0	0	0	7	22
Soybeans	14	36	16	1	10	3	80
Tobacco	65	110	25	1	4	8	213
Fruit							
Small fruit	18	55	5	5	11	16	110
Tree fruit	13	79	5	0	28	8	133
Herbs	6	13	0	0	2	14	35
Identifications	0	4	0	3	0	2	9
Ornamentals							
Herbaceous/ Houseplants	52	111	7	8	26	16	220
Turfgrass	14	53	0	2	0	1	70
Woody	256	751[d]	48	21	188	177[d]	1441
Vegetables	102	226	49	18	42	25	462
Miscellaneous	0	12	1	1	0	2	16
Total	**619**	**1675**	**163**	**67**	**355**	**294**	**3173**

[a]Counts and totals include all diagnoses entered into 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]Totals include 111 SOD survey samples (29 fungal disease diagnoses; 82 samples with no disease) and 10 PWNE juniper with no disease.

Table 2. SUMMARY OF BIOTIC PROBLEMS[a] BY CROP CATEGORY					
Crop Category	**Bacterial**	**Fungal**	**Nematode**	**Virus**	**Other[b]**
Agronomic					
Corn	0	54	0	0	0
Forages	0	42	0	0	0
Hemp	4	114	0	0	0
Small grains	1	8	0	2	0
Soybeans	0	35	1	0	0
Tobacco	28	80	0	1	1
Fruit					
Small fruit	1	54	0	0	0
Tree fruit	16	60	0	1	2
Herbs	0	12	0	1	0
Identifications	0	2	0	0	2
Ornamentals					
Herbaceous/ Houseplants	6	102	0	2	1
Turfgrass	0	53	0	0	0
Woody	38	702[c]	0	1	10
Vegetables	34	180	3	8	1
Miscellaneous	0	4	8	0	0
Total	**128**	**1502**	**12**	**16**	**17**

[a]Counts and totals include all diagnoses entered into the PDDL database.
[b]Includes these categories: Animal (rodent and bird damage), Plant (plant identifications or parasitic plant) and Alga, Lichen and Phytoplasma.
[c]Total includes 29 Sudden Oak Death (SOD) survey samples with problems caused by fungi.

Table 3. NUMBER OF SAMPLES AND DIAGNOSES BY CROP				
Crop Category and Crop	**No. of Samples**	**% Total Samples**	**No. of Diagnoses**	**% Total Diagnoses**
Agronomic				
Corn	56	2.25	85	2.68
Forages	44	1.77	57	1.80
Hemp	153	6.16	220	6.93
Small grains	21	0.85	22	0.69
Soybeans	60	2.42	80	2.52
Tobacco	169	6.80	213	6.71
Fruit				
Small fruit	92	3.70	110	3.47
Tree fruit	97	3.90	133	4.19
Herbs	33	1.33	35	1.10
Identifications	9	0.36	9	0.28
Ornamentals				
Herbaceous and Houseplants	183	7.37	220	6.93
Turfgrass	57	2.29	70	2.21
Woody[a]	1136	45.73	1441	45.41
Vegetables	361	14.53	462	14.56
Miscellaneous	13	0.52	16	0.50
Total	**2484**	**100**	**3173**	**100**

[a]Includes 111 SOD survey samples and 10 PWNE juniper samples.

Table 4. SUMMARY OF 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	41	11	0	0	1	3	0	0
Forages	40	2	0	0	0	1	0	0
Hemp	63	85	0	0	1	3	0	1
Small grains	13	4	0	0	1	3	0	0
Soybeans	40	13	0	0	1	6	0	0
Tobacco	144	19	0	0	2	4	0	0
Fruit								
Small Fruit	47	1	39	1	2	1	1	0
Tree Fruit	22	3	68	2	0	0	2	0
Herbs	25	2	2	0	3	0	1	0
Identifications	0	0	9	0	0	0	0	0
Ornamental								
Herbaceous/ Houseplants	84	25	62	1	0	1	5	5
Turfgrass	17	8	25	0	0	1	1	5
Woody	105	303	539	22	2	0	28	137
Vegetable	189	7	138	5	14	0	8	0
Miscellaneous	7	1	2	0	1	2	0	0
Total	**837**	**484**	**884**	**31**	**28**	**25**	**46**	**148**
Total/Grower Type	**1321**		**916**		**53**		**194**	
Total No. of routine samples received =	2484							

[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 DEPARTMENTS, UK LABORATORY FACILITIES OR OUTSIDE AGENCIES FOR DIAGNOSIS OR CONSULTATION

Department, Facility or Outside Agency	Total
Agdia, Inc.	3
Entomology Department	91
Forestry Department	2
Horticulture Department	63
Oklahoma State University	1
Plant & Soil Sciences Department	237
Purdue University	2
Washington State University	1
Total no. of sample referrals	**400**
Total no. of plant specimens	**2484**
% of specimens referred outside Diagnostic Lab for diagnosis	**16.1**

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

Test	No. of Tests
Culture	70
Incubation/Lab test	510
Microscope	1827
Molecular (PCR)	29
Nematode extraction	17[b]
Serological (ELISA)	345[c]
Soil tests	269
Visual examination	1556
Total	**4623**

[a]Many samples require more than one test and all tests performed in 2019 are recorded above.
[b]Includes 10 PWNE samples.
[c]Includes 111 samples for the SOD survey.

Table 7. NO. OF ROUTINE PLANT SAMPLES RECEIVED BY COUNTY AND CROP CATEGORY (KY AND OUT-OF-STATE SOURCES)

County	Total	Agronomic	Tobacco	Fruit	Ornamental	Vegetable	Other
Adair	8	1	1	4	0	2	0
Allen	28	2	2	2	13	9	0
Anderson	14	0	1	2	10	1	0
Ballard	1	1	0	0	0	0	0
Barren	39	1	1	5	23	9	0
Bath	8	2	0	0	4	2	0
Bell	1	0	0	0	1	0	0
Boone	28	1	0	4	21	2	0
Bourbon	34	20	2	0	11	1	0
Boyd	16	0	0	3	12	1	0
Boyle	11	0	4	1	5	1	0
Bracken	7	3	1	0	1	2	0
Breathitt	3	0	0	0	0	1	2
Breckinridge	43	5	15	6	8	9	0
Bullitt	4	0	0	0	2	2	0
Butler	8	3	0	0	5	0	0
Caldwell	31	4	4	2	14	7	0
Calloway	38	3	5	0	27	3	0
Campbell	35	1	0	2	15	0	17
Carlisle	5	1	0	1	3	0	0
Carroll	3	2	0	1	0	0	0
Carter	8	0	1	1	2	4	0
Casey	7	0	0	2	4	0	1
Christian	88	20	15	4	31	18	0
Clark	11	9	0	0	2	0	0
Clay	3	0	0	0	2	1	0
Clinton	11	7	1	0	2	1	0
Crittenden	9	0	0	1	3	5	0
Cumberland	2	0	0	1	1	0	0
Daviess	61	11	8	2	34	6	0
Edmonson	5	0	0	0	2	3	0
Elliott	1	0	0	0	0	1	0
Estill	7	0	0	2	2	3	0
Fayette	545	35	8	13	467	17	5
Fleming	21	2	3	3	11	2	0
Floyd	1	0	0	0	0	1	0

Franklin	24	2	0	2	17	1	2
Fulton	4	0	0	0	0	3	1
Gallatin	5	2	1	0	2	0	0
Garrard	4	1	1	0	2	0	0

County	Total	Agronomic	Tobacco	Fruit	Ornamental	Vegetable	Other
Grant	8	0	2	2	2	2	0
Graves	79	14	18	10	27	10	0
Grayson	12	1	1	1	9	0	0
Green	14	3	1	0	4	6	0
Greenup	6	0	0	0	2	4	0
Hancock	4	0	0	0	4	0	0
Hardin	20	6	0	0	12	2	0
Harlan	1	0	0	0	1	0	0
Harrison	19	9	3	2	3	2	0
Hart	34	1	2	1	13	11	6
Henderson	21	3	1	2	9	6	0
Henry	16	4	1	3	6	2	0
Hickman	1	0	0	1	0	0	0
Hopkins	18	0	0	0	12	5	1
Jackson	20	1	0	7	9	3	0
Jefferson	71	0	0	0	70	1	0
Jessamine	47	3	0	3	37	4	0
Johnson	1	0	0	0	1	0	0
Kenton	28	0	0	1	24	2	1
Knott	3	0	0	0	1	2	0
Knox	3	1	0	0	1	1	0
Larue	10	3	1	0	1	5	0
Laurel	19	8	0	1	5	4	1
Lee	1	0	0	0	1	0	0
Leslie	1	0	0	1	0	0	0
Letcher	6	0	0	5	1	0	0
Lewis	17	3	2	1	8	3	0
Lincoln	19	2	1	0	12	2	2
Livingston	6	3	0	0	3	0	0
Logan	25	15	3	2	2	2	1
Lyon	18	5	2	4	6	1	0
Madison	9	0	0	0	5	4	0
Marion	21	12	3	0	2	4	0
Marshall	43	5	1	5	19	13	0
Mason	33	4	1	0	19	9	0
McCracken	12	0	0	0	11	1	0
McLean	17	2	3	0	8	3	1
Meade	23	2	0	4	11	6	0
Menifee	11	0	0	1	1	9	0

Mercer	16	3	0	2	8	3	0
Metcalfe	11	2	5	0	0	4	0
Monroe	13	1	1	4	3	3	1
Montgomery	15	1	2	1	9	2	0
Morgan	11	3	0	2	2	4	0
County	**Total**	**Agronomic**	**Tobacco**	**Fruit**	**Ornamental**	**Vegetable**	**Other**
Muhlenberg	17	3	1	2	5	4	2
Nelson	24	8	1	1	11	3	0
Nicholas	1	0	0	0	1	0	0
Ohio	2	0	0	1	1	0	0
Oldham	14	8	0	1	5	0	0
Owen	16	1	0	4	4	7	0
Owsley	4	0	0	0	0	4	0
Perry	7	0	0	0	6	0	1
Pike	13	0	0	2	8	3	0
Powell	1	0	0	1	0	0	0
Pulaski	28	5	3	3	8	6	3
Robertson	4	1	1	1	0	1	0
Rockcastle	6	1	0	3	2	0	0
Rowan	8	1	0	4	0	2	1
Russell	9	2	0	0	6	1	0
Scott	42	1	0	9	24	7	1
Shelby	37	3	2	5	25	1	1
Simpson	14	3	2	1	5	3	0
Spencer	16	2	1	3	8	2	0
Taylor	60	5	0	3	42	9	1
Todd	57	8	20	2	17	10	0
Trigg	28	8	2	1	6	11	0
Trimble	6	0	0	0	6	0	0
Union	4	2	0	1	0	1	0
Warren	23	0	5	5	11	1	1
Washington	6	4	1	0	1	0	0
Wayne	6	1	0	0	2	3	0
Webster	2	0	0	1	0	1	0
Whitley	15	0	0	2	2	11	0
Wolfe	4	0	0	0	1	3	0
Woodford	42	5	2	3	26	4	2
Out of State	3	3	0	0	0	0	0
Grand Total	**2484**	**334**	**169**	**189**	**1376**	**361**	**55**

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

Specialists, Researchers, Diagnosticians	Department	Consultations
Bailey, WA	Plant & Soil Sciences	29
Becker, DW	Horticulture	1
Berberich, SG	Horticulture	1
Bessin, RT	Entomology	37
Bradley, CA	Plant Pathology	5
Crocker, E	Forestry	1
Cropper, K	Plant & Soil Sciences	1
Dunwell, WC	Horticulture	19
Dutton, SR	Horticulture	4
Fountain, WM	Horticulture	5
Gauthier, NW	Plant Pathology	27
Green, JD	Plant & Soil Sciences	60
Knott, CA	Plant & Soil Sciences	9
Larson, J	Entomology	27
Lee, CD	Plant & Soil Sciences	2
Legleiter, T	Plant & Soil Sciences	80
Newton, B	Entomology	6
Pearce, RC	Plant & Soil Sciences	48
Pfeufer, EE	Plant Pathology	31
Ritchey, EL	Plant & Soil Sciences	5
Rudolph, R	Horticulture	17
Smith, SR	Plant & Soil Sciences	2
Springer, M	Forestry	1
Strang, JG	Horticulture	16
Teutsch, CD	Plant & Soil Sciences	1
Villaneuva, R	Entomology	21
Wise, KA	Plant Pathology	10

Table 9. DIAGNOSIS OF INDIVIDUAL SAMPLES BY CROP AND DISEASE/DISORDER		
CORN		
Corn		
1	Brown stink bug	*Euschistus servus*
1	Cold wet soils	*Abiotic disorder*
7	Common corn rust	*Puccinia sorghi*
15	Corn gray leaf spot	*Cercospora zeae-maydis*
10	Diplodia leaf streak	*Stenocarpella (Diplodia) macrospora*
1	Fusarium ear rot	*Fusarium sp./spp.*
1	Fusarium root rot	*Fusarium sp./spp.*
3	Herbicide injury suspected	*Chemical*
1	High soil moisture	*Abiotic disorder*
4	Insect damage suspected	*Unidentified Insect*
1	Insufficient sample	*Undetermined*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Low pH	*Nutritional Disorder*
2	Magnesium deficiency	*Nutritional disorder*
4	No pathogen found	*Undetermined*
2	Northern corn leaf blight; leaf spot	*Setosphaeria turcica (turcicum)*
2	Physoderma brown spot	*Physoderma maydis*
1	Planting too shallow	*Abiotic disorder*
1	Poor growing conditions	*Abiotic disorder*
1	Potassium deficiency	*Nutritional Disorder*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Root rot	*Various Fungi*
2	Soil compaction	*Abiotic disorder*
14	Southern corn rust	*Puccinia polysora*
2	Stink bug damage	*Unidentified Stink Bug*
4	Undetermined abiotic injury	*Abiotic disorder*
1	Wireworm	*Family Elateridae*
85	**Total for Corn**	

FORAGES		
Alfalfa		
1	Alfalfa weevil	*Hypera postica*
3	Anthracnose	*Colletotrichum trifolii*
1	Cranefly	*Tipula sp./spp.*
1	Insect damage	*Unidentified Insect*
9	Leptosphaerulina leaf spot; blight	*Leptosphaerulina trifolii*

1	No pathogen found	*Undetermined*
2	Poor nodulation (not on list)	*Abiotic disorder*
4	Potato leafhopper	*Empoasca fabae*
1	Pythium damping off	*Pythium sp./spp.*
1	Rhizoctonia damping-off	*Rhizoctonia sp./spp.*
1	Rhizoctonia root; crown rot	*Rhizoctonia sp./spp.*
1	Slime mold	*Class Myxomycetes; Myxomycota*
1	Soil compaction	*Abiotic disorder*
10	Summer black stem; leaf spot	*Cercospora medicaginis*
1	Undetermined abiotic injury	*Abiotic disorder*
1	White mold	*Sclerotinia sp./spp.*
39	**Total for Alfalfa**	

Bermudagrass		
1	Helminthosporium leaf spot	*Bipolaris cynodontis*
1	**Total for Bermudagrass**	

Clover		
1	Herbicide injury suspected	*Chemical*
1	Sclerotinia stem/ crown or root rot	*Sclerotinia trifoliorum*
1	Scorch	*Abiotic disorder*
3	**Total for Clover**	

Eastern Gamma Grass		
1	Helminthosporium leaf spot/ leaf blight	*Helminthosporium sp./spp.*
1	**Total for Eastern Gamma Grass**	

Fescue		
1	Anthracnose	*Colletotrichum graminicola*
1	Leaf rust; rust	*Puccinia sp./spp.*
2	**Total for Fescue**	

Orchardgrass		
1	Anthracnose	*Colletotrichum graminicola*
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
2	Leaf rust; rust	*Puccinia sp./spp.*
6	Leaf Streak	*Cercosporidium sp./spp.*
1	Soil compaction	*Abiotic disorder*
11	**Total for Orchardgrass**	

	HEMP	
Hemp		

1	Abnormal plant growth	*Abiotic disorder*
1	Aerial blight (web blight)	*Rhizoctonia sp./spp.*
1	Air pollution	*Abiotic disorder*
1	Animal damage	*Abiotic disorder*
2	Aphids	*Family Aphididae*
1	Bacterial blight	*Unidentified Bacteria*
1	Bacterial leaf spot	*Unidentified Bacteria*
2	Bacterial soft rot	*Erwinia sp./spp.*
1	Black root rot	*Thielaviopsis basicola*
1	Boron toxicity	*Abiotic disorder*
2	Botrytis blight	*Botrytis sp./spp.*
2	Broad mite	*Polyphagotarsonemus latus*
2	Cannabis aphid	*Phorodon cannabis*
13	Cercospora leaf spot	*Cercospora sp./spp.*
1	Charcoal rot	*Macrophomina sp./spp.*
1	Chemical injury suspected	*Chemical*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Fusarium root rot	*Fusarium sp./spp.*
2	Fusarium wilt	*Fusarium oxysporum*
2	Glyphosate injury suspected	*Chemical*
1	Green peach aphid	*Myzus persicae*
1	Heat stress	*Abiotic disorder*
2	Hemp downy mildew	*Pseudoperonospora cannabina*
14	Hemp russet mite	*Aculops cannibicola*
6	High soluble salt	*Nutritional Disorder*
1	High temperature damage	*Abiotic disorder*
4	Insect damage	*Unidentified Insect*
6	Insufficient sample	*Undetermined*
2	Leaf scorch	*Abiotic disorder*
13	Leaf Spot	*Bipolaris sp./spp.*
2	Leaf spot- abiotic	*Abiotic disorder*
1	Low soil moisture	*Abiotic disorder*
1	Magnesium deficiency	*Nutritional Disorder*
2	Manganese toxicity	*Nutritional Disorder*
6	Mechanical damage	*Abiotic disorder*
2	Nitrogen deficiency	*Nutritional Disorder*
8	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
2	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
9	Poor root development	*Abiotic disorder*
1	Potassium deficiency	*Nutritional Disorder*
5	Powdery mildew	*Golovinomyces sp./spp.*
27	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*

12	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
2	Root rot	*Unidentified Agent*
18	Septoria leaf spot	*Septoria sp./spp.*
2	Slime mold	*Class Myxomycetes; Myxomycota*
5	Soil compaction	*Abiotic disorder*
4	Southern Blight	*Sclerotium rolfsii*
1	Stem rot	*Botrytis sp./spp.*
1	Tarsonemid mites	*Family Tarsonemidae*
10	Transplant shock; stress	*Abiotic disorder*
2	Twospotted spider mite	*Tetranychus urticae*
1	Unknown abiotic injury	*Abiotic disorder*
2	Unspecified pathology	*Fusarium sp./spp.*
1	White mold	*Sclerotinia sp./spp.*
1	Wireworms (Click beetles)	*Family Elateridae*
220	**Total for Hemp**	

SOYBEAN

Soybean		
3	Charcoal rot	*Macrophomina phaseolina*
7	Chemical injury suspected	*Chemical*
1	Deer damage	*Abiotic disorder*
1	Environmental stress; problem	*Abiotic disorder*
4	Growth regulator effect suspected	*Chemical*
5	Herbicide injury suspected	*Chemical*
1	High soluble salt	*Nutritional Disorder*
3	Insect damage	*Unidentified Insect*
1	Insufficient sample	*Undetermined*
3	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
1	Phyllosticta leaf blight	*Phyllosticta sojicola*
1	Potassium deficiency	*Nutritional Disorder*
1	Powdery mildew	*Erysiphe sp./spp.*
2	Purple seed-stain; leaf blight	*Cercospora kikuchii*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Saprophytes	*Secondary Agents; Saprophytes;*
4	Soil compaction	*Abiotic disorder*
3	Soybean anthracnose	*Colletotrichum destructivum*
2	Soybean brown spot	*Septoria glycines*
1	Soybean cyst nematode (SCN)	*Heterodera glycines*
2	Soybean frogeye leaf spot	*Cercospora sojina*
9	Soybean Phytophthora root and stem rot	*Phytophthora sojae*
1	Soybean southern stem canker	*Diaporthe aspalathi*

1	Soybean stem canker	*Diaporthe phaseolorum*
3	Soybean stem borer	*Dectes texanus*
3	Soybean sudden death syndrome	*Fusarium virguliforme*
2	Target spot	*Corynespora cassiicola*
2	Threecornered alfalfa hopper	*Spissistilus festinus*
2	Thrips	*Order thysanoptera*
5	Undetermined abiotic injury	*Abiotic disorder*
80	**Total for Soybean**	

SMALL GRAINS

Barley		
1	Barley loose smut	*Ustilago nuda f. sp. hordei*
1	**Total for Barley**	

Rye		
4	No pathogen found	*Undetermined*
4	**Total for Rye**	

Sorghum		
1	Anthracnose	*Colletotrichum graminicola*
1	Fungal Stalk rot	*Unidentified Agent*
1	No pathogen found	*Undetermined*
1	Northern corn leaf blight; Leaf spot	*Exserohilum turcicum*
3	Physiological responses	*Abiotic disorder*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Saprophyte	*Secondary Agents; Saprophytes*
10	**Total for Sorghum**	

Wheat		
1	Bacterial leaf spot	*Unidentified Bacteria*
1	Head blight	*Fusarium graminearum*
2	No pathogen found	*Undetermined*
2	No virus found	*No Virus Found*
1	Planting too shallow	*Abiotic disorder*
7	**Total for Wheat**	

TOBACCO

Tobacco		
1	Algae	*General*
1	Anaerobic soil	*Abiotic disorder*
22	Angular leaf spot	*Pseudomonas syringae tabaci*
4	Bacterial soft rot; blackleg	*Pectobacterium carotovorum subsp. carotovorum*

1	Black cutworm	*Agrotis ipsilon*
32	Black shank	*Phytophthora nicotianae*
7	Chemical injury suspected	*Chemical*
1	Cold injury suspected	*Abiotic Disorder*
2	Collar rot	*Sclerotinia sclerotiorum*
3	Cultural/environmental problem	*Abiotic disorder*
1	Flea beetles	*Subfamily Alticinae*
1	Foliar distortion	*Unidentified Agent*
18	Frogeye leaf spot	*Cercospora nicotianae*
2	Fusarium wilt	*Fusarium oxysporum*
1	Genetic disorder suspected	*Abiotic disorder*
7	Growth regulator effect suspected	*Chemical*
1	Heat stress	*Abiotic disorder*
10	Herbicide injury suspected	*Chemical*
2	High soluble salt	*Nutritional Disorder*
1	High pH damage	*Nutritional Disorder*
1	Insufficient sample; INAD	*Undetermined*
10	Leaf spot- abiotic	*Abiotic disorder*
4	Low pH damage	*Nutritional Disorder*
5	Manganese toxicity	*Nutritional Disorder*
2	Mechanical damage	*Abiotic disorder*
1	Nitrogen deficiency suspected	*Nutritional Disorder*
6	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
1	Phytotoxicity	*Chemical*
1	Potassium deficiency	*Nutritional Disorder*
1	Psychodid drain fly	*Clogmia albipunctata*
9	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Scald; scorch	*Abiotic disorder*
4	Soil compaction	*Abiotic disorder*
8	Soreshin (Rhizoctonia stem rot)	*Rhizoctonia sp./spp.*
1	Sunscald	*Abiotic disorder*
8	Target spot	*Rhizoctonia sp./spp.*
1	Temporary phosphorus deficiency	*Nutritional disorder*
2	Tobacco hollow stalk	*Erwinia carotovora carotovora*
1	Tomato spotted wilt	*Tomato Spotted Wilt Virus*
8	Transplant shock; stress	*Abiotic disorder*
7	Undetermined abiotic injury	*Abiotic disorder*
2	Undetermined injury	*Undetermined*
1	Variegated cutworm	*Peridroma saucia*
8	Weather fleck	*Abiotic disorder*
213	**Total for Tobacco**	

SMALL FRUIT

Blackberry		
3	Anthracnose	*Elsinoe veneta*
1	Cane blight; canker	*Coniothyrium fuckelii*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Fungal canker	*Various Fungi*
1	Growth regulator effect suspected	*Chemical*
1	No pathogen found	*Undetermined*
1	Orange rust	*Gymnoconia nitens*
2	Rednecked cane borer	*Agrilus ruficollis*
4	Spur blight	*Didymella applanata*
1	Twospotted spider mite	*Tetranychus urticae*
1	White drupelet disorder	*Abiotic disorder*
18	**Total for Blackberry**	

Blueberry		
1	Botrytis blight	*Botrytis sp./spp.*
1	High pH damage	*Nutritional Disorder*
1	High soluble salt	*Nutritional Disorder*
2	Insufficient sample	*Undetermined*
2	Iron deficiency	*Nutritional Disorder*
1	Magnesium deficiency	*Nutritional Disorder*
6	No pathogen found	*Undetermined*
1	Normal plant growth	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
1	Phomopsis leaf spot	*Phomopsis sp./spp.*
10	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Scarab beetle; Masked chafer	*Cyclocephala sp./spp.*
1	Winter injury	*Abiotic disorder*
29	**Total for Blueberry**	

Grape		
8	Black rot	*Guignardia bidwellii*
2	Bitter rot	*Greeneria uvicola*
1	Chemical injury suspected	*Chemical*
2	Grape anthracnose; birds-eye rot	*Elsinoe ampelina*
1	Grape berry moth	*Endopiza viteana*
1	Grape downy mildew	*Plasmopara viticola*
1	Growth regulator effect suspected	*Chemical*
1	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
1	Insufficient sample; INAD	*Undetermined*
2	Leaf blight	*Pseudocercospora vitis*
2	Leaf scorch	*Abiotic disorder*

1	Mechanical damage	*Abiotic disorder*
6	No pathogen found	*Undetermined*
2	Phomopsis cane; leaf spot; fruit rot	*Phomopsis viticola*
1	Physiological responses (rupestris speckle)	*Abiotic disorder*
1	Poor pollination	*Abiotic disorder*
1	Spider mites	*Family Tetranychidae*
1	Undetermined injury or wound	*Undetermined*
36	**Total for Grape**	

Honeysuckle (Haskap)		
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	**Total for Honeysuckle (Haskap)**	

Raspberry		
1	Botrytis blight	*Botrytis sp./spp.*
2	Cane blight; canker	*Coniothyrium fuckelii*
1	Insect damage	*Unidentified Insect*
1	Insufficient sample	*Undetermined*
1	No pathogen found	*Undetermined*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Raspberry Leaf spot	*Sphaerulina rubi*
1	Rednecked cane borer	*Agrilus ruficollis*
1	Rose scale	*Aulacaspis rosae*
1	Winter injury	*Abiotic disorder*
12	**Total for Raspberry**	

Strawberry		
2	Anthracnose basal rot; crown rot	*Colletotrichum sp./spp.*
1	Anthracnose fruit rot	*Colletotrichum sp./spp.*
1	Chemical injury suspected	*Chemical*
1	High pH	*Nutritional Disorder*
1	Insufficient sample	*Undetermined*
1	Leaf scorch	*Abiotic disorder*
1	Leaf spot; blight	*Mycosphaerella fragariae*
1	Mechanical damage	*Abiotic disorder*
2	Phomopsis leaf blight	*Phomopsis obscurans*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Strawberry angular leaf spot	*Xanthomonas fragariae*
1	Twospotted spider mite	*Tetranychus urticae*
14	**Total for Strawberry**	

TREE FRUIT

Apple

1	Apple mosaic	*Apple mosaic (APMV)*
1	Apple twig blight; dieback; canker	*Botryosphaeria obtusa*
12	Cedar-apple rust	*Gymnosporangium juniperi-virginianae*
1	Dieback; canker	*Diplodia sp./spp.*
5	Fire blight	*Erwinia amylovora*
10	Frogeye leaf spot	*Botryosphaeria obtusa*
1	Graft failure	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
2	Japanese beetle	*Popillia japonica*
1	Leaf scorch	*Abiotic disorder*
1	Lichens	*Lichenes*
4	No pathogen found	*Undetermined*
4	Plum curculio	*Conotrachelus nenuphar*
3	Sooty blotch flyspeck complex	*Various fungi*
2	Stink bug damage	*Unidentified stink bug*
50	**Total for Apple**	

Cherry		
1	Bacterial canker	*Pseudomonas syringae*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
2	Leaf spot; shothole	*Blumeriella jaapii*
1	Lichens	*Lichenes*
1	Oriental fruit moth (OFM)	*Grapholita molesta*
6	**Total for Cherry**	

Jujube		
1	Bitter rot	*Colletotrichum sp./spp.*
1	Poor pollination	*Abiotic disorder*
2	**Total for Jujube**	

Pawpaw		
1	Alternaria leaf spot	*Alternaria sp./spp.*
1	**Total for Pawpaw**	

Peach		
2	Abnormal plant growth	*Abiotic disorder*
4	Brown rot; blossom and twig blight	*Monilinia fructicola*
1	Chemical injury suspected	*Chemical*
1	Decline; dieback	*Abiotic disorder*
1	Gummosis	*Abiotic disorder*
1	Insect damage	*Unidentified Insect*

1	Leaf spot	*Unknown cause*
1	Leucostoma canker	*Leucostoma sp./spp.*
1	Leucostoma Canker; Dieback	*Leucostoma persoonii*
2	Oriental fruit moth	*Grapholita molesta*
2	Peach leaf curl	*Taphrina deformans*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Planting too deep	*Abiotic disorder*
5	Plum curculio	*Conotrachelus nenuphar*
1	Poor pollination	*Abiotic disorder*
2	Scab	*Fusicladium carpophilum*
7	Stonefruit bacterial spot	*Xanthomonas campestris pv. Pruni*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined injury	*Undetermined*
3	Unidentified fungus	*Unidentified Fungus*
1	White peach scale	*Pseudaulacaspis pentagona*
42	**Total for Peach**	

Pear		
1	Bitter rot	*Colletotrichum sp./spp.*
1	Codling moth (CM)	*Cydia pomonella*
1	Dieback; canker	*Diplodia sp./spp.*
3	Fire blight	*Erwinia amylovora*
2	Growth regulator effect suspected	*Chemical*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Moisture stress	*Abiotic disorder*
1	Normal plant growth	*Undetermined*
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
1	Plum curculio	*Conotrachelus nenuphar*
1	Stink bug damage	*Unidentified stink bug*
1	Undetermined injury or wound	*Undetermined*
15	**Total for Pear**	

Pecan		
1	Herbicide injury suspected	*Chemical*
2	Pecan phylloxera	*Phylloxera devastatrix*
2	Pecan weevil	*Curculio caryae*
4	Pecan; hickory scab	*Cladosporium caryigenum*
1	Pecan shoot Cuculio complex	*Conotrachelus aratus*
1	Spittle bug	*Aphrodes sp./spp.*
11	**Total for Pecan**	

Plum		
4	Black knot	*Apiosporina morbosa*
1	Cercospora leaf spot	*Cercospora sp./spp.*

1	Leaf spot; shothole	*Blumeriella jaapii*
6	**Total for Plum**	

HERBS

Basil		
1	Downy mildew	*Peronospora belbahrii*
1	Low pH; high soluble salt damage	*Nutritional Disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Undetermined abiotic injury	*Abiotic disorder*
4	**Total for Basil**	
Hops		
1	Apple mosaic	*Apple mosaic virus (APMV)*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	No pathogen found	*Undetermined*
1	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Variegated cutworm	*Peridroma saucia*
5	**Total for Hops**	
Lavender		
1	Cultural/environmental problem	*Abiotic disorder*
12	No pathogen found	*Undetermined*
7	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Wilt and stem rot	*Fusarium oxysporum*
21	**Total for Lavender**	
Mint		
1	High soil moisture	*Abiotic disorder*
1	Insufficient light	*Abiotic disorder*
2	**Total for Mint**	
Parsley		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Thrips damage	*Unidentified Thrips*
2	**Total for Parsley**	
Rosemary		
1	Spider mite injury	*Unidentified Spider Mite*
1	**Total for Rosemary**	

IDENTIFICATIONS

Fungus Id Request		
1	Bird's nest fungus	*Cyanthus sp./spp.*
1	Mold	*Unidentified Fungus*
2	**Total for Fungus Id Request**	

Mushroom		
2	Insufficient sample	*Undetermined*
2	**Total for Mushroom**	

Plant Id Request		
1	Insufficient sample; INAD	*Undetermined*
1	Japanese flowering quince	*Chaenomeles japonica*
2	Not on list	*Not On List*
1	Pawpaw	*Asimina sp./spp.*
5	**Total for Plant Id Request**	

MISCELLANEOUS

Chia		
1	No pathogen found	*Undetermined*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
3	**Total for Chia**	

Mixed Plant Material		
1	Insufficient sample	*Undetermined*
1	**Total for Mixed Plant Material**	

Not Found On List		
1	Abnormal plant growth	*Abiotic disorder*
1	**Total for Not Found On List**	

Pigweed		
1	Herbicide injury suspected	*Chemical*
1	Pythium damping off	*Pythium sp./spp.*
2	**Total for Pigweed**	

Potting Soil; growing media		
1	Basidiomycete	*Unidentified Basidiomycete*
1	**Total for Potting Soil; growing media**	

Soil

1	Lesion nematodes	*Pratylenchus sp./spp.*
6	Root-knot nematodes	*Meloidogyne sp./spp.*
1	Stunt nematodes	*Tylenchorhynchus sp./spp.*
8	**Total for Soil**	

HERBACEOUS ORNAMENTALS		
Ajuga		
1	Southern blight	*Sclerotium rolfsii*
1	**Total for Ajuga**	
Angel Flower		
1	High soluble salt	*Nutritional Disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Angel Flower**	
Aster		
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	**Total for Aster**	
Bachelor's Buttons; Cornflower		
1	Herbicide injury suspected	*Chemical*
1	Insufficient sample; INAD	*Undetermined*
2	**Total for Bachelor's Buttons; Cornflower**	
Bacopa		
1	Chilling injury	*Abiotic disorder*
1	Leaf scorch	*Abiotic disorder*
1	Thrips damage	*Unidentified Thrips*
3	**Total for Bacopa**	
Begonia		
1	Bacterial leaf spot	*Xanthomonas sp./spp.*
2	Botrytis blight	*Botrytis sp./spp.*
1	Broad mite	*Polyphagotarsonemus latus*
2	Leaf scorch	*Abiotic disorder*
1	Nutritional deficiency	*Nutritional Disorder*
1	Oxygen deficiency	*Abiotic disorder*
1	Poor growing conditions	*Abiotic disorder*
1	Undetermined abiotic injury	*Abiotic disorder*
10	**Total for Begonia**	
Boston Fern		

1	Florida fern caterpillar	*Callopistria floridensis*
1	High soluble salt	*Nutritional Disorder*
1	Undetermined injury	*Undetermined*
3	**Total for Boston Fern**	

Bugle-weed		
1	Insufficient sample	*Undetermined*
1	**Total for Bugle-weed**	

Bugloss		
1	Insect damage	*Unidentified Insect*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Bugloss**	

Cactus		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	**Total for Cactus**	

Canna lily		
1	Abnormal plant growth	*Abiotic disorder*
1	**Total for Canna lily**	

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

Chrysanthemum		
2	Bacterial leaf spot	*Pseudomonas cichorii*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	European pepper moth	*Duponchelia fovealis*
1	Fungus gnats	*Mycetophilidae fam.*
6	Fusarium wilt	*Fusarium oxysporum f.sp. chrysanthemi*
1	High soil moisture	*Abiotic disorder*
1	Insect damage	*Unidentified Insect*
1	Mechanical damage	*Abiotic disorder*
1	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
1	Nutritional problem suspected	*Nutritional Disorder*
18	Pythium root and/or crown rot	*Pythium sp./spp.*
4	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*

1	Saltmarsh caterpillar	*Estigmene acrea*
1	Southern Blight	*Sclerotium rolfsii*
2	Thrips	*Order thysanoptera*
2	Undetermined abiotic injury	*Abiotic disorder*
1	Undetermined injury or wound	*Undetermined*
47	**Total for Chrysanthemum**	

Clematis		
1	Herbicide injury suspected	*Chemical*
1	**Total for Clematis**	

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

Coleus		
1	Phomopsis leaf spot	*Phomopsis sp./spp.*
1	**Total for Coleus**	

Coneflower		
1	Aster yellows phytoplasma	*Candidatus Phytoplasma asteris*
1	Insect damage	*Unidentified Insect*
1	No pathogen found	*Undetermined*
3	**Total for Coneflower**	

Cosmos		
1	Insufficient sample; INAD	*Undetermined*
1	**Total for Cosmos**	

Creeping Jenny		
1	Aphids	*Family Aphididae*
1	**Total for Creeping Jenny**	

Daffodil		
1	Cold injury suspected	*Abiotic disorder*
1	**Total for Daffodil**	

Dahlia		
1	Broad mite	*Polyphagotarsonemus latus*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Thrips	*Order thysanoptera*

2	Tomato spotted wilt	*Tomato Spotted Wilt Vir (TSWV)*
5	**Total for Dahlia**	

Daisy		
1	Anthracnose basal rot; crown rot	*Colletotrichum sp./spp.*
1	Rhizoctonia stem rot	*Rhizoctonia sp./spp.*
2	**Total for Daisy**	

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

False Indigo		
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	**Total for False Indigo**	

Geranium		
1	Botrytis blight	*Botrytis sp./spp.*
1	Broad mite	*Polyphagotarsonemus latus*
2	Iron toxicity	*Nutritional Disorder*
4	**Total for Geranium**	

Gerber Daisy		
1	Leaf scorch	*Abiotic disorder*
1	**Total for Gerber Daisy**	

Hellebore		
1	Scald; scorch	*Abiotic disorder*
1	**Total for Hellebore**	

Hosta		
1	Anthracnose basal rot; crown rot	*Colletotrichum sp./spp.*
1	No pathogen found	*Undetermined*
1	Southern blight	*Sclerotium rolfsii*
3	**Total for Hosta**	

Impatiens		
1	Botrytis blight	*Botrytis sp./spp.*
1	Downy mildew	*Plasmopara obducens*
1	Nitrogen deficiency	*Nutritional Disorder*
1	Thrips	*Order thysanoptera*

4	**Total for Impatiens**	
Iris		
1	Herbicide injury suspected	*Chemical*
2	Iris leaf spot	*Heterosporium iridis*
3	**Total for Iris**	
Ivy		
1	Ivy bacterial leaf spot	*Xanthomonas campestris pv. hederae*
1	**Total for Ivy**	
Lantana		
1	Botrytis blight	*Botrytis sp./spp.*
1	**Total for Lantana**	
Lily		
1	High soil moisture	*Abiotic disorder*
1	Leaf scorch	*Abiotic disorder*
2	**Total for Lily**	
Lilyturf		
1	Crown and root rot	*Phytophthora sp./spp.*
1	**Total for Lilyturf**	
Lisianthus		
1	Anthracnose	*Glomerella sp./spp.*
1	**Total for Lisianthus**	
Lobelia		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Phosphorus deficiency	*Nutritional Disorder*
2	**Total for Lobelia**	
Madagascar periwinkle		
1	Botrytis blight	*Botrytis sp./spp.*
1	Phytophthora dieback; blight	*Phytophthora sp./spp.*
2	**Total for Madagascar periwinkle**	
Marigold		
1	Abnormal plant growth	*Abiotic disorder*
1	**Total for Marigold**	

Million Bells		
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Root rot and web blight	*Rhizoctonia sp./spp.*
1	White mold	*Sclerotinia sp./spp.*
3	**Total for Million Bells**	
Narcissus		
1	Flower abortion; flower blast	*Abiotic disorder*
1	**Total for Narcissus**	
New Guinea Impatiens		
1	Spider mite injury	*Unidentified Spider Mite*
1	Sunscald	*Abiotic disorder*
2	**Total for New Guinea Impatiens**	
Pachysandra		
12	Leaf and stem blight	*Volutella pachysandrae*
12	**Total for Pachysandra**	
Pansy		
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Phosphorus deficiency	*Nutritional Disorder*
2	**Total for Pansy**	
Peony		
1	Botrytis blight	*Botrytis sp./spp.*
1	Herbicide injury suspected	*Chemical*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Nutritional deficiency	*Nutritional Disorder*
1	Undetermined abiotic injury	*Abiotic disorder*
5	**Total for Peony**	
Periwinkle		
2	Phoma blight; dieback; rot	*Phoma sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
3	**Total for Periwinkle**	
Petunia		
1	Aphids	*Family Aphididae*
1	Chilling injury	*Abiotic disorder*
1	Cultural/environmental problem	*Abiotic disorder*

1	Fungus gnats	*Mycetophilidae fam.*
1	Iron deficiency suspected	*Nutritional Disorder*
1	No pathogen found	*Undetermined*
1	Nutrient imbalance	*Nutritional Disorder*
5	Pythium root and/or crown rot	*Pythium sp./spp.*
2	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Thrips damage	*Unidentified Thrips*
1	Undetermined injury or wound	*Undetermined*
16	**Total for Petunia**	

Phlox		
1	Black root rot	*Thielaviopsis basicola*
1	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
4	**Total for Phlox**	

Poinsettia		
1	High soluble salt	*Nutritional Disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Poinsettia**	

Rudbeckia		
1	Fourlined plant bug	*Poecilocapsus lineatus*
1	Insufficient sample	*Undetermined*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Southern blight	*Sclerotium rolfsii*
4	**Total for Rudbeckia**	

Sedum		
1	Powdery mildew	*Erysiphe sp./spp.*
1	**Total for Sedum**	

Silvergrass		
1	Nutritional deficiency	*Nutritional Disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
2	**Total for Silvergrass**	

Stonecrop		
1	Herbicide injury suspected	*Chemical*
1	Powdery mildew	*Erysiphe sp./spp.*
2	**Total for Stonecrop**	

Sunflower		
1	Insufficient sample; INAD	*Undetermined*
1	Sunflower leaf spot	*Septoria helianthi*
1	Undetermined abiotic injury	*Abiotic disorder*
3	**Total for Sunflower**	
Tulip		
1	Tulip fire; blight	*Botrytis tulipae*
1	**Total for Tulip**	
Wild Oats; Sea Oats		
1	High pH damage	*Nutritional Disorder*
1	Nutritional deficiency	*Nutritional Disorder*
2	**Total for Wild Oats; Sea Oats**	
Zinnia		
1	Bacterial leaf spot	*Xanthomonas sp./spp.*
1	Chemical injury suspected	*Chemical*
1	Insufficient sample; INAD	*Undetermined*
1	No pathogen found	*Undetermined*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
5	**Total for Zinnia**	
	INDOOR PLANTS	
Cactus; Pricklypear		
1	Cultural/environmental problem	*Abiotic disorder*
1	Phomopsis leaf spot	*Phomopsis sp./spp.*
2	**Total for Cactus; Pricklypear**	
Christmas Cactus		
1	Environmental stress; problem	*Abiotic disorder*
1	**Total for Christmas Cactus**	
Citrus		
1	Spider mites	*Family Tetranychidae*
1	Undetermined abiotic injury	*Abiotic disorder*
2	**Total for Citrus**	
Fig		

1	Anthracnose	*Colletotrichum sp./spp.*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Leaf scorch	*Abiotic disorder*
1	Mealybugs	*Family Pseudococcidae*
1	Mites	*Order Acari*
5	**Total for Fig**	

Hibiscus		
1	Insect damage	*Unidentified Insect*
1	Woolly aphids	*Family Aphididae; Adelgidae*
2	**Total for Hibiscus**	

Lime		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Nutritional deficiency	*Nutritional Disorder*
2	**Total for Lime**	

Mandevilla		
1	Fusarium stem rot	*Fusarium sp./spp.*
1	Insufficient light	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
1	Mealybugs	*Family Pseudococcidae*
4	**Total for Mandevilla**	

Palm		
1	Nutritional pathology	*Nutritional Disorder*
1	**Total for Palm**	

Peacelily		
1	Insect damage	*Unidentified Insect*
1	Insufficient sample	*Undetermined*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
5	**Total for Peacelily**	

Queen of the Night		
1	Leaf spot- abiotic	*Abiotic disorder*
1	**Total for Queen of the Night**	

Wandering Jew		
1	No pathogen found	*Undetermined*
1	Pythium root and/or crown rot	*Pythium sp./spp.*

1	Undetermined abiotic injury	*Abiotic disorder*
3	**Total for Wandering Jew**	

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

Bermudagrass		
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Insufficient sample	*Undetermined*
1	Large patch	*Rhizoctonia solani*
1	Leaf spot	*Bipolaris sp./spp.*
1	Pythium root dysfunction	*Pythium sp./spp.*
2	Root decline of warm season grasses	*Gaeumannomyces graminis var. graminis*
7	**Total for Bermudagrass**	

Bluegrass		
1	Anthracnose leaf blight	*Colletotrichum graminicola*
2	Brown patch	*Rhizoctonia sp./spp.*
2	Cultural/environmental problem	*Abiotic disorder*
1	Dense thatch layer	*Abiotic disorder*
1	Leaf rust; rust	*Puccinia sp./spp.*
1	Pythium root dysfunction	*Pythium sp./spp.*
1	Red thread	*Laetisaria fuciformis*
1	Summer patch	*Magnaporthe poae*
10	**Total for Bluegrass**	

Fescue		
1	Anthracnose	*Colletotrichum graminicola*
8	Brown patch	*Rhizoctonia sp./spp.*
1	Decline; dieback	*Abiotic disorder*
2	Excessive water	*Abiotic disorder*
1	Heat stress	*Abiotic disorder*
2	High soluble salt	*Nutritional Disorder*
1	Insufficient sample; INAD	*Undetermined*

1	Pythium root rot	*Pythium sp./spp.*
2	Red thread	*Laetisaria fuciformis*
2	Undetermined injury	*Undetermined*
21	**Total for Fescue**	

Ryegrass		
1	Curvularia blight; Leaf spot	*Curvularia sp./spp.*
2	Gray leaf spot	*Pyricularia grisea*
3	Pythium root dysfunction	*Pythium sp./spp.*
6	**Total for Ryegrass**	

Turfgrass		
2	Brown patch	*Rhizoctonia sp./spp.*
2	**Total for Turfgrass**	

Zoysia Grass		
1	Large patch	*Rhizoctonia solani*
1	Root damage	*Abiotic disorder*
2	**Total for Zoysia Grass**	

WOODY ORNAMENTALS

Arborvitae		
2	Algae	*General*
2	Arborvitae leafminer	*Argyresthia thuiella*
4	Arborvitae needle blight	*Phyllosticta thujae*
2	Bagworm	*Thyridopteryx ephemeraeformis*
1	Canker	*Seiridium sp./spp.*
11	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Drought stress damage	*Abiotic disorder*
1	Glyphosate injury suspected	*Chemical*
1	Insufficient sample	*Undetermined*
1	Juniper scale	*Carulaspis juniperi*
1	Kabatina twig blight	*Kabatina thujae*
1	Low pH damage	*Nutritional Disorder*
1	Mechanical damage	*Abiotic disorder*
1	Mite damage	*Unidentified Mite*
2	No pathogen found	*Undetermined*
6	Pestalotiopsis needle blight; Tip blight	*Pestalotiopsis sp./spp.*
5	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
4	Spider mite injury	*Unidentified Spider Mite*
1	Spruce spider mite	*Oligonychus ununguis*
4	Transplant shock; stress	*Abiotic disorder*

1	Winter injury	*Abiotic disorder*
54	**Total for Arborvitae**	

Ash		
5	Ash anthracnose	*Plagiostoma fraxinii*
1	Decline; dieback	*Abiotic disorder*
1	Leaf spot	*Marssonina sp./spp.*
1	Lichens	*Lichenes*
1	Mycosphaerella leaf spot	*Mycosphaerella effigurata*
2	No pathogen found	*Undetermined*
11	**Total for Ash**	

Azalea		
1	Azalea bark scale	*Eriococcus azaleae*
2	Azalea lace bug	*Stephanitis pyriodes*
1	Insufficient sample; INAD	*Undetermined*
1	No pathogen found	*Undetermined*
5	**Total for Azalea**	

Barberry		
1	Decline; dieback	*Abiotic disorder*
1	Excessive water	*Abiotic disorder*
2	**Total for Barberry**	

Beech		
5	Anthracnose	*Apiognomonia sp./spp.*
1	Japanese beetle	*Popillia japonica*
6	**Total for Beech**	

Birch		
1	Anthracnose	*Discula sp./spp.*
1	Anthracnose	*Gloeosporium sp./spp.*
1	Canker	*Hypoxylon sp./spp.*
2	Cryptocline leaf spot	*Cryptocline betularum*
3	Decline; dieback	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*
1	Iron deficiency	*Nutritional Disorder*
1	Spiny witch-hazel aphid	*Hamamelistes spinosus*
11	**Total for Birch**	

Black Gum		
2	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*

1	Environmental stress; problem	*Abiotic disorder*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	Sourgum scale	*Chionaspis (Phenacaspis) nyssae*
1	Undetermined injury	*Undetermined*
1	Unidentified fungus	*Unidentified Fungus*
7	**Total for Black Gum**	

Boxwood		
66	Boxwood blight; leaf and stem blight	*Cylindrocladium pseudonaviculatum*
39	Boxwood leafminer	*Monarthropalpus flavus (buxi)*
1	Boxwood mite	*Eurytetranychus buxi*
119	Boxwood Volutella canker	*Volutella buxi*
3	Cultural/environmental problem	*Abiotic disorder*
1	Decline; dieback	*Abiotic disorder*
1	Drought stress damage	*Abiotic disorder*
3	Environmental stress; problem	*Abiotic disorder*
2	High soil moisture	*Abiotic disorder*
1	Leaf scorch	*Abiotic disorder*
1	Lichens	*Lichenes*
55	Macrophoma dieback	*Macrophoma sp./spp.*
2	Mite damage	*Unidentified Mite*
1	Moss	*General*
12	No pathogen found	*Undetermined*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Planting too deep	*Abiotic disorder*
1	Poor growing conditions	*Abiotic disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Root problems	*Abiotic disorder*
1	Root rot	*Unidentified Agent*
8	Spider mite injury	*Unidentified Spider Mite*
5	Transplant shock; stress	*Abiotic disorder*
2	Undetermined injury	*Undetermined*
2	Winter injury; winter desiccation	*Abiotic disorder*
332	**Total for Boxwood**	

Buckeye		
1	Anthracnose	*Colletotrichum sp./spp.*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
2	**Total for Buckeye**	

Butterfly Bush		
1	Leaf spot	*Unidentified Fungus*
1	Spider mite injury	*Unidentified Spider Mite*

2	**Total for Butterfly Bush**	

Buttonbush		
1	Leaf scorch	*Abiotic disorder*
1	**Total for Buttonbush**	

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

Cherry		
1	Anthracnose	*Colletotrichum sp./spp.*
1	Bacterial canker	*Pseudomonas syringae*
1	Bacterial leaf spot	*Unidentified Bacteria*
1	Canker- unidentified fungus	*Unidentified fungus*
1	Chemical injury suspected	*Chemical*
1	Growth regulator effect suspected	*Chemical*
2	Herbicide injury suspected	*Chemical*
3	Insufficient sample	*Undetermined*
1	Leaf spot	*Unidentified Fungus*
1	Leaf spot	*Unknown cause*
1	Leaf spot; shothole	*Blumeriella jaapii*
1	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Poor growing conditions	*Abiotic disorder*
1	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
3	Stonefruit bacterial spot	*Xanthomonas campestris pv. Pruni*
2	Transplant shock; stress	*Abiotic disorder*
23	**Total for Cherry**	

Cherry laurel		
1	Anthracnose	*Colletotrichum sp./spp.*
1	Cytospora canker; Dieback	*Cytospora sp./spp.*
1	Fungal canker	*Various Fungi*
1	No pathogen found	*Undetermined*
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
7	**Total for Cherry laurel**	

Chestnut		
1	Anthracnose	*Apiognomonia sp./spp.*
1	Leaf skeletonizers	*Family Zygaenidae*

2	No pathogen found	*Undetermined*
1	Transplant shock; stress	*Abiotic disorder*
5	**Total for Chestnut**	

Crabapple		
4	Apple scab	*Venturia inaequalis*
1	Cedar-apple rust	*Gymnosporangium juniperi-virginianae*
2	Fire blight	*Erwinia amylovora*
4	Frogeye leaf spot; black rot	*Botryosphaeria obtusa*
1	Leaf spot	*Unidentified Fungus*
1	Plum curculio	*Conotrachelus nenuphar*
1	Wood decay fungus	*Unidentified fungus*
14	**Total for Crabapple**	

Crape Myrtle		
1	Cercospora leaf spot	*Cercospora sp./spp.*
2	Crapemyrtle aphid	*Sarucallis (Tinocallis) kahawaluokalani*
1	Glyphosate injury suspected	*Chemical*
1	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
4	Sooty mold	*Unidentified Fungus*
1	Undetermined injury	*Undetermined*
11	**Total for Crape Myrtle**	

Cryptomeria		
1	Transplant shock; stress	*Abiotic disorder*
1	**Total for Cryptomeria**	

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

Dogwood		
1	Chemical injury suspected	*Chemical*
8	Decline; dieback	*Abiotic disorder*
2	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Dogwood anthracnose	*Discula destructiva*
2	Dogwood leaf spot	*Septoria cornicola*
2	Dogwood powdery mildew	*Erysiphe pulchra*
1	Fusarium canker	*Fusarium sp./spp.*
2	Growth regulator effect suspected	*Chemical*

2	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
2	No pathogen found	*Undetermined*
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
4	Spot anthracnose	*Elsinoe corni*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined abiotic injury	*Abiotic disorder*
1	Wood boring insect damage	*Unidentified Insect*
33	**Total for Dogwood**	

Douglas-fir		
1	Swiss needle cast	*Phaeocryptopus gaeumanni*
1	**Total for Douglas-fir**	

Elderberry		
1	Cultural/environmental problem	*Abiotic disorder*
1	Excessive water	*Abiotic disorder*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Spider mite injury	*Unidentified Spider Mite*
4	**Total for Elderberry**	

Elm		
1	Anthracnose; black spot	*Stegophora ulmea*
3	Elm yellows; elm phloem necrosis	*Candidatus Phytoplasma ulmi*
1	European elm flea weevil	*Orchestes alni*
1	Growth regulator effect suspected	*Chemical*
1	No pathogen found	*Undetermined*
1	Verticillium wilt	*Verticillium sp./spp.*
8	**Total for Elm**	

Euonymus		
1	Aphids	*Family Aphididae*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Euonymus scale	*Unaspis euonymi*
1	Growth regulator effect suspected	*Chemical*
1	Herbicide injury suspected	*Chemical*
1	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Spider mites	*Family Tetranychidae*
9	**Total for Euonymus**	

Falsecypress

1	Environmental stress; problem	*Abiotic disorder*
2	No pathogen found	*Undetermined*
1	Spider mite injury	*Unidentified Spider Mite*
1	Termites	*Order Isoptera*
5	**Total for Falsecypress**	

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

Fir		
1	Decline; dieback	*Abiotic disorder*
1	Elongate hemlock scale	*Fiorinia externa*
1	Environmental stress; problem	*Abiotic disorder*
1	No pathogen found	*Undetermined*
2	Undetermined injury or wound	*Undetermined*
6	**Total for Fir**	

Forsythia		
1	Gall	*Unidentified Agent*
1	**Total for Forsythia**	

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

Ginkgo		
1	Foliar distortion	*Unidentified Agent*
1	Growth regulator effect suspected	*Chemical*
1	Herbicide drift suspected	*Chemical*
1	Lichens	*Lichenes*
1	Mechanical damage	*Abiotic disorder*
1	Sunscald	*Abiotic disorder*
1	Transplant shock; stress	*Abiotic disorder*
1	Undetermined injury or wound	*Undetermined*
8	**Total for Ginkgo**	

Goldenrain Tree		
1	Anthracnose	*Colletotrichum sp./spp.*
1	**Total for Goldenrain Tree**	

Hackberry

1	Hackberry wooly aphid	*Shivaphis celti*
1	Psyllid	*Pachypsylla sp./spp.*
1	Twospotted spider mite	*Tetranychus urticae*
3	**Total for Hackberry**	

Hawthorn		
2	Cedar-hawthorn rust	*Gymnosporangium globosum*
1	Hawthorn leafminer	*Profenusa collaris*
3	**Total for Hawthorn**	

Hemlock		
2	Elongate hemlock scale	*Fiorinia externa*
5	Hemlock decline; dieback	*Abiotic disorder*
2	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
9	**Total for Hemlock**	

Holly		
1	Armored scales	*Family Diaspididae*
5	Black root rot	*Thielaviopsis basicola*
1	Cultural/environmental problem	*Abiotic disorder*
13	Decline; dieback	*Abiotic disorder*
3	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
3	Insufficient sample	*Undetermined*
1	Japanese maple scale	*Lopholeucaspis japonica*
6	No pathogen found	*Undetermined*
1	Nutritional deficiency	*Nutritional Disorder*
1	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
1	Poor growing conditions	*Abiotic disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Southern red mite	*Oligonychus ilicis*
2	Spider mite injury	*Unidentified Spider Mite*
2	Transplant shock; stress	*Abiotic disorder*
3	Undetermined injury	*Undetermined*
45	**Total for Holly**	

Honeylocust		
1	Abnormal plant growth	*Abiotic disorder*
1	Cercsospora leaf spot	*Cercospora sp./spp.*
1	Decline; dieback	*Abiotic disorder*
1	Honeylocust plant bug	*Blephariopterus chlorionis*
1	Passalora leaf spot	*Passalora sp./spp.*
1	Sooty mold	*Unidentified fungus*
1	Thyronectria canker	*Thyronectria austroamericana*

1	Wood rot fungus	*Ganoderma sp./spp.*
8	**Total for Honeylocust**	

Honeysuckle		
1	Rhizoctonia foliar/ aerial/ web blight	*Rhizoctonia solani*
1	Undetermined injury	*Undetermined*
2	**Total for Honeysuckle**	

Hornbeam		
1	Anthracnose	*Gloeosporium sp./spp.*
1	Decline; dieback	*Abiotic disorder*
2	**Total for Hornbeam**	

Hydrangea		
2	Bacterial leaf spot	*Xanthomonas sp./spp.*
2	Botrytis blight	*Botrytis sp./spp.*
1	Chemical injury suspected	*Chemical*
1	Cultural/environmental problem	*Abiotic disorder*
1	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
4	Fungal leaf spot	*Cercospora hydrangeae*
2	Growth regulator effect suspected	*Chemical*
1	Herbicide injury suspected	*Chemical*
1	No pathogen found	*Undetermined*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
17	**Total for Hydrangea**	

Juniper		
4	Decline; dieback	*Abiotic disorder*
1	Bagworm	*Thyridopteryx ephemeraeformis*
1	Environmental stress; problem	*Abiotic disorder*
1	Fungal canker	*Various Fungi*
2	Juniper scale	*Carulaspis juniperi*
1	Mites	*Order Acari*
3	No pathogen found	*Undetermined*
2	Phomopsis tip blight; needle blight	*Phomopsis juniperovora*
4	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
2	Spider mite injury	*Unidentified Spider Mite*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined abiotic injury	*Abiotic disorder*
25	**Total for Juniper**	

Kentucky Coffee Tree		
1	Growth regulator effect suspected	*Chemical*
1	**Total for Kentucky Coffee Tree**	

Leucothoe		
1	Decline; dieback	*Abiotic disorder*
1	Leaf spot- abiotic	*Abiotic disorder*
2	**Total for Leucothoe**	

Leyland Cypress		
2	Bagworm	*Thyridopteryx ephemeraeformis*
1	Decline; dieback	*Abiotic disorder*
1	Insufficient sample	*Undetermined*
1	Juniper scale	*Carulaspis juniperi*
3	Seiridium canker	*Seiridium unicorne*
1	Spider mite injury	*Unidentified Spider Mite*
1	Undetermined abiotic injury	*Abiotic disorder*
10	**Total for Leyland Cypress**	

Lilac		
1	Cercospora leaf spot	*Cercospora sp./spp.*
2	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Environmental stress; problem	*Abiotic disorder*
1	Oedema; edema	*Abiotic disorder*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
1	Verticillium wilt	*Verticillium sp./spp.*
10	**Total for Lilac**	

Locust		
1	Mimosa webworm	*Homadaula anisocentra*
1	No pathogen found	*Undetermined*
2	**Total for Locust**	

Magnolia		
1	Decline; dieback	*Abiotic disorder*
1	Magnolia scale	*Neolecanium cornuparvum*
1	Oystershell scale	*Lepidosaphes ulmi*
1	Phomopsis leaf spot	*Phomopsis sp./spp.*
1	Transplant shock; stress	*Abiotic disorder*
1	Verticillium wilt	*Verticillium sp./spp.*

2	Winter injury	*Abiotic disorder*
1	Yellow-poplar weevil	*Odontopus calceatus*
9	**Total for Magnolia**	

Maple		
8	Anthracnose (Monostichella leaf spot)	*Monostichella hysteroidea*
1	Anthracnose; Colletotrichum leaf spot	*Colletotrichum sp./spp.*
1	Aphids	*Family Aphididae*
2	Chemical injury suspected	*Chemical*
2	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
3	Environmental stress; problem	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*
2	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
2	Insufficient sample	*Undetermined*
1	Japanese maple scale	*Lopholeucaspis japonica*
3	Leaf scorch	*Abiotic disorder*
1	Leaf skeletonizers	*Family Zygaenidae*
12	Maple anthracnose	*Aureobasidium apocryptum*
2	Maple bladdergall mite	*Vasates quadripedes*
22	Maple decline	*Complex*
2	Maple leaf blister	*Taphrina carveri*
1	Maple petiole borer	*Caulocampus acericaulis*
1	Maple tar spot	*Rhytisma acerinum*
3	No pathogen found	*Undetermined*
2	Nutritional deficiency	*Nutritional Disorder*
2	Oystershell scale	*Lepidosaphes ulmi*
13	Phyllosticta leaf spot	*Phyllosticta sp./spp.*
1	Potato leafhopper	*Empoasca fabae*
1	Scale insects	*Order homoptera*
1	Spider mite injury	*Unidentified Spider Mite*
3	Transplant shock; stress	*Abiotic disorder*
3	Undetermined injury	*Undetermined*
7	Verticillium wilt	*Verticillium sp./spp.*
1	Winter injury	*Abiotic disorder*
1	Wood decay fungus	*Unidentified fungus*
1	Woolly aphids	*Family Aphididae; Adelgidae*
107	**Total for Maple**	

Oak		
31	Actinopelte leaf spot	*Tubakia dryina*
34	Anthracnose	*Apiognomonia sp./spp.*
26	Bacterial leaf scorch	*Xylella fastidiosa*

1	Chemical injury suspected	*Chemical*
1	Chilling injury	*Abiotic disorder*
2	Decline; dieback	*Abiotic disorder*
1	Dieback; canker	*Diplodia sp./spp.*
1	Endothia canker	*Endothia gyrosa*
1	Foliar distortion	*Unidentified Agent*
1	Freeze; frost; cold damage	*Abiotic disorder*
1	Gallmaking midges	*Family Cecidomyiidae*
4	Growth regulator effect suspected	*Chemical*
1	Herbicide injury suspected	*Chemical*
1	Horned oak gall wasp	*Callirhytis cornigera*
8	Insect damage	*Unidentified Insect*
1	Insect gall	*Insect Gall*
1	Insufficient sample	*Undetermined*
4	Iron deficiency	*Nutritional Disorder*
2	Jumping oak gall wasp	*Neuroterus saltatorius*
1	Lace bugs	*Family Tingidae*
3	Leaf skeletonizers	*Family Zygaenid*
2	Leaf spot	*Monochaetia sp./spp.*
1	Leaf spot	*Unidentified Fungus*
1	Mechanical damage	*Abiotic disorder*
3	No pathogen found	*Undetermined*
1	Oak leaf blister	*Taphrina caerulescens*
2	Oak lecanium	*Parthenolecanium quercifex*
6	Oak powdery mildew	*Erysiphe (Oidium) alphitoides*
1	Oak vein pocket gallmaker	*Macrodiplosis quercusoruca*
1	Obscure scale	*Melanaspis obscura*
1	Pine oak gall rust	*Cronartium quercuum*
5	Spider mite injury	*Unidentified Spider Mite*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined abiotic injury	*Abiotic disorder*
2	Wood decay fungus	*Unidentified fungus*
155	**Total for Oak**	

Pear		
1	Anthracnose	*Gloeosporium sp./spp.*
1	Chemical injury suspected	*Chemical*
1	Entomosporium leaf spot	*Entomosporium sp./spp.*
2	Fire blight	*Erwinia amylovora*
3	No pathogen found	*Undetermined*
2	Pear decline	*Abiotic disorder*
2	Thread blight	*Ceratobasidium (Corticium) ochroleucum (stevensii)*
12	**Total for Pear**	

Persimmon		
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Leaf spot	*Unidentified Fungus*
1	Verticillium wilt	*Verticillium sp./spp.*
3	**Total for Persimmon**	

Pine		
1	Bacterial wetwood; slime flux	*Various Pathogens*
2	Bark beetles; Ambrosia beetles	*Family Scolytidae*
1	Brown spot; needle blight	*Mycosphaerella dearnessii*
1	Cultural/environmental problem	*Abiotic disorder*
1	Decline; dieback	*Abiotic disorder*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
9	Diplodia tip blight; canker	*Diplodia sapinea*
3	Dothistroma needle blight	*Dothistroma pini*
1	Environmental stress; problem	*Abiotic disorder*
1	Fall needle drop	*Abiotic disorder*
9	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Pine needle rust	*Coleosporium tussilaginis*
2	Pine needle scale	*Chionaspis pinifoliae*
2	Pine sawflies	*Family Diprionidae*
1	Root problems	*Abiotic disorder*
1	Soil compaction	*Abiotic disorder*
1	Spider mites	*Family Tetranychidae*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined injury or wound	*Undetermined*
10	White pine decline	*Abiotic disorder*
52	**Total for Pine**	

Plum		
1	Black knot	*Apiosporina morbosa*
1	Stonefruit bacterial spot	*Xanthomonas campestris pv. pruni*
2	**Total for Plum**	

Prunus		
1	Black knot	*Apiosporina morbosa*
1	**Total for Prunus**	

Quince		
1	Bitter rot	*Colletotrichum sp./spp.*

1	**Total for Quince**	

Redbud		
1	Anthracnose	*Gloeosporium sp./spp.*
2	Anthracnose	*Kabatiella sp./spp.*
1	Canker- unidentified fungus	*Unidentified fungus*
1	Chemical injury suspected	*Chemical*
1	Decline; dieback	*Abiotic disorder*
2	Growth regulator effect suspected	*Chemical*
1	Insufficient sample	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
3	Spider mite injury	*Unidentified Spider Mite*
1	Transplant shock; stress	*Abiotic disorder*
2	Undetermined abiotic injury	*Abiotic disorder*
3	Verticillium wilt	*Verticillium sp./spp.*
19	**Total for Redbud**	

Rhododendron		
1	Cicada egg-laying injury	*Unidentified Cicada*
2	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Growth regulator effect suspected	*Chemical*
2	No pathogen found	*Undetermined*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
3	Phytophthora dieback; blight	*Phytophthora sp./spp.*
1	Rhododendron lace bug	*Stephanitis rhododendri*
1	Wood boring insect damage	*Unidentified Insect*
12	**Total for Rhododendron**	

Rose		
1	Black spot	*Diplocarpon rosae*
1	Chemical injury suspected	*Chemical*
1	Cold injury suspected	*Abiotic disorder*
1	Herbicide injury suspected	*Chemical*
1	No pathogen found	*Undetermined*
2	Powdery mildew	*Sphaerotheca sp./spp.*
1	Rose canker	*Coniothyrium sp./spp.*
1	Rose rosette disease suspected	*Rose Rosette Virus (RRV)*
1	Roseslug	*Endelomyia sp./spp.*
1	Thrips damage	*Unidentified Thrips*
3	Undetermined injury	*Undetermined*
14	**Total for Rose**	

Sassafras

1	Dieback; Canker	*Diplodia sp./spp.*
1	Dieback; canker; twig blight	*Botryosphaeria sp./spp.*
1	Insufficient sample; INAD	*Undetermined*
1	Laurel wilt	*Raffaelea lauricola*
5	No pathogen found	*Undetermined*
9	**Total for Sassafras**	

Spirea		
1	Herbicide injury suspected	*Chemical*
1	**Total for Spirea**	

Spruce		
1	Bagworm	*Thyridopteryx ephemeraeformis*
1	Cultural/environmental problem	*Abiotic disorder*
1	Cytospora canker	*Cytospora kunzei*
10	Decline; dieback	*Abiotic disorder*
6	Dothistroma needle blight	*Dothistroma sp./spp.*
3	Drought stress damage	*Abiotic disorder*
2	Environmental stress; problem	*Abiotic disorder*
1	Hymenopterans	*Order Hymenoptera*
1	Insect damage	*Unidentified Insect*
1	Insufficient sample; INAD	*Undetermined*
1	Low pH	*Nutritional Disorder*
3	Magnesium deficiency	*Nutritional Disorder*
1	Mechanical damage	*Abiotic disorder*
1	Natural senescence	*Abiotic disorder*
3	No pathogen found	*Undetermined*
1	Phomopsis dieback; tip blight; canker	*Phomopsis sp./spp.*
2	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
48	Rhizosphaera needle cast	*Rhizosphaera kalkhoffii*
13	Spider mite injury	*Unidentified Spider Mite*
1	Spruce spider mite	*Oligonychus ununguis*
19	Stigmina needle blight	*Stigmina lautii*
2	Transplant shock; stress	*Abiotic disorder*
1	Yellow-bellied sapsucker	*Sphyrapicus varius*
124	**Total for Spruce**	

Sumac		
1	Anthracnose	*Apiognomonia sp./spp.*
1	Chemical injury suspected	*Chemical*
1	Growth regulator effect suspected	*Chemical*
1	Insufficient sample	*Undetermined*

4	**Total for Sumac**	

Sweetgum		
2	Cercospora leaf spot	*Cercospora sp./spp.*
2	Insufficient sample	*Undetermined*
1	Undetermined abiotic injury	*Abiotic disorder*
5	**Total for Sweetgum**	

Sycamore		
1	Bacterial leaf scorch	*Xylella fastidiosa*
1	Canker	*Biscogniauxia sp./spp.*
1	Powdery mildew	*Oidium sp./spp.*
1	Sycamore anthracnose	*Apiognomonia veneta*
4	**Total for Sycamore**	

Taxus		
1	High pH	*Nutritional Disorder*
1	Low pH	*Nutritional Disorder*
1	Mechanical damage	*Abiotic disorder*
1	No pathogen found	*Undetermined*
13	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Root rot	*Various Fungi*
1	Soft scales	*Family Coccidae*
1	Sooty mold	*Unidentified Fungus*
1	Spider mite injury	*Unidentified Spider Mite*
8	Taxus decline; dieback	*Abiotic disorder*
29	**Total for Taxus**	

Tulip Tree		
3	Chemical injury suspected	*Chemical*
1	Decline; dieback	*Abiotic disorder*
2	Insufficient sample	*Undetermined*
1	Lace bugs	*Family Tingidae*
1	Lichens	*Lichenes*
5	Physiological responses (summer leaf drop)	*Abiotic disorder*
1	Powdery mildew	*Erysiphe sp./spp.*
1	Sooty mold	*Unidentified Fungus*
1	Tuliptree scale	*Toumeyella liriodendri*
1	Verticillium wilt	*Verticillium sp./spp.*
3	Yellow-poplar weevil	*Odontopus calceatus*
20	**Total for Tulip Tree**	

Viburnum

1	Cercospora leaf spot	*Cercospora sp./spp.*
3	Decline; dieback	*Abiotic disorder*
1	No pathogen found	*Undetermined*
1	Nutrient imbalance	*Nutritional Disorder*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
1	Yellow-bellied sapsucker	*Sphyrapicus varius*
8	**Total for Viburnum**	

Walnut		
1	No pathogen found	*Undetermined*
2	Walnut anthracnose	*Ophiognomonia leptostyla*
1	Walnut leaf spot	*Cylindrosporium juglandis*
4	**Total for Walnut**	

Weigela		
1	Excessive water	*Abiotic disorder*
1	Root problems	*Abiotic disorder*
2	**Total for Weigela**	

Willow		
2	Cercospora leaf spot	*Cercospora sp./spp.*
1	Insufficient sample	*Undetermined*
3	**Total for Willow**	

Woody Ornamental		
1	Growth regulator effect suspected	*Chemical*
2	Sooty mold	*Unidentified Fungus*
1	Woolly aphids	*Family Aphididae; Adelgidae*
4	**Total for Woody Ornamental**	

Yellowwood		
1	Anthracnose	*Gloeosporium sp./spp.*
1	Decline; dieback	*Abiotic disorder*
1	No pathogen found	*Undetermined*
3	**Total for Yellowwood**	

PINEWOOD NEMATODE EXTRACTION

Juniper		
10	PWNE-no pathogen found	*Undetermined*
10	**Total for Juniper**	

P.RAMORUM NURSERY SURVEY

Azalea		
2	No pathogen found	*Undetermined*
2	**Total for Azalea**	

Camellia		
2	No pathogen found	*Undetermined*
2	**Total for Camellia**	

Pieris		
14	No pathogen found	*Undetermined*
3	Phytophthora dieback; blight	*Phytophthora sp./spp.*
17	**Total for Pieris**	

Rhododendron		
31	No pathogen found	*Undetermined*
26	Phytophthora dieback; blight	*Phytophthora sp./spp.*
57	**Total for Rhododendron**	

Viburnum		
33	No pathogen found	*Undetermined*
33	**Total for Viburnum**	

	VEGETABLES	
Bean		
3	Cercospora leaf spot	*Cercospora sp./spp.*
2	Common bacterial blight	*Xanthomonas campestris pv. phaseoli*
2	Growth regulator effect suspected	*Chemical*
2	Insect damage	*Unidentified Insect*
1	Insufficient sample	*Undetermined*
1	Low pH damage	*Nutritional Disorder*
1	Manganese toxicity	*Nutritional Disorder*
1	Mexican bean beetle	*Epilachna varivestis*
2	No pathogen found	*Undetermined*
1	Poor growing conditions	*Abiotic disorder*
1	Pythium damping off	*Pythium sp./spp.*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
2	Soil compaction	*Abiotic disorder*
1	Sunscald	*Abiotic disorder*
1	Twospotted spider mite	*Tetranychus urticae*
1	Wind damage	*Abiotic disorder*
24	**Total for Bean**	

Beet		
1	Beet leaf spot	*Cercospora beticola*
1	Cabbage maggot	*Delia radicum*
1	Chemical injury suspected	*Chemical*
1	Rhizoctonia root rot	*Rhizoctonia solani*
4	**Total for Beet**	

Broccoli		
1	Chemical injury suspected	*Chemical*
1	No pathogen found	*Undetermined*
2	White mold (stem rot)	*Sclerotinia sclerotiorum*
4	**Total for Broccoli**	

Brussels-sprouts		
1	Insufficient sample	*Undetermined*
1	No pathogen found	*Undetermined*
1	**Total for Brussels-sprouts**	

Cabbage		
1	Abnormal plant growth	*Abiotic disorder*
3	Bacterial soft rot	*Erwinia sp./spp.*
1	Botrytis blight	*Botrytis sp./spp.*
1	Cabbage maggot	*Delia radicum*
2	Chemical injury suspected	*Chemical*
1	High pH	*Nutritional Disorder*
2	Low pH damage	*Nutritional Disorder*
1	Manganese toxicity	*Nutritional Disorder*
1	Nutritional deficiency	*Nutritional Disorder*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Soil compaction	*Abiotic disorder*
2	Unspecified pathology	*Pythium sp./spp.*
2	Undetermined abiotic injury	*Abiotic disorder*
1	White mold (stem rot)	*Sclerotinia sclerotiorum*
21	**Total for Cabbage**	

Cantaloupe		
1	Alternaria leaf blight and spot	*Alternaria cucumerina*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Growth regulator effect suspected	*Chemical*
1	Striped cucumber beetle	*Acalymma vittatum*
4	**Total for Cantaloupe**	

Celery		
1	Cucumber mosaic	*Cucumber mosaic virus (CMV)*
1	**Total for Celery**	

Corn		
1	Bacterial stalk rot	*Erwinia sp./spp.*
1	Herbicide injury suspected	*Chemical*
1	Insect damage suspected	*Unidentified Insect*
2	Poor growing conditions	*Abiotic disorder*
1	Poor pollination	*Abiotic disorder*
1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Soil compaction	*Abiotic disorder*
8	**Total for Corn**	

Cucumber		
4	Anthracnose	*Colletotrichum orbiculare*
2	Aphids	*Family Aphididae*
5	Cercospora leaf spot	*Cercospora citrullina*
1	Cucurbit angular leaf spot	*Pseudomonas syringae pv. lachrymans*
2	Cucurbit bacterial wilt	*Erwinia tracheiphila*
5	Cucurbit downy mildew	*Pseudoperonospora cubensis*
2	Cucurbit powdery mildew	*Golovinomyces cichoracearum*
1	Herbicide injury suspected	*Chemical*
1	Insect damage	*Unidentified Insect*
1	Insufficient sample; INAD	*Undetermined*
1	No pathogen found	*Undetermined*
1	Nutritional problem suspected	*Nutritional Disorder*
2	Oedema; edema	*Abiotic disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Scald; scorch	*Abiotic disorder*
1	Stink bug damage	*Unidentified Stink Bug*
31	**Total for Cucumber**	

Eggplant		
1	Growth regulator effect suspected	*Chemical*
1	Insufficient sample; INAD	*Undetermined*
2	**Total for Eggplant**	

Garlic		
1	Unknown abiotic disorder	*Abiotic disorder*
1	**Total for Garlic**	

Globe Artichoke

1	Crown rot	*Erwinia chysanthemi*
1	**Total for Globe Artichoke**	

Groundcherry		
1	No pathogen found	*Undetermined*
1	White mold	*Sclerotinia sp./spp.*
2	**Total for Groundcherry**	

Kohlrabi		
1	Alternaria leaf spot	*Alternaria sp./spp.*
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Crucifer bacterial black rot	*Xanthomonas campestris*
3	**Total for Kohlrabi**	

Lettuce		
3	Drop (Sclerotinia rot)	*Sclerotinia sp./spp.*
2	Insufficient sample	*Undetermined*
1	Leaf spot- abiotic	*Abiotic disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
7	**Total for Lettuce**	

Melon		
1	Poor growing conditions	*Abiotic disorder*
1	Salt damage	*Abiotic disorder*
1	Sunscald	*Abiotic disorder*
3	**Total for Melon**	

Okra		
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Cercospora leaf spot	*Cercospora sp./spp.*
1	Insect damage	*Unidentified Insect*
1	Nutritional problem suspected	*Nutritional Disorder*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Spider mites	*Family Tetranychidae*
1	Sunscald	*Abiotic disorder*
1	Undetermined abiotic injury	*Abiotic disorder*
8	**Total for Okra**	

Onion		
1	Chemical injury suspected	*Chemical*
2	Onion purple (Brown) blotch	*Alternaria porri*
3	**Total for Onion**	

Pea		
1	Aphids	*Family Aphididae*
1	No pathogen found	*Undetermined*
2	**Total for Pea**	

Pepper		
1	Abnormal plant growth	*Abiotic disorder*
4	Broad mite	*Polyphagotarsonemus latus*
1	Excessive water	*Abiotic disorder*
1	Foliar distortion	*Unidentified Agent*
1	Fusarium root rot	*Fusarium sp./spp.*
1	Fusarium stem rot	*Fusarium sp./spp.*
1	Growth regulator effect suspected	*Chemical*
2	Herbicide injury suspected	*Chemical*
1	High pH	*Nutritional Disorder*
2	High soluble salt	*Nutritional Disorder*
1	Insect damage	*Unidentified Insect*
1	Insufficient sample; INAD	*Undetermined*
1	Low pH	*Nutritional Disorder*
1	Mechanical damage	*Abiotic disorder*
1	Nitrogen deficiency suspected	*Nutritional Disorder*
1	No pathogen found	*Undetermined*
7	Pepper bacterial spot	*Xanthomonas campestris pv. vesicatoria*
1	Potassium deficiency	*Nutritional Disorder*
6	Pythium root and/or crown rot	*Pythium sp./spp.*
2	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
2	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
1	Sunscald	*Abiotic disorder*
1	Transplant shock; stress	*Abiotic disorder*
1	Undetermined abiotic injury	*Abiotic disorder*
1	Wind damage	*Abiotic disorder*
43	**Total for Pepper**	

Potato		
1	Insect damage	*Unidentified Insect*
1	Potato black dot	*Colletotrichum coccodes*
2	Root-knot nematodes	*Meloidogyne sp./spp.*
1	Scab	*Streptomyces sp./spp.*
5	**Total for Potato**	

Pumpkin		
1	Anthracnose	*Colletotrichum orbiculare*

2	Bacterial soft rot	*Erwinia sp./spp.*
4	Cucurbit angular leaf spot	*Pseudomonas syringae pv. lachrymans*
1	Cucurbit downy mildew	*Pseudoperonospora cubensis*
1	Cucurbit powdery mildew	*Golovinomyces cichoracearum*
1	Fusarium crown rot; foot rot	*Fusarium solani f.sp. cucurbitae*
1	Fusarium fruit rot	*Fusarium sp./spp.*
1	Insect damage	*Unidentified Insect*
2	Manganese toxicity	*Nutritional Disorder*
1	Microdochium blight	*Plectosphaerella cucumerina*
1	No pathogen found	*Undetermined*
1	Nutritional problem suspected	*Nutritional Disorder*
1	Phytophthora root/ stem/ crown rot	*Phytophthora capsici*
1	Powdery mildew	*Podosphaera sp./spp.*
1	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Sclerotinia rot	*Sclerotinia sclerotiorum*
1	Southern blight	*Sclerotium rolfsii*
1	Squash bug	*Anasa tristis*
23	**Total for Pumpkin**	

Radish		
1	Chemical injury suspected	*Chemical*
1	**Total for Radish**	

Rhubarb		
1	Nutritional deficiency	*Nutritional Disorder*
1	Phytophthora crown rot; root rot; stem rot	*Phytophthora sp./spp.*
2	**Total for Rhubarb**	

Squash		
1	Anthracnose	*Colletotrichum orbiculare*
2	Aphids	*Family Aphididae*
1	Bacterial soft rot	*Erwinia sp./spp.*
1	Cucurbit angular leaf spot	*Pseudomonas syringae pv. lachrymans*
1	Growth regulator effect suspected	*Chemical*
1	High pH	*Nutritional Disorder*
2	Insufficient sample	*Undetermined*
1	Mites	*Order Acari*
1	No pathogen found	*Undetermined*
1	Oedema; edema	*Abiotic disorder*
1	Phytophthora fruit rot; blight	*Phytophthora capsici*
1	Phytophthora root/ stem/ crown rot	*Phytophthora capsici*
1	Poor growing conditions	*Abiotic disorder*
2	Poor pollination	*Abiotic disorder*
2	Powdery mildew	*Podosphaera sp./spp.*

1	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Squash bug	*Anasa tristis*
2	Squash vine borer	*Melittia cucurbitae*
1	Striped cucumber beetle	*Acalymma vittatum*
1	Undetermined injury or wound	*Undetermined*
1	Viruses	*Viruses*
1	Zucchini yellow mosaic (ZYMV)	*Potyvirus Zucchini Yellow Mosaic Virus*
27	**Total for Squash**	

Sweetpotato		
1	Fusarium root rot	*Fusarium sp./spp.*
4	Sweetpotato scurf	*Monilochaetes infuscans*
1	Wireworm	*Family Elateridae*
6	**Total for Sweetpotato**	

Tomato		
1	Anthracnose fruit rot	*Colletotrichum sp./spp.*
2	Aphids	*Family Aphididae*
1	Bacterial canker	*Clavibacter michiganensis*
1	Bacterial speck	*Pseudomonas syringae pv. tomato*
1	Bacterial spot	*Xanthomonas sp./spp.*
1	Black dot root rot	*Colletotrichum coccodes*
2	Blossom end rot	*Abiotic disorder*
1	Botrytis blight	*Botrytis sp./spp.*
3	Buckeye rot	*Phytophthora sp./spp.*
1	Catface	*Abiotic disorder*
1	Cercospora leaf spot	*Pseudocercospora fuligena*
2	Chemical injury suspected	*Chemical*
10	Early blight; leaf spot	*Alternaria solani*
3	Freeze; frost; cold damage	*Abiotic disorder*
3	Fusarium root and crown rot	*Fusarium oxysporum f.sp. radicis-lycope*
5	Fusarium wilt	*Fusarium oxysporum*
1	Genetic disorder suspected	*Abiotic disorder*
5	Glyphosate injury suspected	*Chemical*
1	Graywall	*Unknown Agent*
20	Growth regulator effect suspected	*Chemical*
4	Herbicide injury suspected	*Chemical*
3	High pH damage	*Nutritional Disorder*
1	High soil moisture	*Abiotic disorder*
3	High soluble salt	*Nutritional Disorder*
3	Insect damage	*Unidentified Insect*
1	Insufficient light	*Abiotic disorder*

9	Insufficient sample	*Undetermined*
14	Leaf mold	*Fulvia fulva*
3	Leaf scorch	*Abiotic disorder*
3	Leaf spot- abiotic	*Abiotic disorder*
1	Leaf /stem/twig blight; Rot; Gray mold	*Botrytis cinerea*
1	Low pH	*Nutritional Disorder*
1	Low pH; Nutrient imbalance	*Abiotic disorder*
1	Magnesium deficiency	*Nutritional disorder*
2	Mechanical damage	*Abiotic disorder*
1	Nitrogen deficiency	*Nutritional Disorder*
9	No pathogen found	*Undetermined*
5	Nutritional deficiency	*Nutritional Disorder*
3	Nutritional problem suspected	*Nutritional Disorder*
1	Phoma rot	*Phoma destructiva*
1	Physiological leaf roll	*Abiotic disorder*
1	Physiological responses (yellow shoulder)	*Abiotic disorder*
1	Poor root development	*Abiotic disorder*
14	Pythium root and/or crown rot	*Pythium sp./spp.*
2	Rhizoctonia root rot	*Rhizoctonia sp./spp.*
1	Rhizoctonia stem and root rot	*Rhizoctonia sp./spp.*
2	Ripe rot	*Colletotrichum sp./spp.*
1	Root-knot nematodes	*Meloidogyne sp./spp.*
1	Scald; scorch	*Abiotic disorder*
16	Septoria leaf spot	*Septoria lycopersici*
1	Sour rot	*Geotrichum sp./spp.*
1	Southern blight	*Sclerotium rolfsii*
1	Stink bug damage	*Unidentified Stink Bug*
3	Tobacco mosaic	*Tobacco Mosaic Virus (TMV)*
3	Tomato bacterial spot	*Xanthomonas sp./spp.*
1	Tomato pinworm	*Keiferia lycopersicella*
1	Tomato pith necrosis	*Pseudomonas sp./spp.*
2	Tomato spotted wilt	*Tomato Spotted Wilt Vir (TSWV)*
5	Undetermined injury	*Undetermined*
9	White mold (stem rot); timber rot	*Sclerotinia sclerotiorum*
201	**Total for Tomato**	

Watermelon		
1	Anthracnose	*Colletotrichum orbiculare*
1	Chemical injury suspected	*Chemical*
1	Cucumber beetles	*Subfamily Galerucinae*
1	Cucurbit downy mildew	*Pseudoperonospora cubensis*
4	Cucurbit gummy stem blight	*Didymella (Ascochyta) bryoniae (cucumis)*
1	Cultural/environmental problem	*Abiotic disorder*
1	Growth regulator effect suspected	*Chemical*

1	Insect damage	*Unidentified Insect*
2	Low pH	*Nutritional Disorder*
1	Manganese toxicity	*Nutritional Disorder*
1	Microdochium blight	*Plectosphaerella cucumerina*
1	Nitrogen deficiency	*Nutritional Disorder*
1	No pathogen found	*Undetermined*
2	Pythium root and/or crown rot	*Pythium sp./spp.*
1	Salt damage	*Abiotic disorder*
1	Twospotted spider mite	*Tetranychus urticae*
1	Undetermined abiotic injury	*Abiotic disorder*
1	Unidentified caterpillar	*Unidentified Caterpillar*
23	**Total for Watermelon**	