

## Plant Disease Diagnostic Laboratory Summary

# 2017

## by:

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#### **INTRODUCTION**

The Plant Disease Diagnostic Laboratory (Lexington and Princeton) processed 2808 plant samples. Many plant samples had more than one problem which added an additional 699 diagnoses, bringing the total number of diagnoses to 3507. The Lexington Laboratory diagnosed 1740 specimens, including 1620 routine plant samples, 107 samples from commercial nurseries surveyed for the Sudden Oak Death (SOD) pathogen, and 13 Eastern red cedar (*Juniperus virginiana*) samples from commercial lumber companies for pinewood nematode extraction (PWNE). The Princeton Laboratory diagnosed 1068 routine plant specimens. Sample totals are summarized in Figure 1 below.

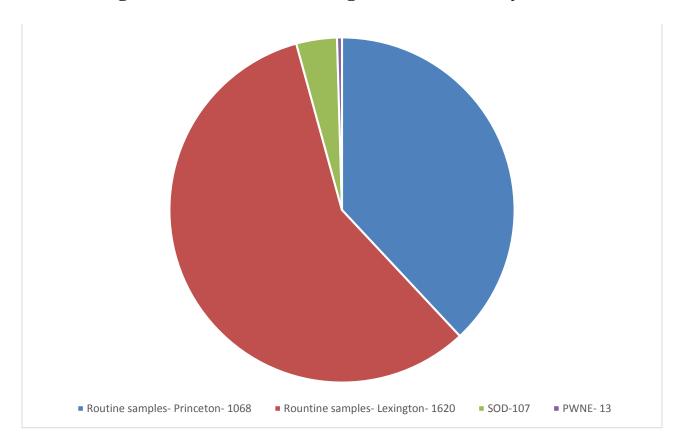


Figure 1: Plant Disease Diagnostic Laboratory – 2017

Total Samples	2808
+ Additional diagnoses	<u>699</u>
	3507

#### 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, radio and television tapes, and plant health care workshops. Both laboratories report diagnoses of plant diseases to USDA-APHIS as part of the National Plant Diagnostic Network.

#### WEATHER SUMMARY

The beginning of 2017 started off warm. January was the 10<sup>th</sup> warmest and February was the warmest ever for Kentucky on the 123-year record. There was only one week of below normal temperatures through mid-March. With temperatures in the 60s and 70s it was an early start to the growing season, but freeze warnings were issued in mid-March when lows dipped into the mid-teens to low 20s. April was the 2<sup>nd</sup> warmest on record and each week had temperatures in the 80s at some point. Wet weather during the spring months slowed planting progress and June marked the fourth straight month of above normal precipitation.

A rather warm and humid summer followed. July temperatures were average, but dew points went into the 70s, pushing heat indices into the triple digits. Three remnant tropical storms moved through Kentucky in August, September and October. In late August/early September remnants of Hurricane Harvey brought Central Kentucky over 5inches of rain, leading to flood warnings in some areas. The remnants of Hurricane Irma followed during mid-September and tropical system Nate arrived in early October. October was the 9<sup>th</sup> wettest on record. The official end of the growing season came near the end of October as temperatures dipped into the mid-20s to low 30s. The second half of November was fairly dry and the state average rainfall was below normal, ending 8 straight months of above normal rainfall. December was started dry, but a low pressure system brought a state average of 1.5 inches on the 22<sup>nd</sup> and 23<sup>rd</sup>.

#### ACKNOWLEDGMENTS

#### The contributions of the following are gratefully acknowledged:

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

Matthew Dixon, UK Ag Weather Center (2017 weather summary)

Southern Plant Diagnostic Network, Kentucky Integrated Pest Management Program (Supplemental funding).

#### **EXPLANATORY REMARKS**

In 2017 we continued to use a new database system called PClinic. This system allows us to record all pathogens, insects and other disorders observed on each plant sample. In summaries before 2016, only two diagnoses per sample were recorded as primary and secondary problems. Our new system does not differentiate whether a problem was primary or secondary, but does allow us to document every problem found on a particular sample. This year, the main body of the report (Table 9) consists of three columns, the first contains the total number of diagnoses, followed by columns for the diagnosis and causal agent.

<u>Referrals and consultations</u>: 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 <sup>a</sup> BY CROP CATEGORY AND										
CAUSAL AGENT TYPE           Crop         Abiotic         Biotic <sup>b</sup> Chemical         Inadequate         Insect         Total										
Category	Problems	Problems	Injury	Specimen	Injury	Other <sup>c</sup>	Diagnoses			
Agronomic	TODICIIIS	TODICIIIS	iiijui y	specifien	iiijui y	Other	Diagnoses			
Corn	26	116	4	1	3	17	167			
Forages	20	55	4	3	9	0	77			
•	4	11	1 0	0	1	$\frac{0}{2}$	18			
Hemp	4 9	23	0		3	2 8				
Small grains				1			46			
Soybeans	27	87	24	3	9	2	152			
Tobacco	128	360	28	5	4	19	544			
Fruit										
Small fruit	31	99	9	12	13	19	183			
Tree fruit	11	91	6	6	40	12	166			
Herbs	5	9	0	1	1	3	19			
Identifications	0	20	0	2	0	0	22			
Ornamentals										
Herbaceous/	36	101	3	8	21	35	204			
Houseplants			-	-						
Turfgrass	11	47	0	3	1	6	68			
Woody	214	543 <sup>d</sup>	32	21	233	194 <sup>d</sup>	1237			
-										
Vegetables	93	340	50	22	40	53	598			
Miscellaneous	0	2	0	0	1	3	6			
Total	604	1904	159	88	379	373	3507			

<sup>a</sup>Counts and totals include all diagnoses entered into the PDDL database.

<sup>b</sup>Refer to Table 2 for further breakdown of this category. <sup>c</sup>"Other" includes the causal agent categories: No disease and Unknown. <sup>d</sup>Numbers include 107 SOD survey samples (33 fungal disease diagnoses; 74 samples with no disease) and 13 PWNE juniper with no disease.

Table 2. SUMMARY OF BIOTIC PROBLEMS <sup>a</sup> BY CROP CATEGORY										
Crop Category	Bacterial	Fungal	Nematode	Virus	Other <sup>b</sup>					
Agronomic										
Corn	1	113	2	0	0					
Forages	0	53	0	2	0					
Hemp	1	10	0	0	0					
Small grains	5	17	0	1	0					
Soybeans	0	84	3	0	0					
Tobacco	58	240	0	62	0					
Fruit										
Small fruit	0	97	0	2	0					
Tree fruit	14	77	0	0	0					
Herbs	0	9	0	0	0					
Identifications	0	13	0	0	7					
Ornamentals										
Herbaceous/	6	92	1	2	0					
Houseplants										
Turfgrass	0	47	0	0	0					
Woody	42	480 <sup>c</sup>	0	9	12					
Vegetables	49	262	2	27	0					
Miscellaneous	0	2	0	0	0					
Total	176	1596	8	105	19					

<sup>a</sup>Counts and totals include all diagnoses entered into the PDDL database. <sup>b</sup>"Other" includes these categories: Animal (rodent and bird damage), Plant (plant identifications or parasitic plant) and Alga, Lichen and Phytoplasma.

<sup>c</sup>Number includes 33 Sudden Oak Death (SOD) survey samples with problems caused by fungi.

Table 3. NUMBER OF SAMPLES AND DIAGNOSES BY CROP										
Crop Category	No. of	% Total	No. of	% Total						
and Crop	Samples	Samples	Diagnoses	Diagnoses						
Agronomic										
Corn	120	4.27	167	4.76						
Forages	54	1.92	77	2.20						
Hemp	15	0.53	18	0.51						
Small grains	37	1.32	46	0.51						
Soybeans	107	3.81	152	4.33						
Tobacco	424	15.10	544	15.51						
Fruit										
Small fruit	141	5.02	183	5.22						
Tree fruit	133	4.74	166	4.73						
Herbs	18	0.64	19	0.54						
Identifications	22	0.78	22	0.63						
Ornamentals										
Herbaceous and	167	5.95	204	5.82						
Houseplants										
Turfgrass	56	1.99	68	1.94						
Woody <sup>a</sup>	1010	35.97	1237	35.27						
Vegetables	498	17.74	598	17.05						
Miscellaneous	6	0.21	6	0.17						
Total	2808	100	3075	100						

<sup>a</sup>Includes 107 SOD survey samples and 13 PWNE juniper samples.

AND CROP CATEGORY											
	Grower Type										
	Com	nercial	Home	eowner	Rese	arch	Insti	tution			
Crop Group	Ext <sup>a</sup>	NE <sup>b</sup>									
Agronomic											
Corn	90	26	0	0	3	0	1	0			
Forages	46	2	0	0	2	4	0	0			
Hemp	8	3	0	0	2	2	0	0			
Small grains	22	11	0	0	1	3	0	0			
Soybeans	88	14	0	0	0	5	0	0			
Tobacco	378	42	0	0	1	3	0	0			
Fruit											
Small Fruit	63	2	60	3	13	0	0	0			
Tree Fruit	18	4	106	2	1	0	2	0			
Herbs	18	0	0	0	0	0	0	0			
Identifications	1	0	19	1	1	0	0	0			
Ornamental											
Herbaceous/	62	8	75	2	1	1	6	12			
Houseplants											
Turfgrass	13	3	30	2	1	2	2	3			
Woody	93	192	543	34	1	0	25	122			
Vegetable	263	16	189	3	6	7	12	2			
Miscellaneous	2	1	1	0	0	2	0	0			
Total	1165	324	1023	47	33	29	48	139			
Total/Grower											
Туре	14	89	10	)70		52	1	.87			
Total No. of rout	tine samp	les receiv	ved =	2808							

## Table 4. SUMMARY OF SAMPLES RECEIVED BY GROWER TYPE

Total No. of routine samples received =2808<sup>a</sup>Ext = Extension samples submitted via County Extension Agents or Extension Specialists.<sup>b</sup>NE = Non-extension samples submitted directly by the grower or other non-extension clients.

CONSULTATION	CONSULTATION							
Department, Facility or Outside Agency	Total							
Agdia, Inc.	12							
Entomology Department	123							
Horticulture Department	77							
Plant & Soil Sciences Department	242							
South Dakota State University	6							
University of Nebraska- Lincoln	1							
University of Tennessee	2							
Total	463							
Total no. of plant specimens	2808							
Percentage of specimens diagnosed outside of the Diagnostic Lab	16.5							

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

## Table 6. SPECIAL LABORATORY TESTS<sup>a</sup> PERFORMED BY PLANT DISEASE DIAGNOSTIC LABORATORY

Test	No. of Tests
Culture	64
Incubation	471
Microscope	2036
Molecular (PCR)	24
Nematode extraction	13 <sup>b</sup>
Serological (ELISA)	395°
Soil tests	226
Visual examination	2059
Total	5288

<sup>a</sup>Many samples require more than one test and all tests performed in 2017 are recorded above.

<sup>b</sup>Includes 13 PWNE samples.

<sup>c</sup>Includes 107 samples for the SOD survey.

	CATEGORY (KY AND OUT-OF-STATE SOURCES)								
COUNTY	TOTAL	<b>AGRONOMIC</b> <sup>a</sup>	TOBACCO	FRUIT	ORNAMENTAL	VEGETABLE	OTHER		
ADAIR	12	4	6	0	2	0	0		
ALLEN	26	0	7	3	0	15	1		
ANDERSON	12	0	3	1	6	1	1		
BALLARD	7	0	1	2	3	1	0		
BARREN	49	4	4	8	25	5	3		
BATH	4	0	0	0	1	3	0		
BELL	2	0	0	0	1	1	0		
BOONE	82	0	0	3	69	9	1		
BOURBON	25	7	4	1	9	4	0		
BOYD	5	0	0	0	4	1	0		
BOYLE	12	7	1	0	2	2	Õ		
BRACKEN	2	1	0	Ő	0	1	Ő		
BREATHITT	9	0	0	1	4	4	1		
BRECKINRIDGE	83	10	31	10	11	20	1		
BULLITT	3	0	0	0	2	20 0	1		
BUTLER	23	8	0	1	13	0	0		
CALDWELL	25	0	0	1	15	1	0		
	22	7	0	7	1.5	4	0		
(+UKREC)	33	7	0	7	15	4	0		
CALLOWAY	60	4	32	2	18	4	0		
CAMPBELL	28	0	0	0	20	8	0		
CARLISLE	17	4	0	3	7	3	0		
CARROLL	3	2	0	0	0	0	1		
CARTER	12	0	3	0	8	1	0		
CASEY	13	1	0	4	6	1	1		
CHRISTIAN	112	24	34	3	27	24	0		
CLARK	20	2	2	1	1	14	0		
CLAY	6	0	0	1	1	4	0		
CLINTON	19	3	8	2	3	3	0		
CRITTENDEN	33	3	0	12	12	6	0		
CUMBERLAND	3	0	0	1	1	1	Õ		
DAVIESS	125	13	20	4	63	25	0 0		
EDMONSON	4	0	0	0	2	23	0		
ELLIOTT	6	0	1	1	1	3	0		
ESTILL	4	0	0	1	0	2	1		
FAYETTE	4	0	0	1	0	2	1		
(+LEX.	266	24	14	01	201	01	~		
CAMPUS)	366	24	14	21	281	21	5		
FLEMING	25	1	3	8	9	3	1		
FLOYD	0	0	0	0	0	0	0		
FRANKLIN	22	1	0	2	16	3	0		
FULTON	10	7	0	1	2	0	0		
GALLATIN	1	0	0	0	1	0	0		
GARRARD	9	1	3	2	2	1	0		
GRANT	8	0	0	2	1	5	0		
GRAVES	79	14	9	16	24	11	5		
GRAYSON	35	0	8	9	10	8	0		
GREEN	16	0	12	0	3	0	1		
GREENUP	5	ů 0	0	0	2	3	0		
HANCOCK	15	2	4	4	3	2	0		
HARDIN	19	8	3	1	2	5	0		
HARLAN	2	8 0	0	0	1	0			
							1		
HARRISON	47	2	14	5	22	4	0		
HART	7	1	0	0	2	4	0		
THE NUMBER OF STREET	28	11	1	ć	5	4	~ ~ ~		
HENDERSON HENRY	18	11 4	2 9	6 2	5 1	4 1	0 1		

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

COUNTY	TOTAL	AGRONOMIC	TOBACCO	FRUIT	ORNAMENTAL	VEGETABLE	OTHER
HICKMAN	6	4	0	0	2	0	0
HOPKINS	23	4	0	2	12	5	0
JACKSON	16	1	0	0	12	3	0
JEFFERSON	68	0	0	3	63	2	0
JESSAMINE	35	0	1	2	15	17	0
JOHNSON	2	0	0	0	0	2	0
KENTON	26	Õ	0	3	19	3	1
KNOTT	0	0	0	0	0	0	0
KNOX	3	1	0	0	0	2	0
LARUE	15	8	3	1	1	$\frac{2}{2}$	0
LAUREL	13 22	0			-	12	-
		-	4	3	2		0
LAWRENCE	3	0	0	0	3	0	0
LEE	2	0	0	0	0	2	0
LESLIE	1	0	0	0	1	0	0
LETCHER	6	0	0	2	3	1	0
LEWIS	14	6	1	4	3	0	0
LINCOLN	45	4	7	3	8	15	8
LIVINGSTON	10	4	0	1	4	1	0
LOGAN	30	10	11	2	4	3	0
LYON	23	6	2	5	10	0	0
McCRACKEN	36	1	0	6	28	1	0
McCREARY	0	0	0	0	0	0	Õ
McLEAN	16	4	3	3	$\overset{\circ}{2}$	4	Ő
MADISON	10	0	2	1	5	4	0
MAGOFFIN	7	0	0	2	4	4	0
MARION	23	4	7	0	4	8	0
MARSHALL	40	2	3	9	19	7	0
MARTIN	0	0	0	0	0	0	0
MASON	39	4	5	3	19	8	0
MEADE	23	6	1	2	10	4	0
MENIFEE	7	0	0	2	1	4	0
MERCER	9	1	1	1	4	2	0
METCALFE	40	0	32	4	2	2	0
MONROE	17	3	2	2	4	6	0
MONTGOMERY	31	1	7	1	18	3	1
MORGAN	7	0	1	1	1	4	0
MUHLENBERG	37	8	4	7	5	13	0
NELSON	22	4	3	2	12	1	Ő
NICHOLAS	13	2	5	1	12	4	0
OHIO	0	$\overset{2}{0}$	0	0	0	0	0
OLDHAM	21	0	0	3	15	2	1
OWEN	12	0	3	1	3	5	0
OWSLEY	0	0	0	0	0	0	0
PENDELTON	4	0	3	0	1	0	0
PERRY	3	0	0	0	3	0	0
PIKE	11	0	0	2	6	3	0
POWELL	9	0	0	1	4	4	0
PULASKI	26	1	4	1	11	4	5
ROBERTSON	1	0	0	0	1	0	0
ROCKCASTLE	0	0	0	0	0	0	0
ROWAN	8	1	0	2	4	0	1
RUSSELL	11	1	0	2	2	5	1
SCOTT	42	3	3	4	26	6	0
SHELBY	21	5	7	2	5	2	Ő
SIMPSON	21	4	1	$\frac{2}{2}$	3 7	3	4
SPENCER	3	4 0	0		2	0	1
TAYLOR	33	5	1	2	20	4	1
TODD	55 51	13	20	$\frac{2}{2}$	5	4	0
1000	51	15	20	2	5	11	U

COUNTY	TOTAL	AGRONOMIC	TOBACCO	FRUIT	ORNAMENTAL	VEGETABLE	OTHER
TRIGG	42	6	7	6	10	13	0
TRIMBLE	10	1	1	1	5	1	1
UNION	24	9	0	2	8	5	0
WARREN	38	3	3	5	23	4	0
WASHINGTON	8	1	0	0	2	2	3
WAYNE	10	2	1	2	2	3	0
WEBSTER	16	3	7	2	0	4	0
WHITLEY	15	0	0	0	4	11	0
WOLFE	6	0	3	1	1	1	0
WOODFORD	37	1	4	2	17	10	3
OUT-OF-STATE	30	6	12	0	11	1	0
TOTALS	2808	333	424	274	1220	498	59

<sup>a</sup>Agronomic crops include corn, soybeans, forages, small grains, and hemp.

## Table 8. NUMBER OF PRIMARY DIAGNOSES AND CONSULTATIONS MADE BYUK EXTENSION SPECIALISTS AND RESEARCHERS

Specialists, Researchers,			
Diagnosticians	Department	Consultations	
Bailey, WA	Plant & Soil Sciences	54	
Becker, DW	Horticulture	2	
Berberich, SG	Horticulture	3	
Bessin, RT	Entomology	28	
Bradley, CA	Plant Pathology	10	
Dunwell, WC	Horticulture	20	
Dutton, SR	Horticulture	5	
Fountain, WM	Horticulture	12	
Gauthier, NW	Plant Pathology	15	
Green, JD	Plant & Soil Sciences	59	
Grove, JH	Plant & Soil Sciences	1	
Henning, J	Plant & Soil Sciences	2	
Knott, CA	Plant & Soil Sciences	8	
Lee, CD	Plant & Soil Sciences	7	
Legleiter, T	Plant & Soil Sciences	24	
Martin, JR	Plant & Soil Sciences	17	
Munshaw, GC	Plant & Soil Sciences	3	
Murdock, LW	Plant & Soil Sciences	3	
Neves, D	Plant Pathology	5	
Pearce, RC	Plant & Soil Sciences	49	
Pfeufer, EE	Plant Pathology	41	
Ritchey, EL	Plant & Soil Sciences	7	
Saha, SK	Horticulture	3	
Smith, SR	Plant & Soil Sciences	2	
Springer, MT	Forestry & Natural Resources	1	
Strang, JG	Horticulture	16	
Teutsch, CD	Plant & Soil Sciences	5	
Townsend, LH	Entomology	79	
Van Sanford, D	Plant & Soil Sciences	1	
Villaneuva, R	Entomology	16	
Viloria, Z	Horticulture	1	
Vincelli, P	Plant Pathology	7	
Wise, KA	Plant Pathology	3	
Wright, S	Horticulture	15	

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

Corn		
4	Anthracnose Stalk Rot	Colletotrichum graminicola
1	Ascochyta Leaf Spot	Ascochyta sp./spp.
1	Charcoal Rot	Macrophomina phaseolina
1	Chemical Injury Suspected	Chemical
30	Common Corn Rust	Puccinia sorghi
25	Corn Gray Leaf Spot	Cercospora zeae-maydis
1	Corn Rootworm	Diabrotica sp./spp.
1	Corn Stalk; Ear Rot	Gibberella zeae
1	Diplodia Leaf Streak	Diplodia macrospora
1	Diplodia Stalk Rot	Stenocarpella (Diplodia) maydis
1	Fertilizer Injury	Nutritional Disorder
2	Fusarium Ear Rot	Fusarium sp./spp.
1	Fusarium Root Rot	Fusarium sp./spp.
1	Fusarium Stalk Rot	Fusarium subglutinans
1	Hail Damage	Abiotic disorder
1	Herbicide Drift Suspected	Chemical
2	Herbicide Injury Suspected	Chemical
1	Holcus Spot	Pseudomonas syringae
1	Insect Damage Suspected	Unidentified Insect
1	Insufficient Sample; INAD	Undetermined
1	Lance Nematodes	Hoplolaimus sp./spp.
3	Leaf Spot- Abiotic	Abiotic disorder
5	Magnesium Deficiency	Nutritional disorder
3	No Pathogen Found	Undetermined
4	Northern Corn Leaf Blight; Leaf Spot	Setosphaeria (Exserohilum) turcica (turcicum)
1	Not On List	Not On List
1	Nutritional Problem Suspected	Nutritional Disorder
1	Phosphorus Deficiency	Nutritional Disorder
3	Physoderma Brown Spot	Physoderma maydis
2	Potassium Deficiency	Nutritional Disorder
2	Rhizoctonia Crown and Root Rot	Rhizoctonia solani
1	Root-Lesion Nematodes	Pratylenchus sp./spp.
1	Seedcorn Maggot	Delia (Hylemya) platura
3	Soil Compaction	Abiotic disorder
34	Southern Corn Rust	Puccinia polysora
2	Stalk Rot	Unidentified Agent
9	Thrips Damage	Unidentified Thrips
8	Undetermined Abiotic Injury	Abiotic disorder
3	Undetermined Injury or Wound	Undetermined
2	Zinc Deficiency	Nutritional Disorder
167	Total for Corn	

#### **FORAGES** Alfalfa Alfalfa Weevil 2 Hypera postica 1 Colletotrichum trifolii Anthracnose 1 Aphanomyces Root Rot Aphanomyces euteiches 2 **Boron Deficiency** Nutritional Disorder 1 Chemical Injury Suspected Chemical 1 **Insufficient Information** Undetermined **Insufficient Sample** Undetermined 1 1 Leaf Spot-Abiotic Abiotic disorder Leptosphaerulina trifolii 3 Leptosphaerulina Leaf Spot; Blight Nutritional Problem Suspected Nutritional Disorder 1 Nutritional Disorder 1 **Phosphorus Deficiency** 5 Potato Leafhopper Empoasca fabae 2 Pythium Root and/or Crown Rot *Pythium sp./spp.* 4 Rhizoctonia Root; Crown Rot Rhizoctonia sp./spp. 2 Sclerotinia Stem/Crown or Root Rot Sclerotinia sp./spp. 1 Spring Black Stem Phoma medicaginis 1 Stemphylium Leaf Spot Stemphylium sp./spp. 10 Summer Black Stem; Leaf Spot Cercospora medicaginis

#### 40 Total for Alfalfa

#### **Bermudagrass**

1	Nutritional Problem Suspected	Nutritional Disorder	
1	Total for Bermudagrass		

Clover			
1	Cultural/Environmental Problem	Abiotic disorder	
1	Fungus Gnat	Mycetophila sp./spp.	
1	Insufficient Sample; INAD	Undetermined	
1	Southern Anthracnose	Colletotrichum trifoliorum	
4	Total for Clover		

#### Fescue

I UDUAL	-	
1	Anthracnose	Colletotrichum graminicola
1	Leaf Rust; Rust	Puccinia sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
3	Total for Fescue	

#### Foxtail (millet)

1	Gray Leaf Spot	
-	Old Deal Spot	

1 Total for Foxtail (millet)

#### **Garden Pea**

Pyricularia grisea

1 Ascochyta E	light
---------------	-------

- 1 Leaf Spot
- 1 Pythium Root and/or Crown Rot
- **3** Total for Garden Pea

Orchardgrass				
4	Anthracnose	Colletotrichum graminicola		
2	Leaf Rust; Rust	Puccinia sp./spp.		
11	Leaf Streak	Cercosporidium sp./spp.		
1	Soil Compaction	Abiotic disorder		
18	Total for Orchardgrass			
Sorghu	um			
1	Sooty Mold	Meliola sp./spp.		
1	Sorghum Gray Leaf Spot	Cercospora sorghi		

Ascochyta pinodes

Pythium sp./spp.

Unidentified Fungus

Melanaphis sacchari

Mycetophila sp./spp.

1 Sugarcane Aphid

**3** Total for Sorghum

### Switchgrass

- 1 Fungus Gnat
- **1** Total for Switchgrass

Timothy				
1	Undetermined Injury	Undetermined		
1	Total for Timothy			

Triticale			
1	Cereal Yellow Dwarf (CYDV)	CYDV	
1	Soil-Borne Wheat Mosaic	SBWMV	
2	Total for Triticale		

HEMP	

Hemp		
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Botrytis Blight	Botrytis sp./spp.
1	Fertilizer Injury	Nutritional Disorder
1	Foliar Distortion	Unidentified Agent
1	Fungus Gnat	Mycetophila sp./spp.
1	Fusarium Crown Rot	Fusarium sp./spp.
1	Fusarium Stem Rot	Fusarium sp./spp.
2	Leaf Spot	Unidentified Fungus
1	Leaf Spot- Abiotic	Abiotic disorder
1	Nitrogen Deficiency	Nutritional Disorder

- 1 No Pathogen Found
- 1 Pythium Damping Off
- 2 Pythium Root and/or Crown Rot
- 1 Soil Compaction
- 2 Southern Blight
- 18 Total for Hemp

#### SOYBEAN

Undetermined

Pythium sp./spp.

Pythium sp./spp.

Abiotic disorder

Sclerotium rolfsii

Soybean		
1	Charcoal Rot	Macrophomina phaseolina
2	Charcoal Rot	Macrophomina sp./spp.
1	Deer Damage	Abiotic disorder
1	Drought Stress Damage	Abiotic disorder
1	Environmental Stress; Problem	Abiotic disorder
19	Growth Regulator Effect Suspected	Chemical
5	Herbicide Injury Suspected	Chemical
2	High pH	Nutritional Disorder
1	Insect Damage	Unidentified Insect
3	Insufficient Sample; INAD	Undetermined
1	Japanese Beetle	Popillia japonica
3	Leaf Blight; Purple Seed-Stain	Cercospora kikuchii
1	No Pathogen Found	Undetermined
1	Nutritional Deficiency	Nutritional Disorder
2	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
1	Physiological Responses	Abiotic disorder
1	Planting Too Shallow	Abiotic disorder
12	Potassium Deficiency	Nutritional Disorder
1	Powdery Mildew	Erysiphe sp./spp.
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
2	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
1	Slug Damage	Unidentified Slug
4	Soil Compaction	Abiotic disorder
8	Soybean Anthracnose	Glomerella glycines
5	Soybean Brown Spot	Septoria glycines
3	Soybean Cyst Nematode (SCN)	Heterodera glycines
17	Soybean Downy Mildew	Peronospora manshurica
13	Soybean Frogeye Leaf Spot	Cercospora sojina
3	Soybean Phytophthora Root and Stem	Phytophthora sojae
0	Rot Saachaan Daact	
8	Soybean Rust	Phakopsora pachyrhizi
3	Soybean Stem Borer	Dectes texanus
6 12	Soybean Stem Canker	Diaporthe phaseolorum
12 2	Soybean Sudden Death Syndrome	Fusarium virguliforme Family Tatranychidae
2 1	Spider Mites Thrips	Family Tetranychidae Order thysanoptera
1	Turbs	Graer mysanopiera

#### 3 Undetermined Abiotic Injury

Undetermined Injury or Wound 1

#### 152 **Total for Soybean**

#### **SMALL GRAINS**

Barley		
1	Barley Yellow Dwarf	Barley Yellow Dwarf Virus
1	Bird Cherry-Oat Aphid	Rhopalosiphum padi
2	Total for Barley	
Rye		
1	Chemical Injury Suspected	Chemical
1	Leaf Rust; Rust	Puccinia sp./spp.
1	Nitrogen Deficiency	Nutritional Disorder
3	Total for Rye	
Sorghu	ım	
1	Anthracnose	Colletotrichum graminicola
1	Bacterial Stalk Rot	Erwinia sp./spp.
1	Northern Corn Leaf Blight; Leaf Spot	Exserohilum turcicum
1	Rough Leaf Spot	Ascochyta sorghina
1	Stink Bug Damage	Unidentified Stink Bug
5	Total for Sorghum	
Wheat		
1	Aphids	Family Aphididae
2	Bacterial Mosaic (Cmt)	Clavibacter michiganensis tessellarius
2	Bacterial streak; Black chaff	Xanthomonas campestris
2	Cold Injury Suspected	Abiotic disorder
4	Freeze; Frost; Cold Damage	Abiotic disorder
1	Glume Blotch	Stagonospora nodorum
1	Herbicide Injury Suspected	Chemical
1	Insufficient Sample; INAD	Undetermined
7	No Pathogen Found	Undetermined
2	Speckled Leaf Blotch	Septoria tritici
4	Stripe Rust; Yellow Rust	Puccinia striiformis var. striiformis
2	Take-all	Gaeumannomyces sp./spp.

Undetermined Abiotic Injury 1 2 Undetermined Injury or Wound

Wheat Powdery Mildew 4

36 **Total for Wheat** 

#### TOBACCO

Abiotic disorder

Erysiphe graminis f.sp. tritici

Undetermined

Tobacco

Abiotic disorder Undetermined

1 Abnormal Plant Growth 4 Alfalfa Mosaic 49 Angular Leaf Spot 2 Aphids 4 **Bacterial Soft Rot** 2 Black Root Rot 86 **Black Shank** 5 **Boron Deficiency** 4 Brown Spot 1 Calcium Deficiency 11 **Chemical Injury Suspected** 1 Cold Injury Suspected 3 Cultural/Environmental Problem 1 Fertilizer Injury 1 Flea Beetles 3 Foliar Distortion 1 Frenching/ High Soil Moisture 56 Frogeye Leaf Spot 8 Fusarium Wilt 11 Growth Regulator Effect Suspected 6 Herbicide Injury Suspected 1 High Soluble Salt Insufficient Information 1 4 **Insufficient Sample** 1 Leaf Mold 1 Leaf Spot 10 Leaf Spot-Abiotic 12 Low pH Damage 6 Manganese Toxicity 1 Mold 1 Nitrogen Deficiency 12 No Pathogen Found Nutritional Deficiency 1 1 Nutritional Problem Suspected 2 **Phosphorus Deficiency** 1 **Poor Growing Conditions** 4 Potassium Deficiency 1 Potyvirus group 33 Pythium Root and/or Crown Rot 1 **Rhizoctonia Damping Off** 8 Rhizoctonia Root Rot 3 Rhizoctonia Stem and Root Rot 19 Soil Compaction 1 Sooty Mold 22 Soreshin (Rhizoctonia Stem Rot)

Abiotic disorder Alfalfa Mosaic Virus (AMV) Pseudomonas syringae tabaci Family Aphididae Erwinia sp./spp. Thielaviopsis basicola Phytophthora nicotianae Nutritional Disorder Alternaria alternata Nutritional Disorder Chemical Abiotic disorder Abiotic disorder Nutritional Disorder Subfamily Alticinae Unidentified Agent Abiotic disorder Cercospora nicotianae Fusarium oxysporum Chemical Chemical Nutritional Disorder Undetermined Undetermined Botryosporium pulchrum Unknown cause Abiotic disorder Nutritional Disorder Nutritional Disorder Unidentified Fungus Nutritional Disorder Undetermined Nutritional Disorder Nutritional Disorder Nutritional Disorder Abiotic disorder Nutritional Disorder Potyvirus group *Pythium sp./spp.* Rhizoctonia sp./spp. Rhizoctonia sp./spp. Rhizoctonia sp./spp. Abiotic disorder Unidentified Fungus Rhizoctonia sp./spp.

544	Total for Tobacco	
1	Wind Damage	Abiotic disorder
14	Weather Fleck	Abiotic disorder
1	Variegated Cutworm	Peridroma saucia
4	Undetermined Injury	Undetermined
6	Undetermined Abiotic Injury	Abiotic disorder
22	Transplant Shock; Stress	Abiotic disorder
55	Tomato Spotted Wilt	Tomato Spotted Wilt Vir (TSWV)
1	Tobacco Streak	Tobacco Streak Virus (TSV)
1	Tobacco Ringspot	Tobacco ringspot virus (TSRV)
5	Tobacco Hollow Stalk	Erwinia carotovora carotovora
9	Temporary Phosphorus Deficiency	Nutritional disorder
14	Target Spot	Rhizoctonia sp./spp.
4	Sunscald	Abiotic disorder

#### SMALL FRUIT

Blackberry		
2	Anthracnose	Elsinoe veneta
2	Cane and Leaf Rust	Kuehneola uredinis
2	Cane Blight; Canker	Coniothyrium fuckelii
2	Cercospora Leaf Spot	Cercospora sp./spp.
1	Chemical Injury Suspected	Chemical
2	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
2	Double Blossom (Rosette)	Cercosporella rubi
1	Herbicide Injury Suspected	Chemical
3	No Pathogen Found	Undetermined
1	Nutritional Problem Suspected	Nutritional Disorder
1	Rednecked Cane Borer	Agrilus ruficollis
1	Spotted Wing Drosophila	Drosophila suzukii
3	Spur; Cane Blight	Didymella applanata
1	Sunscald	Abiotic disorder
1	Undetermined Injury	Undetermined
25	Total for Blackberry	

### Blueberry

	•	
1	Anthracnose Fruit Rot	Colletotrichum gloeosporioides
1	Anthracnose Fruit Rot	Colletotrichum sp./spp.
1	Blueberry Mosaic	Blueberry Mosaic Virus (BMV)
1	Chemical Injury Suspected	Chemical
1	Decline; Dieback	Abiotic disorder
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Fall Webworm	Hyphantria cunea
1	Insect Damage	Unidentified Insect
2	Insufficient Information	Undetermined
5	Insufficient Sample	Undetermined

47	Total for Blueberry	
1	Tobacco Ringspot	Tobacco ringspot virus (TSRV)
1	Septoria Leaf Spot	Septoria sp./spp.
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
	Stem Rot	
13	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
3	Phomopsis Canker and Twig Blight	Diaporthe (Phomopsis) vaccinii
1	Nutritional Problem Suspected	Nutritional Disorder
1	Nutritional Deficiency	Nutritional Disorder
9	No Pathogen Found	Undetermined
1	Low pH	Nutritional Disorder
1	Iron Deficiency	Nutritional Disorder

#### Grape 1 Aphids Family Aphididae 1 Bitter Rot Greeneria uvicola 14 Black Rot Guignardia bidwellii **Chemical Injury Suspected** Chemical 1 Dieback; Canker; Twig Blight 1 Botryosphaeria sp./spp. 4 Grape Anthracnose; Birds-eye Rot Elsinoe ampelina Grape Cane Girdler Ampeloglypter ater 1 4 Growth Regulator Effect Suspected Chemical Insufficient Information 1 Undetermined Japanese Beetle 1 *Popillia japonica* 1 Magnesium Deficiency Nutritional Disorder 2 Undetermined No Pathogen Found Nutritional Deficiency 1 Nutritional Disorder Phomopsis Cane; Leaf spot 1 *Diaporthe ampelina* 1 Phomopsis Fruit Rot *Diaporthe ampelina* 1 Stink Bug Damage Unidentified Stink Bug Undetermined Abiotic Injury Abiotic disorder 1 37 **Total for Grape**

#### **Haskap Berry** 1 Canker- Unidentified Fungus Unidentified Fungus 1 No Pathogen Found Undetermined 7 Phytophthora Crown Rot; Root Rot; Phytophthora sp./spp. Stem Rot 3 Soil Compaction Abiotic disorder 1 Twig Blight *Diaporthe sp./spp.* 13 **Total for Haskap Berry**

#### Raspberry

5 Cane Blight; Canker

2 Insufficient Sample

Coniothyrium fuckelii Undetermined

c disorder rulina sp./spp.
aspis rosae
1
ocercospora rubi
phthora sp./spp.
ermined
t

#### Strawberry

StrawD	erry	
1	Anthracnose	Colletotrichum acutatum
1	Anthracnose Fruit Rot	Colletotrichum gloeosporioides
1	Aphids	Family Aphididae
1	Botrytis Fruit Rot	Botrytis sp./spp.
6	Cold Injury Suspected	Abiotic disorder
1	Foliar Distortion	Unidentified Agent
1	Freeze; Frost; Cold Damage	Abiotic disorder
1	Herbicide Drift Suspected	Chemical
5	High pH	Nutritional Disorder
1	High Soluble Salt	Nutritional Disorder
2	Insufficient Sample	Undetermined
2	Iron Deficiency	Nutritional Disorder
1	Leaf Scorch	Abiotic disorder
1	Leaf scorch	Diplocarpon fragariae
2	Leaf Spot; Blight	Mycosphaerella fragariae
1	No Pathogen Found	Undetermined
1	Phomopsis Fruit Rot	Phomopsis sp./spp.
5	Phomopsis Leaf Blight	Phomopsis obscurans
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
2	Rhizoctonia Fruit Rot	Rhizoctonia sp./spp.
1	Sooty Mold	Unidentified Fungus
4	Strawberry Black Root Rot Complex	Various Fungi
3	Twospotted Spider Mite	Tetranychus urticae
45	Total for Strawberry	

#### **TREE FRUIT**

Apple		
1	Apple Twig Blight; Dieback; Canker	Botryosphaeria obtusa
1	Bird Damage	Abiotic disorder
7	Bitter Rot	Colletotrichum sp./spp.
20	Cedar-apple Rust	Gymnosporangium juniperi-virginianae
1	Chemical Injury Suspected	Chemical
1	Cicada Egg-laying Injury	Unidentified Cicada
1	Codling Moth (CM)	Cydia pomonella
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.

8	Fire Blight	Erwinia amylovora
3	Frogeye Leaf Spot	Botryosphaeria obtusa
1	Fungal Wood Rot	Schizophyllum commune
1	Herbicide Injury Suspected	Chemical
2	Insect Damage	Unidentified Insect
1	Insufficient Information	Undetermined
4	Insufficient Sample	Undetermined
1	Japanese Beetle	Popillia japonica
3	Phoma Leaf Spot	Phoma sp./spp.
8	Plum Curculio	Conotrachelus nenuphar
2	Rosy Apple Aphid	Dysaphis plantaginea
1	Sooty Blotch Flyspeck Complex	Various Fungi
3	Stink Bug Damage	Unidentified Stink Bug
1	Thread Blight	Ceratobasidium (Corticium) ochroleucum
		(stevensii)
1	Unidentified Caterpillar	Unidentified Caterpillar
1	White Rot	Botryosphaeria dothidea
1	Woolly Apple Aphid	Eriosoma lanigerum
75	Total for Apple	

### Cherry

 J		
1	Anthracnose	Gloeosporium sp./spp.
1	Black Knot	Apiosporina morbosa
1	Brown Rot; Blossom and Twig Blight	Monilinia fructicola
3	Cercospora Leaf Spot	Cercospora sp./spp.
1	Leaf Spot; Shothole	Blumeriella jaapii
1	No Pathogen Found	Undetermined
1	Thread Blight	Ceratobasidium (Corticium) ochroleucum
		(stevensii)

9 Total for Cherry

### Pawpaw

2	No Pathogen Found	Undetermined
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
3	Total for Pawpaw	

### Peach

2	Brown Rot; Blossom and Twig Blight	Monilia fructicola
1	Cold Injury Suspected	Abiotic disorder
1	Environmental Stress; Problem	Abiotic disorder
3	Insect Damage	Unidentified Insect
1	Leaf Spot	Unidentified Fungus
2	Leaf Spot	Unknown cause
1	Lesser Peachtree Borer	Synanthedon pictipes
1	Leucostoma Canker	Leucostoma sp./spp.

5	No Pathogen Found	Undetermined
2	Oriental Fruit Moth (OFM)	Grapholita molesta
7	Peach Leaf Curl	Taphrina deformans
2	Plum Curculio	Conotrachelus nenuphar
1	Scab	Cladosporium carpophilum
1	Stink Bug Damage	Unidentified Stink Bug
4	Stonefruit Bacterial Spot	Xanthomonas campestris pv. Pruni
34	Total for Peach	

#### Pear

car		
2	Bitter Rot	Colletotrichum sp./spp.
2	Fire Blight	Erwinia amylovora
2	Herbicide Injury Suspected	Chemical
1	Insufficient Sample	Undetermined
1	Mycosphaerella leaf spot	Mycosphaerella sp./spp.
2	No Pathogen Found	Undetermined
1	Pear Decline	Abiotic disorder
1	Phomopsis Leaf Spot	Phomopsis sp./spp.
1	Stink Bug Damage	Unidentified Stink Bug
1	Undetermined Abiotic Injury	Abiotic disorder
14	Total for Pear	

Pecan		
1	Cultural/Environmental Problem	Abiotic disorder
2	Growth Regulator Effect Suspected	Chemical
2	Hickory Shuckworm	Cydia caryana
1	Insect Damage	Unidentified Insect
1	Leaf Spot	Unidentified Fungus
1	No Insect Found	Undetermined
2	No Pathogen Found	Undetermined
1	Obscure Scale	Melanaspis obscura
2	Pecan Phylloxera	Phylloxera devastatrix
1	Pecan Weevil	Curculio caryae
6	Pecan; Hickory Scab	Cladosporium caryigenum
3	Physiological Responses	Abiotic disorder
1	Powdery Mildew	Microsphaera penicillata
24		

#### 24 Total for Pecan

Plum		
4	Black Knot	Apiosporina morbosa
1	Japanese Beetle	Popillia japonica
1	Plum Curculio	Conotrachelus nenuphar
6	Total for Plum	

**Stone Fruit** 

#### 1 Canker- Unidentified Agent

Unidentified Agent

#### **1** Total for Stone Fruit

HERBS				
Basil				
1	High Soluble Salt	Nutritional Disorder		
2	Pythium Root and/or Crown Rot	Pythium sp./spp.		
2	Total for Basil			
Hops				
1	Insufficient Sample; INAD	Undetermined		
1	Mites	Order Acari		
1	Undetermined Abiotic Injury	Abiotic disorder		
1	Cercospora Leaf Spot	Cercospora sp./spp.		
4	Total for Hops			
<b>T</b>				
Laven				
3	No Pathogen Found	Undetermined		
5	Phytophthora Crown Rot; Root Rot; Stem Rot	Phytophthora sp./spp.		
1	Pythium Root and/or Crown Rot	Pythium sp./spp.		
9	Total for Lavender			
Mint				
1	Leaf Spot- Abiotic	Abiotic disorder		
1	Total for Mint			
Orega	no			
1	Leaf Spot- Abiotic	Abiotic disorder		
1	Total for Oregano			
_				
Parsle	-			
1	Leaf Spot- Abiotic	Abiotic disorder		
1	Total for Parsley			
	IDDATAT	ICATIONS		
Mushr		ICATIONS		

#### Mushroom

- 1 Bird's Nest Fungus
- 2 Earth Ball
- 2 Green-spored Parasol
- 2 Insufficient Sample
- 1 Mushroom
- 1 Oyster Mushroom
- 1 Puffballs

Cyanthus sp./spp. Scleroderma sp./spp. Chlorophyllum molybdites Undetermined Unidentified fungus Pleurotus sp./spp. Class Agaricomycetes

2 P	urple-spored	puffball
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- 1 **Ringless Honey Mushroom**
- Slippery Jack Mushroom 1
- **Unidentified Fungus** 1
- 15 **Total for Mushroom**

**Plant Id Request** Honey Locust 1 1 Leatherleaf Viburnum 3 Nostoc

- Plant Identification 1
- Soybean 1
- 7 **Total for Plant Id Request**

MISCELLANEOUS			
Arabidopsis			
1	No Pathogen Found	Undetermined	
1	Total for Arabidopsis		

#### Chia; Salvia

- Corynespora Leaf/Stem Spot 1
- White Mold 1
- 2 **Total for Salvia; Sage**

#### **Mixed Plant Material**

- No Pathogen Found 2
- **Total for Mixed Plant Material** 2

#### Unknown Weeds; Unknown plants

1 Aphids 1

Family Aphididae Total for Unknown Weeds; Unknown plants

#### **HERBACEOUS ORNAMENTALS**

Aster			
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.	
1	Total for Aster		
Bachel	or's Buttons		
1	High Soluble Salt	Nutritional Disorder	

Pythium Root and/or Crown Rot 1

#### 2 **Total for Bachelor's Buttons**

#### Begonia

1 **Bacterial Leaf Spot**  Xanthomonas sp./spp.

Sclerotinia sp./spp.

Corynespora cassiicola

Calvatia cyathiformis

Armillaria tabescens

Unidentified Fungus

Gleditsia triacanthos

Identification Analysis

*Nostoc sp./spp.* 

*Glycine max* 

Viburnum rhytidophyllum

Suillus sp./spp.

Undetermined

Pythium sp./spp.

- 1 Leaf Scorch
- 1 Rhizoctonia Stem and Root Rot
- 2 Scald; Scorch
- 5 Total for Begonia

Bells Of Ireland
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1	Cercospora Leaf Spot	Cercospora sp./spp.
1	Total for Bells Of Ireland	

Butterflyweed		
1	Spider Mite Injury	Unidentified Spider Mite
1	Total for Butterflyweed	

1	No Pathogen Found	Undetermined
1	<b>Total for Caladium</b>	

#### Chrysanthemum

Chrysa	Chrysanthemum		
1	Aphids	Family Aphididae	
1	Armyworm	Helicoverpa gelatopoen	
1	Chrysanthemum Leafminer	Phytomyza syngenesiae	
5	Fusarium Wilt	Fusarium oxysporum f.sp. chrysanthemi	
1	High Soluble Salt	Nutritional Disorder	
2	Insufficient Sample	Undetermined	
1	Leaf Scorch	Abiotic disorder	
1	Low pH Damage	Nutritional Disorder	
4	No Pathogen Found	Undetermined	
1	Nutrient Imbalance	Nutritional Disorder	
2	Nutritional Deficiency	Nutritional Disorder	
1	Nutritional Problem Suspected	Nutritional Disorder	
10	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	Slug Damage	Unidentified Slug	
37	Total for Chrysanthemum		

Clematis1Growth Regulator Effect SuspectedChemical1No Pathogen FoundUndetermined1Pythium Root and/or Crown RotPythium sp./spp.1Undetermined Injury or WoundUndetermined4Total for ClematisUndetermined

Coleus

Abiotic disorder Rhizoctonia sp./spp. Abiotic disorder

1	Mealybugs	Family Pseudococcidae
1	Total for Coleus	, ,
-		
Conefl	ower	
1	Insect Damage	Unidentified Insect
1	Rhizoctonia Stem and Root Rot	Rhizoctonia sp./spp.
2	Total for Coneflower	
Curry	Plant	
1	Thrips Damage	Unidentified Thrips
1	Total for Curry	
Daffod	il	
1	Cold Injury Suspected	Abiotic disorder
1	Total for Daffodil	
Daisy		
1	No Pathogen Found	Undetermined
1	Total for Daisy	
Daylily	7	
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
1	Stem Rot Rhizoctonia Root Rot	Rhizoctonia sp./spp.
2	Total for Daylily	
-		
False I	ndigo	
1	Cultural/Environmental Problem	Abiotic disorder
1	Total for False Indigo	
Ferns		
1	Leaf Spot- Abiotic	Abiotic disorder
1	No Pathogen Found	Undetermined
2	Total for Ferns	
Gerani	um	
1	Insufficient Sample	Undetermined
1	Iron Toxicity	Nutritional Disorder
1	Leaf Scorch	Abiotic disorder
1	Low pH	Nutritional Disorder
1	Mealybugs	Family Pseudococcidae
1	Nutritional Problem Suspected	Nutritional Disorder
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
7	Total for Geranium	

Gerber	• Daisy	
1	Rhizoctonia Crown and Root Rot	Rhizoctonia solani
1	Total for Gerber Daisy	Kinzoetoniu soluli
1	Total for Gerber Daisy	
Grasse	8	
1	Herbicide Injury Suspected	Chemical
1	Total for Grasses	
Helleb	ore	
1	No Pathogen Found	Undetermined
1	Total for Hellebore	
Heuch	era; Coral Bells	
1	Black Root Rot	Thielaviopsis basicola
1	Total for Heuchera; Coral Bells	
Hollyh	ock	
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Total for Hollyhock	
Hosta		
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Insect Damage	Unidentified Insect
1	No Pathogen Found	Undetermined
3	Total for Hosta	
Impati		
1	Insufficient Information	Undetermined
1	Total for Impatiens	
* •		
Iris		
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Iris Borer	Macronoctua onusta
2	Total for Iris	
T		
Ivy	A saechute leaf apot	A see abuta an /ann
1 1	Ascochyta leaf spot	Ascochyta sp./spp.
1	Total for Ivy	
Losson	Periwinkle (Vinca)	
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Total for Lesser Periwinkle (Vinca)	Concionicium sp./spp.
1		

Licorio	ce Plant	
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Total for Licorice Plant	
Lilytu	rf; Monkey grass	
3	Anthracnose; Colletotrichum leaf spot	Colletotrichum sp./spp.
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
3	Phytophthora Crown Rot; Root Rot; Stem Rot	Phytophthora sp./spp.
1	Scale Insects	Order homoptera
8	Total for Lilyturf; monkey grass	
Lisiant	thus	
1	Anthracnose	Glomerella sp./spp.
1	Cercospora Leaf Spot	Cercospora sp./spp.
2	Total for Lisianthus	
Lupine		
1	No Pathogen Found	Undetermined
1	Total for Lupine	
	gascar periwinkle	
2	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
<u> </u>	Rhizoctonia Stem and Root Rot	Rhizoctonia sp./spp.
4	Total for Madagascar periwinkle	
Marigo	ald	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No Pathogen Found	Undetermined
1	Total for Marigold	Ondetermined
1		
Melam	podium	
1	Thrips Damage	Unidentified Thrips
1	Total for Melampodium	
	Ferrar	
Millior	1 Bells	
1	Insufficient Information	Undetermined
1	No Pathogen Found	Undetermined
2	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Root Damage	Abiotic disorder
1	Thrips	Order thysanoptera
6	Total for Million Bells	

New Guinea Impatiens

1 Impatiens Necrotic Spot	
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- 1 Rhizoctonia Stem and Root Rot
- 1 Root-knot Nematodes
- 1 Thrips
- 4 Total for New Guinea Impatiens

#### Pachysandra

4	Total for Pachysandra	
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
2	Leaf and Stem Blight	Volutella pachysandrae
1	Cultural/Environmental Problem	Abiotic disorder

#### Pansy

2	Pythium Root and/or Crown Rot	Pythium sp./spp.	
2	Total for Pansy		

INSV

Rhizoctonia sp./spp.

Meloidogyne sp./spp.

Order thysanoptera

#### Peony

cony		
1	Bacterial Blight	Unidentified Bacteria
1	Cercospora Leaf Spot	Cercospora sp./spp.
1	Chemical Injury Suspected	Chemical
1	High Soil Moisture	Abiotic disorder
2	No Pathogen Found	Undetermined
1	Peony Leaf Blotch	Cladosporium paeoniae
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
2	Powdery Mildew	Erysiphe sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
1	Thrips	Order Thysanoptera
2	Undetermined Abiotic Injury	Abiotic disorder
14	Total for Peony	

#### Periwinkle

3	Phoma Blight; Dieback; Rot	Phoma sp./spp.
3	Total for Periwinkle	

#### Petunia

2	Black Root Rot	Thielaviopsis basicola	
1	Cold Injury Suspected	Abiotic disorder	
1	Foliar Distortion	Unidentified Agent	
1	High pH Damage	Nutritional Disorder	
2	High Soluble Salt	Nutritional Disorder	
1	No Pathogen Found	Undetermined	
4	Pythium Root and/or Crown Rot	Pythium sp./spp.	
2	Rhizoctonia Stem and Root Rot	Rhizoctonia sp./spp.	
1	Temperature Induced Pathology	Abiotic disorder	

1 7	Thrips
-----	--------

- 1 Tobacco Mosaic
- 17 Total for Petunia

Order thysanoptera Tobacco Mosaic Virus (TMV)

Poinse	ttia	
1	High Soluble Salt	Nutritional Disorder
1	Nutrient Imbalance	Nutritional Disorder
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Stem Rot	Botrytis sp./spp.
4	Total for Poinsettia	
Rudbe		
1	Anthracnose Basal Rot; Crown Rot	Colletotrichum sp./spp.
1	Hydrophobic Soil/Planting Mix/Mulch	Abiotic disorder
1	Insufficient Sample	Undetermined
3	Total for Rudbeckia	
Sedum		
1	Powdery Mildew	Erysiphe sp./spp.
1	Total for Sedum	
Sunflo	wer	
1	Bacterial Stalk Rot	Erwinia sp./spp.
1	Total for Sunflower	
Tielege	- <b>J</b>	
Tickse		Abiotic disorder
1	Hydrophobic Soil/Planting Mix/Mulch	Abiotic disorder
1	Total for Tickseed	
Verber	18	
1	Insufficient Sample	Undetermined
1	Total for Verbena	
Wild G	8	
1 1	Anthracnose; Colletotrichum Leaf Spot Total for Wild Ginger	Colletotrichum sp./spp.
1		
Worm	wood; Artemisia	
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
2	Total for Wormwood; Artemisia	
Zinnia		
1	Bacterial Leaf Spot	Vanthomonas sp /spp

1 Bacterial Leaf Spot

Xanthomonas sp./spp.

#### 1 Cercospora Leaf Spot

1 No Pathogen Found

**3** Total for Zinnia

Cercospora sp./spp. Undetermined

	INDOOR PLANTS		
Africa	ın Violet		
1	Pythium Root and/or Crown Rot	Pythium sp./spp.	
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.	
1	Temperature Induced Pathology	Abiotic disorder	
3	Total for African Violet		
Christ	tmas Cactus		
1	Insufficient Sample	Undetermined	
1	Total for Christmas Cactus		
Croto			
1	No Pathogen Found	Undetermined	
1	Total for Croton		
Fig			
1	Anthracnose	Glomerella sp./spp.	
1	Scale Insects	Order homoptera	
2	Total for Fig		
Garde	nia		
1	No Pathogen Found	Undetermined	
1	Sooty Mold	Unidentified Fungus	
1	Spider Mite Injury	Unidentified Spider Mite	
3	Total for Gardenia		
Hibisc	cus		
1	Insufficient Light	Abiotic disorder	
1	Oedema; Edema	Abiotic disorder	
1	No Pathogen Found	Undetermined	
1	Spider Mite Injury	Unidentified Spider Mite	
1	Undetermined Abiotic Injury	Abiotic disorder	
5	Total for Hibiscus		
Mand	evilla		
1	Pythium Root and/or Crown Rot	Pythium sp./spp.	
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.	
		тицостопи эрлэрр.	

2

**Total for Mandevilla** 

1	Leaf Spot	Unidentified Fungus	
1	Total for Palm		
Peacel	ily		
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 Peacelily		

#### Schefflera

1 Anthracnose; Colletotrichum Leaf Spot Colletotrichum sp./spp. 1 No Pathogen Found Undetermined 1 Scale Insects Order homoptera Order thysanoptera 1 Thrips **Twospotted Spider Mite** Tetranychus urticae 1 5 **Total for Schefflera** 

#### Succulent

- No Pathogen Found 1 1
  - **Total for Succulent**

#### **TURFGRASS**

Undetermined

Bentgr	ass	
1	Black Layer of Turfgrass	Abiotic disorder
1	Dense Thatch Layer	Abiotic disorder
2	Dollar Spot	Sclerotinia homeocarpa
1	High Soil Moisture	Abiotic disorder
1	No Pathogen Found	Undetermined
3	Pythium root dysfunction	Pythium sp./spp.
1	Root Problems	Abiotic disorder
3	Take-all	Gaeumannomyces graminis var. avenae
13	Total for Bentgrass	

#### Bermudagrass

	8	
1	Bipolaris Diseases	Bipolaris sp./spp.
1	Curvularia Blight; Leaf Spot	Curvularia sp./spp.
1	Large Patch	Rhizoctonia solani
1	Spring Dead Spot	Ophiosphaerella sp./spp.
1	Unidentified Fungus	Unidentified Fungus
4	Total for Bermudagrass	

#### Bluegrass

- Insufficient Sample 1
- 2 Red Thread

Undetermined Laetisaria fuciformis

#### 1 Salt Damage

2 Summer Patch

#### 6 Total for Bluegrass

Fescue		
4	Anthracnose	Colletotrichum graminicola
8	Brown Patch	Rhizoctonia sp./spp.
1	Insufficient Sample	Undetermined
1	Leaf Rust; Rust	Puccinia sp./spp.
2	No Pathogen Found	Undetermined
1	Poor Root Development	Abiotic disorder
1	Powdery Mildew	Blumeria graminis
3	Red Thread	Laetisaria fuciformis
2	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
2	Soil Compaction	Abiotic disorder
1	Undetermined Abiotic Injury	Abiotic disorder
1	White Grubs (Scarab Beetles)	Family Scarabaeidae
27	Total for Fescue	

Grasses Insufficient Sample; INAD Undetermined 1 1 Leaf Rust; Rust Puccinia sp./spp. Cercosporidium sp./spp. 3 Leaf Streak 2 No Pathogen Found Undetermined Red Thread Laetisaria fuciformis 1 1 Slime Mold Class Myxomycetes; Myxomycota Soil Compaction Abiotic disorder 1 10 **Total for Grasses** 

#### Ryegrass

1 Gray Leaf Spot

<b>1</b> Total for Ryegrass
-----------------------------

Turfgr	ass	
1	Brown Patch	Rhizoctonia sp./spp.
1	Poor Growing Conditions	Abiotic disorder
1	Pythium Root Dysfunction	Pythium sp./spp.
1	Red Thread	Laetisaria fuciformis
1	Slime Mold	Class Myxomycetes; Myxomycota
5	Total for Turfgrass	

Pyricularia grisea

Zoysia Grass		
1	Undetermined Injury or Wound	Undetermined
1	Total for Zoysia Grass	

### WOODY ORNAMENTALS

Nutritional Disorder

Unidentified Spider Mite

#### Angel Trumpet

- 1 Nutritional Deficiency
- 1 Spider Mite Injury
- 2 Total for Angel Trumpet

#### Arborvitae

	1000	
1	Bagworm	Thyridopteryx ephemeraeformis
1	Chemical Injury Suspected	Chemical
10	Decline; Dieback	Abiotic disorder
3	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Fletcher Scale	Parthenolecanium fletcheri
2	Juniper Scale	Carulaspis juniperi
1	Mite Damage	Unidentified Mite
2	Mites	Order acari
3	No Pathogen Found	Undetermined
2	Pestalotia Dieback	Pestalotia sp./spp.
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
4	Spider Mite Injury	Unidentified Spider Mite
6	Transplant Shock; Stress	Abiotic disorder
37	Total for Arborvitae	

Ash		
1	Anthracnose; Leaf Spot	Discula fraxinea
3	Ash Anthracnose	Plagiostoma fraxinii
1	Burls; Adventitious Growth	Abiotic disorder
1	Woolly Aphids	Family Aphididae; Adelgidae
6	Total for Ash	

Aucuba	Aucuba				
1	Scale Insects	Order homoptera			
1	Total for Aucuba				

Azalea		
3	Azalea Lace Bug	Stephanitis pyriodes
1	Chilling Injury	Abiotic disorder
1	Decline; Dieback	Abiotic disorder
1	High pH	Nutritional Disorder
1	Insufficient Information	Undetermined
2	Lichens	Lichenes
1	No Pathogen Found	Undetermined
10	Total for Azalea	

Barber	TV	
1	No Pathogen Found	Undetermined
1	Total for Barberry	
	e e e e e e e e e e e e e e e e e e e	
Basswo	ood; Linden	
1	No Pathogen Found	Undetermined
2	Undetermined Injury or Wound	Undetermined
3	Total for Basswood; Linden	
Bayber		
1	Mycosphaerella Leaf Spot	Mycosphaerella sp./spp.
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
1	Stem Rot	
1 3	Transplant Shock; Stress	Abiotic disorder
3	Total for Bayberry	
Beech		
1	Decline; Dieback	Abiotic disorder
1	Endothia Canker	Endothia gyrosa
1	Growth Regulator Effect Suspected	Chemical
3	Total for Beech	
-		
Birch		
1	Anthracnose	Discula sp./spp.
2	Aphids	Family Aphididae
1	Cultural/Environmental Problem	Abiotic disorder
1	Growth Regulator Effect Suspected	Chemical
1	Insufficient Sample	Undetermined
1	Leaf Spot	Marssonina sp./spp.
7	Total for Birch	
Black		
2	No Pathogen Found	Undetermined
l	Poor Growing Conditions	Abiotic disorder
1	Root Girdling	Abiotic disorder
1	Transplant Shock; Stress	Abiotic disorder
5	Total for Black Gum	
Roston	Ivv	
Boston	Japanese Beetle	Popillia japonica
1	Total for Boston ivy	ι οριμια μεροπικα
1		
Boxwo	od	
2	Boxwood Blight; Leaf and Stem Blight	Cylindrocladium pseudonaviculatum
4	Boxwood Birgin, Lear and Stein Birgin	Cyman ocuanan pseudonavicululum

8	Boxwood Leafminer	Monarthropalpus flavus (buxi)
1	Boxwood Mite	Eurytetranychus buxi
1	Boxwood Psyllid	Psylla buxi
16	Boxwood Volutella Blight; Canker	Volutella buxi
1	Cultural/Environmental Problem	Abiotic disorder
4	Decline; Dieback	Abiotic disorder
1	Freeze; Frost; Cold Damage	Abiotic disorder
1	Greedy Scale	Hemiberlesia rapax
1	Insect Damage	Unidentified Insect
1	Leaf Spot- Abiotic	Abiotic disorder
7	Macrophoma Blight; Dieback	Macrophoma sp./spp.
4	No Pathogen Found	Undetermined
1	Phomopsis Dieback; Tip Blight; Canker	Phomopsis sp./spp.
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Scald; Scorch	Abiotic disorder
1	Soil Compaction	Abiotic disorder
1	Sooty Mold	Unidentified Fungus
1	Spider Mite Injury	Unidentified Spider Mite
3	Transplant Shock; Stress	Abiotic disorder
4	Winter Injury; Winter Desiccation	Abiotic disorder
62	Total for Boxwood	
Buckey	ye	
1	Leaf Blotch	Guignardia aesculi

1	Leaf Blotch	Guignardia aesculi	
1	Total for Buckeye		
Butter	fly Bush		
1	Spider Mite Injury	Unidentified Spider Mite	
1	Total for Butterfly Bush		

Catalpa			
1	No Pathogen Found	Undetermined	
1	Total for Catalpa		

Cedar		
1	Lichens	Lichenes
2	No Pathogen Found	Undetermined

3 **Total for Cedar** 

## Cherry

Cercospora Leaf Spot 3 Cold Injury Suspected 1

1

Dieback

Cercospora sp./spp. Abiotic disorder Unidentified Fungus

1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Insect Damage	Unidentified Insect
1	Japanese Beetle	Popillia japonica
1	Leaf Spot	Unidentified Fungus
3	Leaf Spot; Shothole	Blumeriella jaapii
1	Leucostoma Canker	Leucostoma sp./spp.
1	Lichens	Lichenes
3	No Pathogen Found	Undetermined
1	Phomopsis Dieback; Tip Blight; Canker	Phomopsis sp./spp.
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Poor Growing Conditions	Abiotic disorder
1	Undetermined Abiotic Injury	Abiotic disorder
2	White Peach Scale	Pseudaulacaspis pentagona
1	Wood Rot; White Rot	Irpex lacteus
24	Total for Cherry	

## Cherrylaurel

Cherry	laurer	
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Bacterial Leaf Spot	Xanthomonas campestris pv. pruni
1	Insufficient Sample	Undetermined
1	No Pathogen Found	Undetermined
1	Poor Growing Conditions	Abiotic disorder
2	Transplant Shock; Stress	Abiotic disorder
1	Wood Boring Insect Damage	Unidentified Insect
8	Total for Cherrylaurel	

# China Fir

1	No Pathogen Found	Undetermined
1	Total for China Fir	

# Crabapple

7	Apple Scab	Venturia inaequalis
1	Bagworm	Thyridopteryx ephemeraeformis
1	Cedar-apple Rust	Gymnosporangium juniperi-virginianae
2	Frogeye Leaf Spot; Black Rot	Botryosphaeria obtusa
1	Insect Damage	Unidentified Insect
1	Lecanium Scales	Lecanium sp./spp.
1	Phomopsis Leaf Spot	Phomopsis sp./spp.
1	Thread Blight	Ceratobasidium (Corticium) ochroleucum
		(stevensii)
1	Unspecified Viral Disease	Unspecified Viral Disease
16	Total for Crabapple	

# Crape Myrtle

1	Cercospora Leaf Spot	Cercospora sp./spp.
1	Chemical Injury Suspected	Chemical
1	Insufficient Sample; INAD	Undetermined
1	Japanese Beetle	Popillia japonica
1	Leaf Spot	Unidentified Fungus
1	No Pathogen Found	Undetermined
2	Powdery Mildew	Oidium sp./spp.
1	Undetermined Abiotic Injury	Abiotic disorder
9	Total for Crape Myrtle	

#### Cryptomeria

~ jpu	Jiitel lu	
1	Cultural/Environmental Problem	Abiotic disorder
1	Dieback; Canker	Seiridium sp./spp.
1	Insect Damage	Unidentified Insect
1	Needle Blight	Phyllosticta cryptomeriae
1	Pestalotia Dieback	Pestalotia sp./spp.
1	Scald; Scorch	Abiotic disorder
1	Spider Mite Injury	Unidentified Spider Mite
7	Total for Cryptomeria	

## Dawn Redwood

1 Japanese Beetle

Popillia japonica

1 Total for Dawn Redwood

## Dogwood

1	Cicada Egg-laying Injury	Unidentified Cicada
3	Decline; Dieback	Abiotic disorder
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Dogwood Borer	Synanthedon scitula
7	Dogwood Powdery Mildew	Erysiphe pulchra
1	Herbicide Injury Suspected	Chemical
4	No Pathogen Found	Undetermined
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
5	Spot Anthracnose	Elsinoe corni
2	Transplant Shock; Stress	Abiotic disorder
2	Undetermined Abiotic Injury	Abiotic disorder
28	Total for Dogwood	

#### **Douglas-fir**

- 2 Swiss Needle Cast
- 2 Total for Douglas-fir

## Elderberry

1 Root Rot

Unidentified Agent

Phaeocryptopus gaeumanni

## **1** Total for Elderberry

Elm		
3	Anthracnose; Black spot	Stegophora ulmea
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Elm Cockscombgall Aphid	Colopha ulmicola
1	Elm Yellows; Elm Phloem Necrosis	Candidatus Phytoplasma ulmi
5	No Pathogen Found	Undetermined
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
1	Poor Growing Conditions	Abiotic disorder
13	Total for Elm	

Unaspis euonymi Popillia japonica

Abiotic disorder

## Euonymus

6	Euonymus	Scale
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1 Japanese Beetle

7 Total for Euonymus

## Falsecypress

Transplant Shock; Stress
 Total for Falsecypress

## Filbert

1	Eastern Filbert Blight	Cryptosporella anomala
1	Total for Filbert	

## Fir

7	Total for Fir		
1	Spider Mite Injury	Unidentified Spider Mite	
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.	
1	Pythium Root and/or Crown Rot	Pythium sp./spp.	
2	No Pathogen Found	Undetermined	
1	Mechanical Damage	Abiotic disorder	
1	Elongate Hemlock Scale	Fiorinia externa	
1	Elongate Hemlock Scale	Fiorinia externa	

## Forsythia

1	No Pathogen Found	Undetermined
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Transplant Shock; Stress	Abiotic disorder
3	Total for Forsythia	
Fringetree		

8***		
1	No Pathogen Found	Undetermined
1	Total for Fringetree	

Ginkg	0	
1	Anthracnose	Glomerella sp./spp.
1	Cercospora Leaf Spot	Cercospora sp./spp.
2	Total for Ginkgo	
Hackb	berry	
2	Bacterial Leaf Scorch	Xylella fastidiosa
1	Fungal Canker	Various Fungi
1	Herbicide Injury Suspected	Chemical
4	Total for Hackberry	
Hawth	ıorn	
1	Cedar-Hawthorn rust	Gymnosporangium globosum
4	Cedar-Quince Rust	Gymnosporangium clavipes
1	Cicada Egg-laying Injury	Unidentified Cicada
1	Hawthorn Leafminer	Profenusa collaris
1	Insufficient Sample	Undetermined
1	Lace Bugs	Family Tingidae
9	Total for Hawthorn	
Hazelı		
1	Undetermined Abiotic Injury	Abiotic disorder
1	Total for Hazelnut	
Hemlo		
1	Elongate Hemlock Scale	Fiorinia externa
1	Hemlock Decline; Dieback	Abiotic disorder
1	Spider Mite Injury	Unidentified Spider Mite
1	Transplant Shock; Stress	Abiotic disorder
4	Total for Hemlock	
Theles		
Hickon 1	Foliar Distortion	Unidentified Acout
1	Herbicide Injury Suspected	Unidentified Agent Chemical
1	Insect Gall	Insect Gall
1	Phylloxerans	Family Phylloxeridae
4	Total for Hickory	T umity T hyrioxeriade
-	I OTAL TOT THEROLY	
Holly		
3	Black Root Rot	Thielaviopsis basicola
1	Cicada Egg-laying Injury	Unidentified Cicada
4	Cottony Camellia Scale	Pulvinaria floccifera
9	Decline; Dieback	Abiotic disorder
,	2	

1	High pH	Nutritional Disorder
1	High Soil Moisture	Abiotic disorder
1	Holly pit scale	Asterolecanium puteanum
1	Insect Damage	Unidentified Insect
1	Insufficient Information	Undetermined
1	Lichens	Lichenes
1	Mite Damage	Unidentified Mite
1	Nutritional Deficiency	Nutritional Disorder
1	Phomopsis Leaf Spot	Phomopsis sp./spp.
1	Scale Insects	Order homoptera
2	Sooty Mold	Unidentified Fungus
1	Transplant Shock; Stress	Abiotic disorder
1	Winter Injury	Abiotic disorder
31	Total for Holly	

Honeylocust			
1	Cercsospora Leaf Spot	Cercospora sp./spp.	
1	Honeylocust Plant Bug	Blephariopterus chlorionis	
1	Spider Mite	Tetranychus sp./spp.	
3	Total for Honeylocust		

Honeysuckle		
1	Cultural/Environmental Problem	Abiotic disorder
1	Environmental Stress; Problem	Abiotic disorder
1	Spider Mite	Tetranychus sp./spp.
3	Total for Honeysuckle	

Hydrangea
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ingunu		
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
2	Armillaria Root Rot	Armillaria sp./spp.
1	Bacterial Leaf Spot	Xanthomonas sp./spp.
1	Fall Webworm	Hyphantria cunea
7	Fungal Leaf Spot	Cercospora hydrangeae
1	Glyphosate Injury Suspected	Chemical
1	Insect Damage	Unidentified Insect
1	Insufficient Sample	Undetermined
1	No Pathogen Found	Undetermined
1	Phomopsis Leaf Spot	Phomopsis sp./spp.
1	Spider Mite	Tetranychus sp./spp.
1	Spider Mite Injury	Unidentified Spider Mite
1	Spider Mites	Family Tetranychidae
1	Twospotted Spider Mite	Tetranychus urticae
21	Total for Hydrangea	

Itea

- 1 Adelgid
- 1 Hydrophobic Soil/Planting Mix/Mulch
- 1 Woolly Aphids
- **3** Total for Itea

Adelges sp./spp. Abiotic disorder Family Aphididae; Adelgidae

## Juniper

• •L •-		
2	Cedar-apple Rust	Gymnosporangium juniperi-virginianae
1	Cedar-quince rust	Gymnosporangium clavipes
1	Decline; Dieback	Abiotic disorder
1	Juniper Scale	Carulaspis juniperi
1	Kabatina Tip Blight; Needle Blight	Kabatina juniperi
1	No Pathogen Found	Undetermined
2	Phomopsis Tip Blight; Needle blight	Phomopsis juniperovora
1	Planting Too Deep	Abiotic disorder
1	Root Girdling	Abiotic disorder
1	Scorch	Abiotic disorder
1	Winter Injury	Abiotic disorder
13	Total for Juniper	

Katsura Tree			
1	No Pathogen Found	Undetermined	
1	Total for Katsura Tree		

Kentucky Coffee Tree		
1	Chemical Injury Suspected	Chemical
1	Leaf Spot- Abiotic	Abiotic disorder
1	No Pathogen Found	Undetermined
3	Total for Kentucky Coffee Tree	

## Leyland Cypress

1	Bagworm	Thyridopteryx ephemeraeformis
1	Canker- Unidentified Fungus	Unidentified Fungus
1	Cercospora Blight	Cercospora sequoiae
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Environmental Stress; Problem	Abiotic disorder
1	Juniper Scale	Carulaspis juniperi
1	No Pathogen Found	Undetermined
1	Pestalotia Dieback	Pestalotia sp./spp.
2	Seiridium Canker	Seiridium unicorne
1	Transplant Shock; Stress	Abiotic disorder
11	Total for Lowland Cyprose	

#### **11** Total for Leyland Cypress

#### Lilac

1 Alternaria Leaf Spot

Alternaria sp./spp.

1	Anaerobic Soil	Abiotic disorder
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Decline; Dieback	Abiotic disorder
1	Dieback; Canker; Twig blight	Botryosphaeria sp./spp.
2	Excessive Water	Abiotic disorder
1	Leaf Spot	Phloeospora sp./spp.
5	No Pathogen Found	Undetermined
1	Nutritional Pathology	Nutritional Disorder
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
3	Transplant Shock; Stress	Abiotic disorder
18	Total for Lilac	

# Magnolia

Decline; Dieback	Abiotic disorder
Foliar Distortion	Unidentified Agent
Growth Regulator Effect Suspected	Chemical
Herbicide Injury Suspected	Chemical
Leaf Scorch	Abiotic disorder
Leaf Spot	Unidentified Fungus
Magnolia Scale	Neolecanium cornuparvum
No Pathogen Found	Undetermined
Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
Stem Rot	
Powdery Mildew	Oidium sp./spp.
Seasonal Leaf Drop	Abiotic disorder
Sooty Mold	Unidentified Fungus
Transplant Shock; Stress	Abiotic disorder
Winter Injury	Abiotic disorder
Yellow-bellied Sapsucker	Sphyrapicus varius
Yellow-poplar Weevil	Odontopus calceatus
Total for Magnolia	
	Decline; Dieback Foliar Distortion Growth Regulator Effect Suspected Herbicide Injury Suspected Leaf Scorch Leaf Spot Magnolia Scale No Pathogen Found Phytophthora Crown Rot; Root Rot; Stem Rot Powdery Mildew Seasonal Leaf Drop Sooty Mold Transplant Shock; Stress Winter Injury Yellow-bellied Sapsucker Yellow-poplar Weevil

# Maple

7	Anthracnose (Monostichella Leaf Spot)	Monostichella hysteroidea
2	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Armillaria Root Rot	Armillaria sp./spp.
2	Bacterial Leaf Scorch	Xylella fastidiosa
1	Bagworm	Thyridopteryx ephemeraeformis
1	Chemical Injury Suspected	Chemical
2	Cicada Egg-laying Injury	Unidentified Cicada
1	Cold Injury Suspected	Abiotic disorder
1	Cottony Maple Scale	Neopulvinaria innumerabilis
2	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
2	Gloomy Scale	Melanaspis tenebricosa
3	Growth Regulator Effect Suspected	Chemical

Insect Damage	Unidentified Insect
Insufficient Sample	Undetermined
Japanese Beetle	Popillia japonica
Japanese Maple Scale	Lopholeucaspis japonica
Leaf Scorch	Abiotic disorder
Leaf Skeletonizers	Family Zygaenidae
Lichens	Lichenes
Maple Anthracnose	Aureobasidium apocryptum
Maple Decline	Complex
Maple Leaf Spot	Phyllosticta minima
No Pathogen Found	Undetermined
Phyllosticta Leaf Spot	Phyllosticta sp./spp.
Potato Leafhopper	Empoasca fabae
Powdery Mildew	Unidentified Fungus
Soil Compaction	Abiotic disorder
Sooty Mold	Unidentified Fungus
Southwest Injury	Abiotic disorder
Spider Mite Injury	Unidentified Spider Mite
Transplant Shock; Stress	Abiotic disorder
Undetermined Abiotic Injury	Abiotic disorder
Undetermined Injury or Wound	Undetermined
Unidentified Fungus	Unidentified Fungus
Verticillium Wilt	Verticillium sp./spp.
Total for Maple	
	Insufficient Sample Japanese Beetle Japanese Maple Scale Leaf Scorch Leaf Skeletonizers Lichens Maple Anthracnose Maple Decline Maple Leaf Spot No Pathogen Found Phyllosticta Leaf Spot Potato Leafhopper Powdery Mildew Soil Compaction Sooty Mold Southwest Injury Spider Mite Injury Transplant Shock; Stress Undetermined Abiotic Injury Undetermined Injury or Wound Unidentified Fungus Verticillium Wilt

## Mimosa

1	Dieback; Canker	Nectria sp./spp.
1	Total for Mimosa	

## **Mountain Laurel**

- 1 Armored Scales
- 1 Phomopsis Leaf Spot
- 2 Total for Mountain Laurel

## Mulberry

 Industry

 1
 Leaf Spot

 1
 Total for Mulberry

#### Ninebark

1	Cercospora Leaf Spot	Cercospora sp./spp.
1	Spider Mites	Family Tetranychidae
1	Transplant Shock; Stress	Abiotic disorder
3	Total for Ninebark	

Family Diaspididae

Phomopsis sp./spp.

Oak		
17	Actinopelte Leaf Spot	Tubakia dryina
12	Anthracnose	Apiognomonia sp./spp.
36	Bacterial Leaf Scorch	Xylella fastidiosa
2	Canker	Hypoxylon sp./spp.
1	Canker- Unidentified Fungus	Unidentified Fungus
1	Chemical Injury Suspected	Chemical
3	Cicada Egg-laying Injury	Unidentified Cicada
1	Cultural/Environmental Problem	Abiotic disorder
1	Decline; Dieback	Abiotic disorder
5	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
1	Gall Wasps	Family Cynipidae
1	Gouty Oak Gall Wasp	Callirhytis quercus
2	Growth Regulator Effect Suspected	Chemical
1	Herbicide Injury Suspected	Chemical
2	Horned Oak Gall Wasp	Callirhytis cornigera
7	Insect Damage	Unidentified Insect
5	Insect Gall	Insect Gall
1	Insects	Class insecta
1	Insufficient Information	Undetermined
5	Insufficient Sample	Undetermined
8	Iron Deficiency	Nutritional Disorder
9	Jumping Oak Gall Wasp	Neuroterus saltatorius
2	Lace Bugs	Family Tingidae
15	Leaf skeletonizers	Family Zygaenid
1	Leaf-footed Bug	Leptoglossus sp./spp.
1	Lichens	Lichenes
5	No Pathogen Found	Undetermined
2	Nutrient Imbalance	Nutritional Disorder
1	Oak Apple Galls	Family Cynipidae
1	Oak Felt Scale	Eriococcus quercus
3	Oak Leaf Blister	Taphrina caerulescens
14	Oak Powdery Mildew	Erysiphe (Oidium) alphitoides
2	Oak shothole leafminer	Agromyza viridula
2	Oak Vein Pocket Gallmaker	Macrodiplosis quercusoruca
1	Obscure Scale	Melanaspis obscura
1	Phytophthora Canker	Phytophthora sp./spp.
1	Poor Growing Conditions	Abiotic disorder
1	Red Oak Leafminer	Japanagromyza viridula
2	Roly Poly Oak Gall	Andricus palytes
1	Sooty Mold	Unidentified Fungus
1	Spider Mite Injury	Unidentified Spider Mite
1	Stink Bug Damage	Unidentified Stink Bug
1	Transplant Shock; Stress	Abiotic disorder
1	Twig Girdler	Oncideres cingulata

- 2 Undetermined Injury or Wound
- 2 Woolly Aphids
- 1 Woolly Oak Aphid
- 1 Woolly Oak Gall
- 188 Total for Oak

#### Pear

I cai		
4	Fire Blight	Erwinia amylovora
2	No Pathogen Found	Undetermined
6	Pear Decline	Abiotic disorder
1	Twospotted Spider Mite	Tetranychus urticae
1	Undetermined Abiotic Injury	Abiotic disorder
14	Total for Pear	

Undetermined

Family Aphididae; Adelgidae

Diphyllaphis microtrema

Callirhytis sp./spp.

## Pine

I IIIC		
1	Aphids	Family Aphididae
1	Bagworm	Thyridopteryx ephemeraeformis
3	Brown Spot; Needle Blight	Mycosphaerella dearnessii
1	Cicada Egg-laying Injury	Unidentified Cicada
1	Decline; Dieback	Abiotic disorder
7	Diplodia Tip Blight; Canker	Diplodia sapinea
14	Dothistroma Needle Blight	Dothistroma pini
3	Fall Needle Drop	Abiotic disorder
1	Lichens	Lichenes
8	No Pathogen Found	Undetermined
1	Normal Plant Growth	Undetermined
3	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Pine Needle Rust	Coleosporium tussilaginis
3	Pine Needle Scale	Chionaspis pinifoliae
3	Pine Sawflies	Family Diprionidae
1	Root Problems	Abiotic disorder
1	Rust	Coleosporium sp./spp.
2	Sooty Mold	Unidentified Fungus
2	Transplant Shock; Stress	Abiotic disorder
10	White Pine Decline	Abiotic disorder
5	White Pine Root Decline	Leptographium procerum
72	Total for Pine	

## Poplar

- <b>I</b>		
1	Leaf Spot	Unidentified Fungus
1	Poplar Petiole-gall Aphid	Pemphigus populitransversus
1	Poplar; Willow Cytospora Canker	Cytospora chrysosperma
3	Total for Poplar	

# Privet

1	Leaf Spot	Pseudocercospora ligustri	
1	No Pathogen Found	Undetermined	
2	Total for Privet		
Prunu	5		
1	Black Knot	Apiosporina morbosa	
1	Cicada Egg-laying Injury	Unidentified Cicada	
2	Total for Prunus		
Redbu	d		
1	Anthracnose	Gloeosporium sp./spp.	
1	Anthracnose	Kabatiella sp./spp.	
1	Camphor Shot Borer	Cnestus mutilatus	
1	Chemical Injury Suspected	Chemical	
1	Growth Regulator Effect Suspected	Chemical	
1	Herbicide Injury Suspected	Chemical	
1	Leafhoppers	Family Cicadellidae	
2	No Pathogen Found	Undetermined	
1	Scorch	Abiotic disorder	
1	Sooty Mold	Unidentified Fungus	
1	Stink Bug Damage	Unidentified Stink Bug	
1	Transplant Shock; Stress	Abiotic disorder	
1	Undetermined Injury or Wound	Undetermined	
1	Verticillium Wilt	Verticillium sp./spp.	
15	Total for Redbud		

Rhododendron			
1	Insect Damage	Unidentified Insect	
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.	
	Stem Rot		
2	Total for Rhododendron		

## Rose

1	Aphids	Family Aphididae
2	Black Spot	Diplocarpon (Marssonina) rosae
2	Foliar Distortion	Unidentified Agent
2	Growth Regulator Effect Suspected	Chemical
1	Herbicide Injury Suspected	Chemical
1	Insect Damage	Unidentified Insect
2	Insufficient Sample; INAD	Undetermined
1	Japanese Beetle	Popillia japonica
1	Leaf Spot	Pseudocercospora puderi
1	Leaf Spot	Unidentified Fungus
2	No Pathogen Found	Undetermined

1	Normal Plant Growth	Undetermined
3	Powdery Mildew	Sphaerotheca sp./spp.
4	Rose Canker	Coniothyrium sp./spp.
8	Rose Rosette Disease	Rose rosette-associated
4	Roseslug	Endelomyia sp./spp.
1	Spider Mite	Tetranychus sp./spp.
1	Spot Anthracnose	Sphaceloma rosarum
1	Undetermined Abiotic Injury	Abiotic disorder
39	Total for Rose	

Rose-of-sharon			
1	Fusarium canker; Dieback; Wilt	Fusarium lateritium	
1	No Pathogen Found	Undetermined	

2 Total for Rose-of-sharon

Serviceberry

8	Total for Serviceberry
3	No Pathogen Found
2	Leaf Spot
2	Lace Bugs
1	Cedar-Quince Rust

Spirea		
1	Glyphosate Injury Suspected	Chemical
2	No Pathogen Found	Undetermined
3	Total for Spirea	

Gymnosporangium clavipes

Family Tingidae Unidentified Fungus

Undetermined

Spruce

oprace		
1	Bagworm	Thyridopteryx ephemeraeformis
2	Cytospora Canker	Cytospora kunzei
4	Decline; Dieback	Abiotic disorder
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
10	Dothistroma Needle Blight	Dothistroma sp./spp.
1	Elongate Hemlock Scale	Fiorinia externa
3	Leaf Scorch	Abiotic disorder
1	Lichens	Lichenes
1	Magnesium Deficiency	Nutritional Disorder
1	Needle Blight	Phyllosticta sp./spp.
6	No Pathogen Found	Undetermined
2	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Pine Needle Scale	Chionaspis pinifoliae
74	Rhizosphaera Needle Cast	Rhizosphaera kalkhoffii
1	Scald; Scorch	Abiotic disorder
18	Spider Mite Injury	Unidentified Spider Mite

155	Total for Spruce
1	Unknown Abiotic Disorder
2	Twospotted Spider Mite
4	Transplant Shock; Stress
18	Stigmina Needle Blight
3	Spruce Spider Mite

Sumac

Sumac		
1	Verticillium Wilt	Verticillium sp./spp.
1	<b>Total for Sumac</b>	

Oligonychus ununguis

Stigmina lautii Abiotic disorder Tetranychus urticae Abiotic disorder

## Sweetgum

Directs	4111	
1	Actinopelte Leaf Spot	Tubakia dryina
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Armillaria Root Rot	Armillaria sp./spp.
1	Decline; Dieback	Abiotic disorder
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.
2	Lichens	Lichenes
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
2	Septoria Leaf Spot	Septoria sp./spp.
1	Transplant Shock; Stress	Abiotic disorder
11	Total for Sweetgum	

Sycamore			
4	Bacterial Leaf Scorch	Xylella fastidiosa	
1	Phoma Leaf Spot	Phoma sp./spp.	
1	Sycamore Lace Bug	Corythucha ciliata	
6	Total for Sycamore		

#### Taxus

Taxus		
2	Chemical Injury Suspected	Chemical
1	Freeze; Frost; Cold Damage	Abiotic disorder
2	Growth Regulator Effect Suspected	Chemical
2	Insufficient Sample	Undetermined
1	Mites	Order Acari
4	No Pathogen Found	Undetermined
9	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
3	Spider Mite Injury	Unidentified Spider Mite
1	Sunscald	Abiotic disorder
6	Taxus Decline; Dieback	Abiotic disorder
31	Total for Taxus	

## **Tulip Tree**

2 Anthracnose

Gloeosporium sp./spp.

1	Spider Mites	Family Tetranychidae	
2 1	Sooty Mold	Unidentified Fungus	
1 2	Leaf Spot- Abiotic No Pathogen Found	Ablotic disorder Undetermined	
1		Abiotic disorder	
1	Insufficient Information	Undetermined	
1 1	Excessive Water Granulate Ambrosia Beetle	Abiotic disorder Xylosandrus crassiusculus	
1	Excessive Water	Abiotic disorder	

Unknown plant				
1	Growth Regulator Effect Suspected	Chemical		
1	Total for Unknown plant			
Viburnum				

Undetermined Phoma sp./spp.

Undetermined

2	No Pathogen Found
1	Phoma Leaf Spot

**3** Total for Viburnum

Walnut		
1	Crown Gall	Agrobacterium sp./spp.
1	Insufficient Sample	Undetermined

- Insufficient Sample
   No Pathogen Found
- **3** Total for Walnut

## Weigela

 I
 Anthracnose
 Unidentified Fungus

 1
 Total for Weigela

### Willow

4	Total for Willow	
1	Undetermined Abiotic Injury	Abiotic disorder
1	No Pathogen Found	Undetermined
1	Leaf Spot	Unidentified Fungus
1	Dieback; Canker; Twig Blight	Botryosphaeria sp./spp.

# Wisteria

1 No Pathogen Found

Undetermined

## 1 Total for Wisteria

## PINEWOOD NEMATODE EXTRACTION

Juniper		
13	PWNE-No Pathogen Found	Undetermined
13	Total for Juniper	

P.RAMORUM NURSERY SURVEY				
Camellia				
8	No Pathogen Found	Undetermined		
8	Total for Camellia			
-				
Lilac				
3	No Pathogen Found	Undetermined		
3	Total for Lilac			
Mount	ain Laurel			
2	No Pathogen Found	Undetermined		
1	Phytophthora Dieback; Blight	Phytophthora sp./spp.		
3	Total for Mountain Laurel			
Pieris				
9	No Pathogen Found	Undetermined		
6	Phytophthora Dieback; Blight	Phytophthora sp./spp.		
15	Total for Pieris			
Rhodo	lendron			
35	No Pathogen Found	Undetermined		
22	Phytophthora Dieback; Blight	Phytophthora sp./spp.		
57	Total for Rhododendron			
Viburn	um			
17	No Pathogen Found	Undetermined		
4	Phytophthora Dieback; Blight	Phytophthora sp./spp.		
21	Total for Viburnum			
Agnara		ETABLES		
Aspara	-	Europeinen oppgenormen		
2	Asparagus Fusarium Crown Rot	Fusarium oxysporum		
1	Insufficient Sample	Undetermined		
3	Total for Asparagus			
Bean				
1	Animal Damage	Abiotic disorder		
2	Bean Angular Leaf Spot	Phaeoisariopsis griseola		
2	Bean Anthracnose	Colletotrichum lindemuthianum		
2	a			

- Bean Anthracnose 2
- Cercospora Leaf Spot 3
- 1 Garden Fleahopper
- Herbicide Injury Suspected 1
- 53

Cercospora canescens

Halticus sp./spp.

Chemical

30	Total for Bean	
1	Wind Damage	Abiotic disorder
1	Whiteflies	Family Aleyrodidae
1	Unidentified Virus	Unidentified Virus
1	Undetermined Abiotic Injury	Abiotic disorder
1	Spider Mites	Family Tetranychidae
1	Southern Blight	Sclerotium rolfsii
4	Rhizoctonia Stem and Root rot	Rhizoctonia sp./spp.
2	Pythium Root and/or Crown Rot	Pythium sp./spp.
2	Potyvirus Group	Potyvirus group
1	Physiological Responses	Abiotic disorder
1	Phyllosticta Leaf Spot	Phyllosticta sp./spp.
3	No Pathogen Found	Undetermined
1	Insufficient Sample; INAD	Undetermined

Beet			
1	Pythium Damping Off	Pythium sp./spp.	
1	Rhizoctonia Damping Off	Rhizoctonia sp./spp.	
2	Total for Beet		

# Broccoli

5	Total for Broccoli	
1	Temperature Induced Pathology	Abiotic disorder
1	Pythium Root and/or Crown Rot	Pythium sp./spp.
2	No Pathogen Found	Undetermined
1	Canker- Unidentified Agent	Unidentified Agent

Cabbage		
3	No Pathogen Found	Undetermined
3	Pythium Damping Off	Pythium sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia solani

# 7 Total for Cabbage

# Cantaloupe

1	Nutritional Deficiency	Nutritional Disorder	
1	Nutritional Problem Suspected Powdery Mildew	Nutritional Disorder Podosphaera sp./spp.	
4	Total for Cantaloupe		

## Carrot

1	Chemical Injury Suspected	Chemical	
1	Total for Carrot		

Caulif	lower	
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Total for Cauliflower	
Celery		
1	Early Blight	Cercospora apii
1	Total for Celery	
Cole C	rops	
1	Flea Beetles	Subfamily Alticinae
1	Total for Cole Crops	
Corn (	Sweet)	
7	Common Corn Rust	Puccinia sorghi
4	Corn Gray Leaf Spot	Cercospora zeae-maydis
1	Leaf Spot- Abiotic	Abiotic disorder
3	No Pathogen Found	Undetermined
1	Northern Corn Leaf Blight; Leaf Spot	Setosphaeria turcica (turcicum)
1	Soil Compaction	Abiotic disorder
5	Southern Corn Rust	Puccinia polysora
2	Zinc Deficiency	Nutritional Disorder
24	Total for Corn	

# Cucumber

5	Anthracnose	Colletotrichum orbiculare
1	Cucumber Beetles	Subfamily Galerucinae
3	Cucurbit Bacterial Wilt	Erwinia tracheiphila
4	Cucurbit Downy Mildew	Pseudoperonospora cubensis
2	Cucurbit Powdery Mildew	Golovinomyces cichoracearum
1	Herbicide Injury Suspected	Chemical
1	High pH	Nutritional Disorder
1	Phytophthora Fruit Rot; Blight	Phytophthora capsici
1	Root-knot Nematodes	Meloidogyne sp./spp.
2	Scald; Scorch	Abiotic disorder
21	Total for Cucumber	

Edamame Soybean			
1	Insufficient Sample	Undetermined	
1	Total for Edamame Soybean		

Eggplant		
1	Flea Beetles	Subfamily Alticinae
1	Total for Eggplant	

Garlic		
1	Anthracnose; Colletotrichum Leaf Spot	Colletotrichum sp./spp.
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Seedcorn Maggot	Delia (Hylemya) platura
1	Thrips Damage	Unidentified Thrips
4	Unspecified Pathology	Pseudomonas sp./spp.
8	Total for Garlic	
Hyacint	th Bean	
1	Bean Rust	Uromyces appendiculatus
1	Total for Hyacinth Bean	
Kale		
1	Aphids	Family Aphididae
1	High Temperature Damage	Abiotic disorder
1	Pythium Damping Off	Pythium sp./spp.
3	Total for Kale	
Lettuce		
1	Thrips	Order thysanoptera
1	Total for Lettuce	
Melon		
1	Anthracnose	Colletotrichum orbiculare
1	Cercospora Leaf Spot	Cercospora citrullina
1	No Pathogen Found	Undetermined
3	Total for Melon	
Okra		
2	No Pathogen Found	Undetermined
2	Total for Okra	
Onion		
1	Basal Plate Rot	Fusarium culmorum
1	Blue Mold Rot	Penicillium sp./spp.
1	Grey mold; Stalk rot; Neck rot	Botrytis allii
1	Onion purple (Brown) blotch	Alternaria porri
1	Purple spot (Stemphylium Leaf Blight)	Stemphylium vesicarium
1	Pythium Damping Off	Pythium sp./spp.
6	Total for Onion	
Pea		
2	Insufficient Sample; INAD	Undetermined
1		

1 No Pathogen Found

Undetermined

#### 1 Powdery mildew

#### 4 Total for Pea

#### Pepper 1 **Bacterial Soft Rot** Erwinia sp./spp. 2 Broad Mite Polyphagotarsonemus latus 1 Fertilizer Injury Nutritional Disorder 1 Flea Beetles Subfamily Alticinae 5 Growth Regulator Effect Suspected Chemical Herbicide Injury Suspected 1 Chemical High Soluble Salt Nutritional Disorder 1 **Insufficient Sample** Undetermined 1 1 Leaf Spot Unidentified Fungus 2 No Pathogen Found Undetermined Nutritional Problem Suspected 1 Nutritional Disorder 9 Pepper Bacterial Spot Xanthomonas campestris pv. vesicatoria 1 Physiological Responses Abiotic disorder Phytophthora Blight; Root Rot Phytophthora capsici 1 Phytophthora Fruit Rot; Blight 1 Phytophthora capsici 8 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 Colletotrichum sp./spp. Ripe Rot Southern Blight Sclerotium rolfsii 1 2 Sunscald Abiotic disorder

*Erysiphe pisi* 

## 44 Total for Pepper

#### Potato

1 01410		
2	Bacterial Soft Rot	Erwinia sp./spp.
1	Chemical Injury Suspected	Chemical
1	Fusarium Dry Rot	Fusarium solani f.sp. caeruleum
1	Potato Black Leg	Erwinia (Pectobacterium) carotovora
1	Potato Leak	Pythium debaryanum
1	Rhizoctonia Stem and Root Rot	Rhizoctonia sp./spp.
1	Tobacco Flea Beetle	Epitrix hirtipennis
8	Total for Potato	

#### Pumpkin

2	Anthracnose	Colletotrichum orbicul
1	Bacterial Soft Rot	Erwinia sp./spp.
1	Cercospora Leaf Spot	Cercospora citrullina
1	Chemical Injury Suspected	Chemical
3	Cucurbit Angular Leaf Spot	Pseudomonas syringae
3	Cucurbit Downy Mildew	Pseudoperonospora cu

4 Cucurbit Powdery Mildew

Colletotrichum orbiculare Erwinia sp./spp. Cercospora citrullina Chemical Pseudomonas syringae pv. Lachrymans Pseudoperonospora cubensis Golovinomyces cichoracearum

1	Fruit Rot	Choanephora cucurbitarum
1	Fusarium Crown Rot; Foot Rot	Fusarium solani f.sp. cucurbitae
3	Fusarium Fruit Rot	Fusarium sp./spp.
1	Herbicide Injury Suspected	Chemical
1	Insufficient Sample; INAD	Undetermined
1	Leaf Scorch	Abiotic disorder
1	Leaf Spot- Abiotic	Abiotic disorder
3	Microdochium Blight	Plectosphaerella cucumerina
4	No Pathogen Found	Undetermined
2	Phytophthora Fruit Rot; Blight	Phytophthora capsici
1	Potyvirus Group	Potyvirus
4	Powdery Mildew	Podosphaera sp./spp.
2	Pythium Fruit Rot;Cottony Leak	Pythium sp./spp.
1	Rhizoctonia Root Rot	Rhizoctonia sp./spp.
1	Rhizoctonia Stem and Root Rot	Rhizoctonia sp./spp.
1	Soil Compaction	Abiotic disorder
1	Squash Beetle	Epilachna borealis
2	Squash Vine Borer	Melittia cucurbitae
2	Tomato Ringspot	Tomato Ringspot Virus (ToRSV)
<b>48</b>	Total for Pumpkin	

#### Radish

Itaanon	-	
1	Aphids	Family Aphididae
1	<b>Total for Radish</b>	

Rhubarb		
1	Bacterial Leaf Spot	Unidentified Bacteria
1	Crown Rot	Rhizoctonia sp./spp.
1	Freeze; Frost; Cold Damage	Abiotic disorder
1	Insufficient Sample	Undetermined
1	Phytophthora Crown Rot; Root Rot;	Phytophthora sp./spp.
	Stem Rot	
1	Rhubarb Crown Rot	Erwinia rhapontici
6	Total for Rhubarb	

Chemical

Abiotic disorder

## Spinach

1 Cher	nical Injury	Suspected
--------	--------------	-----------

- 2 Leaf Spot- Abiotic
- **3** Total for Spinach

### Squash

Anthracnose
 Blossom End Rot

- 1 Cucurbit Angular Leaf Spot
- 1 Cucurbit Downy Mildew

Colletotrichum orbiculare Abiotic disorder Pseudomonas syringae pv. lachrymans Pseudoperonospora cubensis

2	Cucurbit Powdery Mildew	Golovinomyces cichoracearum
1	Fusarium Fruit Rot	Fusarium sp./spp.
1	Insufficient Sample	Undetermined
1	Leaf Spot- Abiotic	Abiotic disorder
4	No Pathogen Found	Undetermined
1	Physiological Silvering	Abiotic disorder
1	Phytophthora Fruit Rot; Blight	Phytophthora capsici
1	Phytotoxicity	Chemical
1	Poor Pollination	Abiotic disorder
3	Powdery Mildew	Podosphaera sp./spp.
1	Rhizoctonia Stem Rot	Rhizoctonia sp./spp.
1	Squash Vine Borer	Melittia cucurbitae
1	Undetermined Abiotic Injury	Abiotic disorder
1	Unspecified Viral Disease	Unspecified Viral Disease
24	Total for Squash	

# Sweetpotato

1	Anthracnose	Colletotrichum sp./spp.
2	Sweetpotato Scurf	Monilochaetes infuscans
3	Total for Sweetpotato	

# **Swiss Chard**

1	Rhizoctonia Foliar/ Aerial/ Web Blight	Rhizoctonia solani

1 Total for Swiss Chard

# Tomato

Iomuto		
3	Abnormal Plant Growth	Abiotic disorder
3	Aphids	Family Aphididae
5	Bacterial Canker	Clavibacter michiganensis
2	Bacterial Speck	Pseudomonas syringae pv. tomato
8	Bacterial Spot	Xanthomonas sp./spp.
2	Blossom End Rot	Abiotic disorder
4	Botrytis Blight	Botrytis sp./spp.
1	Botrytis Fruit Rot	Botrytis sp./spp.
2	Catface	Abiotic disorder
8	Chemical Injury Suspected	Chemical
13	Early Blight; Leaf Spot	Alternaria solani
1	Excessive Water	Abiotic disorder
4	Fertilizer Injury	Nutritional Disorder
4	Flea Beetles	Subfamily Alticinae
1	Freeze; Frost; Cold Damage	Abiotic disorder
11	Fusarium Wilt	Fusarium oxysporum
4	Glyphosate Injury Suspected	Chemical
18	Growth Regulator Effect Suspected	Chemical
2	Herbicide Drift Suspected	Chemical

3 Herbicide Injury Suspected 2 High pH 2 High pH; low soluble salt damage High Soluble Salt 6 1 Insufficient Information 10 **Insufficient Sample** 1 Intumescence 13 Leaf Mold 2 Leaf Scorch 1 Leaf Spot 3 Leaf Spot-Abiotic 3 Magnesium Deficiency 1 Marginal Leaf Burn 1 Mechanical Damage 1 Mite Damage 2 Nitrogen Deficiency 18 No Pathogen Found 9 Nutritional Deficiency 1 Nutritional Problem Suspected 1 **Phosphorus Deficiency** 3 Physiological Leaf Roll 1 **Physiological Responses** 1 Physiological Responses (fruit pox) 5 Powdery mildew 17 Pythium Root and/or Crown Rot 1 Rhizoctonia Foliar/ Aerial/ Web Blight 4 Rhizoctonia Root Rot 3 Rhizoctonia Stem and Root Rot 2 **Ripe Rot** 1 Root Damage 1 **Root Problems** 1 **Root-knot Nematodes** 1 Scald; Scorch 23 Septoria Leaf Spot 1 Sooty Mold 3 Southern Blight 2 Spider Mite Injury 1 Stink Bug Damage 1 Thrips 3 Tobacco Flea Beetle 4 **Tobacco Mosaic** 3 **Tomato Hornworm** 2 Tomato Russett Mite 16 Tomato Spotted Wilt 2 **Twospotted Spider Mite** 

Chemical Nutritional Disorder Nutritional Disorder Nutritional Disorder Undetermined Undetermined Abiotic disorder Fulvia fulva Abiotic disorder Unidentified Fungus Abiotic disorder Nutritional Disorder Abiotic disorder Abiotic disorder Unidentified Mite Nutritional Disorder Undetermined Nutritional Disorder Nutritional Disorder Nutritional Disorder Abiotic disorder Abiotic disorder Abiotic disorder Oidium neolycopersici Pythium sp./spp. Rhizoctonia solani Rhizoctonia sp./spp. Rhizoctonia sp./spp. Colletotrichum sp./spp. Abiotic disorder Abiotic disorder Meloidogyne sp./spp. Abiotic disorder Septoria lycopersici Unidentified Fungus Sclerotium rolfsii Unidentified Spider Mite Unidentified Stink Bug Order thysanoptera Epitrix hirtipennis Tobacco Mosaic Virus (TMV) Manduca quinquemaculata Aculops lycopersici Tomato Spotted Wilt Vir (TSWV) Tetranychus urticae

3	Undetermined Abiotic Injury	Abiotic disorder
6	Undetermined Injury or Wound	Undetermined
1	Unidentified Bacteria	Unidentified Bacteria
2	Unidentified Fungus	Unidentified Fungus
7	White Mold (Stem Rot); Timber Rot	Sclerotinia sclerotiorum
2	Whitefly	Dialeurodes (Dialeuropora) decempuncta
1	Yellow Shoulder Disorder	Abiotic disorder
301	Total for Tomato	

Turnip	)		
1	Downy Mildew	Hyaloperonospora parasitica	
1	No Pathogen Found	Undetermined	
1	Powdery Mildew	Erysiphe sp./spp.	
3	Total for Turnip		

Watermelon		
6	Anthracnose	Colletotrichum orbiculare
1	Blossom End Rot	Abiotic disorder
1	Cercospora Leaf Spot	Cercospora citrullina
3	Cucurbit Gummy Stem Blight	Didymella (Ascochyta) bryoniae (cucumis)
1	Growth Regulator Effect Suspected	Chemical
2	Insufficient Sample; INAD	Undetermined
2	No Pathogen Found	Undetermined
1	Nutritional Deficiency	Nutritional Disorder
1	Phytophthora Fruit Rot	Phytophthora capsici
3	Pythium Root and/or Crown Rot	Pythium sp./spp.
1	Rhizoctonia Stem Rot	Rhizoctonia sp./spp.
1	Spider Mite	Family Tetranychidae
1	Unidentified Bacteria	Unidentified Bacteria
2	Watermelon Fusarium Wilt	Fusarium oxysporum f.sp. niveum
26	Total for Watermelon	