UK College of Agriculture

COOPERATIVE EXTENSION SERVICE

AGRICULTURE * HOME ECONOMICS * 4-H * DEVELOPMENT

PLANT DISEASES in KENTUCKY

Plant Disease Diagnostic Laboratory Summary

*** 1990 ***

by:

P. R. Bachi
B. C. Eshenaur
J. R. Hartman
D. E. Hershman
W. C. Nesmith
P. C. Vincelli

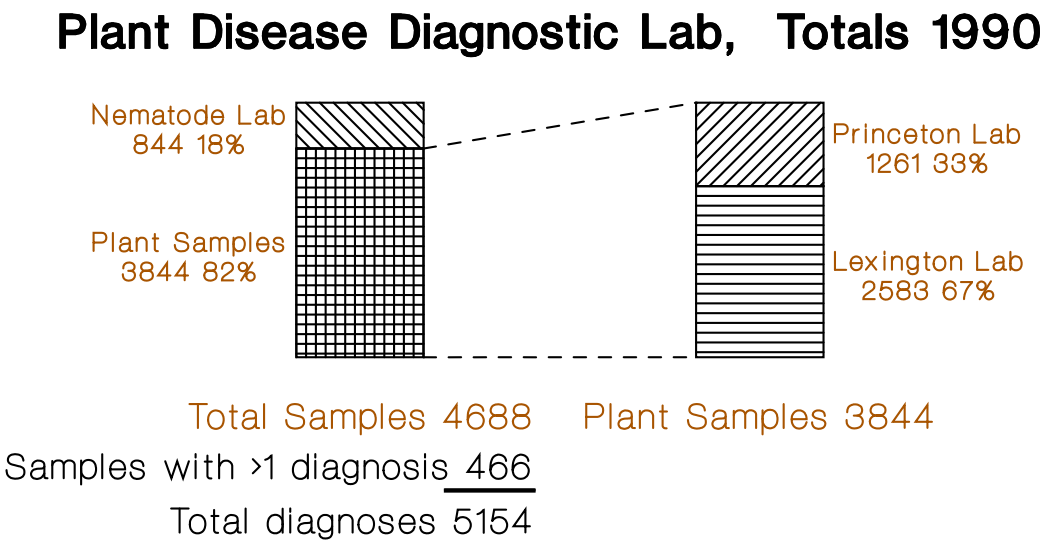
Department of Plant Pathology

TABLE OF CONTENTS

INTRODUCTION

The Plant Disease Diagnostic Lab (Lexington and Princeton) handled 3844 plant samples and 844 nematode soil samples during 1990. Samples with more than one problem numbered 466, bringing the total number of actual diagnoses to 5154. The Lexington Lab diagnosed 2583 specimens. The Princeton Lab's specimens totaled 2105; of this number 1261 were plant samples and 844 were soil samples submitted, almost exclusively, for soybean cyst nematode analysis. A total of 658 of the nematode samples were submitted by researchers and 186 were submitted by commercial growers.

These numbers are summarized in Figure 1 below:



HIGHLIGHTS

The year of 1990 was marked by several extremes in weather. A mild fall (1989) followed by a brief but very cold, sub-zero, period in mid to late December caused many landscape plants to dieback or be killed. Spring was very wet, especially in western Kentucky, which led to many acres of late planted crops (i.e. corn, soybeans, tobacco, etc.) and delayed harvesting of small grains and canola. Several cold nights in early spring caused extensive injury to small grain fields. During the latter part of the summer, hot, dry weather prevailed, especially in western Kentucky, causing late-season crop stress and ideal conditions for turf problems and increased incidence of powdery mildew in the landscape.

A new system of producing tobacco transplants was being used for the first time in many areas of the state. This new system brought with it new disease problems. The "float system", if not properly managed, has the potential for greater widespread damage due to diseases. The water mold fungi, *Pythium* and *Phytophthora*, can be especially prolific in this system. *Pythium* was found causing soft rots of roots and stems and general damping-off symptoms; *Phytophthora* caused problems in the form of the **Black Shank** disease; *Rhizoctonia* was found causing stem rots and a relatively new disease, **Target Spot** (*Thanatephorus*), on the foliage in both the float system and conventional seed beds. **Bacterial soft rot** and **Botrytis foliar blight** were also found to be damaging in the float system.

In field tobacco, **Black Shank** continued, as in the past several years, to be the major disease problem in both burley and dark tobaccos. **Blue Mold** was more severe than it had been in several years causing much crop loss in central, northern and eastern Kentucky.

Corn problems were relatively few with **common rust** being fairly widespread, **zinc deficiency** seen in the early season during a cool, wet period, and **virus complex** at times severe especially in late-planted corn.

The severity of soybean problems was also at a low level. **Soybean cyst nematode** remains the major yield-limiting disease factor in the majority of soybean producing acreage. **Sudden death syndrome** was also a factor in some areas but overall at a lower incidence than last year.

Small grains, wheat primarily, was plagued by three disease problems in addition to the cold injury stated above. **Powdery mildew** and **Wheat Spindle Streak Mosaic Virus** (Wheat Yellow Mosaic Virus) were severe in many fields planted with susceptible varieties. **Head Scab** was also severe in many areas due to the wet conditions prevailing during the flowering period.

The **leaf spot** disease caused by the fungus *Leptosphaerulina* caused extensive yield loss in many alfalfa stands in early spring. Increased emphasis on the importance of **root rots of alfalfa** was given due to the heightened enthusiasm of our newest Extension Plant Pathologist, Dr. Paul C. Vincelli. Root rots caused by species of *Phytophthora* and *Aphanomyces* were found causing significant damage in some fields.

Blackleg continued to be a major factor in the disease management of canola (rapeseed) in Logan County, Ky. This disease has the potential not only for severely damaging canola production in the state but for damage to other crucifer crops at a time when increased vegetable production is being encouraged. **Sclerotinia stem rot** was found in many fields of canola.

Two diseases which have many hosts and caused considerable concern were **Tomato Spotted Wilt Virus** (TSWV) and **Southern Blight**. TSMV can be a problem in tobacco, tomato and pepper production as well as greenhouse production of impatiens, gloxinia, and snapdragon. The incidence of this disease has been increasing in the past few years. Southern Blight was a problem sporadically in soybean fields and in many landscape plantings.

The sub-zero cold period in mid to late December 1989 caused extensive dieback and death of many ornamental plants. Among those plants hardest hit were barberry, magnolia, privet, azalea, taxus, boxwood, and holly. Many orchard and ornamental fruit trees were also affected by the cold with subsequent infection by opportunistic fungi such as *Botryosphaeria*, *Cytospora*, and *Sphaeropsis*.

Two diseases which we have been monitoring closely for the past two years are **Bacterial Scorch of Oak** and **Dogwood Anthracnose**.

Dogwood Anthracnose (caused by a species of the fungus *Discula*) was identified for the first time in the Kentucky in 1989. Several new cases of the disease were found in 1990 (see Figure 2). In recent years this relatively new disease has devastated native dogwood stands and ornamental plantings in the eastern U.S. and in the Pacific northwest. We will continue to monitor the incidence of this disease in the state and educate the ornamental industries and public as to the presence of the disease and control recommendations.

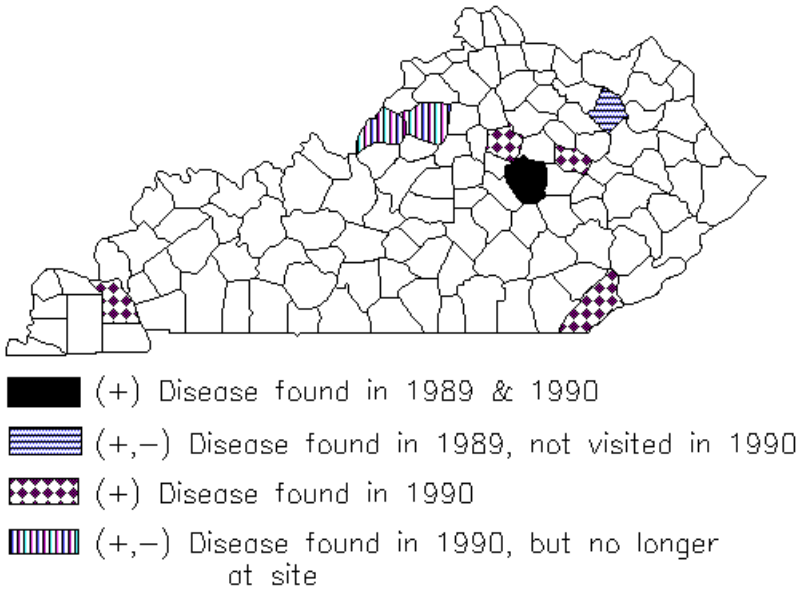


Figure 2. Incidence of Dogwood Anthracnose in Kentucky.

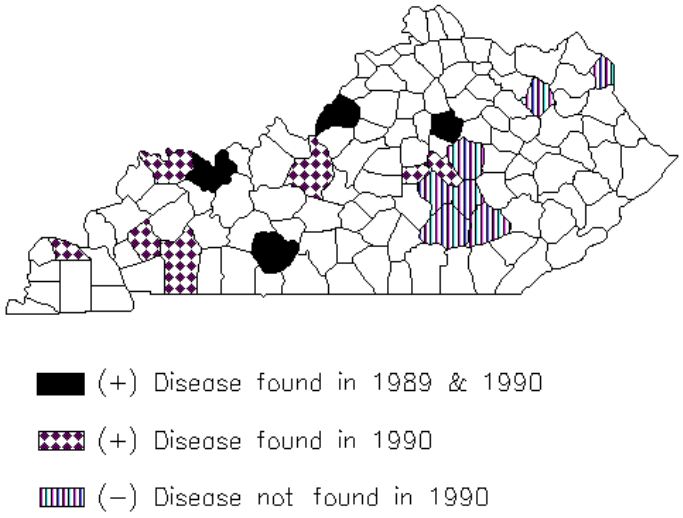


Figure 3. Bacterial Scorch of Oak survey.

Bacterial Scorch of Oak (caused by *Xylella fastidiosum*) was found in the state for the first time in 1987. In the last two years an intensive survey has been conducted (with help from Dr. Win Dunwell, Extension Horticulture Specialist, and funds from the Kentucky Arborists' Association and Kentucky Nurseryman's Association) in several areas of the state to determine the incidence of the disease (see Figure 3). As with the Dogwood Anthracnose, we will continue to keep the ornamental industries and public aware of the presence of the disease but there are no control measures available at this time.

EXPLANATORY REMARKS

As you examine the main body of this report, you will notice three columns of numbers following the diagnosis and causal agent sections. The first column indicates the number of primary diagnoses, the second column the number of secondary diagnoses and the third column is the total of the previous two. The primary diagnosis is the main, or frequently, the only problem observed on a plant sample. If a second problem of equal or lesser importance was observed, it was entered as the secondary diagnosis. Occasionally, a problem may have only been diagnosed as a secondary problem, and never as a primary problem (e.g. Lophodermium needlecast on Pine). In these cases, a zero (0) will appear in the primary diagnosis column to indicate the absence of samples with that particular problem.

No disease: This indicates that no pathogen was observed on the specimen submitted, and that based on the sample and information provided, we were unable to pinpoint an exact abiotic or biotic cause of the problem, if there was one.

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 by the crop specialist in the Agronomy or Horticulture Departments. On a number of occasions we also consulted with crop specialists in other departments to diagnose or verify abiotic problems.

Root problems: Samples designated as having a "root problem" had above ground symptoms suggestive of root disfunction and/or evidence of root degeneration, however, a specific biotic or abiotic cause could not be determined.

ACKNOWLEDGEMENTS

We wish to thank Freddie Higgins for his assistance in the computer operation of the lab. We would also like to thank the College of Agriculture's extension specialists and researchers who served as consultants to the diagnostic lab in 1990. Their services ranged from making actual diagnoses to providing answers to plant, insect, weed or pesticide questions. These individuals are too numerous to mention here (see Table 9) but we are grateful nonetheless to each for their valuable assistance.

Table 1.

SUMMARY OF DIAGNOSES[1] BY CROP CATEGORY AND CAUSAL AGENT TYPE.

Crop Category	Abiotic Problems	Biotic[2] Problems	Chemical Injury	Inadequate Specimen	Insect Injury	Other[3]	Total Diagnoses
Agronomic							
Corn	42	33	20	8	19	35	157
Forages	22	109	2	2	25	19	179
Rapeseed (Canola)	0	1	0	0	0	0	1
Small grains	66	97	4	3	2	9	181
Soybeans	39	915*	23	4	4	13	998
Tobacco	337	495	82	8	16	132	1070
Fruit							
Small fruit	21	49	6	5	11	16	108
Tree fruit	45	51	2	8	46	18	170
Herbs	2	7	1	1	7	4	22
Identification	0	32	0	0	0	4	36
Ornamentals							
Herbaceous and Houseplants	51	94	7	6	16	55	229
Turfgrass	31	75	1	3	0	22	132
Woody	457	351	31	56	233	277	1405
Vegetables	79	232	30	11	33	71	456
Miscellaneous	0	2	0	2	1	5	10
Total	1192	2543	209	117	413	680	5154

[1] All counts and totals include primary diagnoses plus secondary diagnoses.

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

[3] "Other" includes the causal agent categories: No disease, Unknown and None (non-applicable).

* Includes 844 samples sent to the Nematode Lab in Princeton.

Table 2. **SUMMARY OF BIOTIC PROBLEMS BY CROP CATEGORY.**

Crop Category	Bacterial	Fungal	Nematode	Virus	Other[1]
Agronomic					
Corn	6	25	0	2	0
Forages	7	102	0	0	0
Rapeseed (Canola)	0	1	0	0	0
Small grains	0	63	0	35	0
Soybeans	1	43	870	1	0
Tobacco	86	349	2	54	4
Fruit					
Small fruit	0	46	0	3	0
Tree fruit	5	45	0	0	1
Herbs	0	7	0	0	0
Identification	0	15	0	0	17
Ornamentals					
Herbaceous and Houseplants	17	69	0	8	0
Turfgrass	0	73	0	0	2
Woody	55	287	1	5	3
Vegetables	60	149	3	20	0
Miscellaneous	0	2	0	0	0
Total	237	1276	876	110	28

[1] Other includes these categories: Animal (rodent and bird damage), Plant (plant identifications), and Algae, Lichen and MLO (mycoplasma-like organism).

Table 3.

NUMBER OF SPECIMENS BY CROP CATEGORY, EXPRESSED AS PERCENTAGES

Crop Category Specimens	Number of Specimens	Percentage of Total
Agronomic (-Tobacco)	1385	29.5
Tobacco	975	20.8
Fruit	243	5.2
Herbs	19	.4
Identifications	36	.8
Ornamentals	1616	34.5
Vegetables	404	8.6
Miscellaneous	10	.2
Total Specimens	4688	100.0

Table 4.

SUMMARY OF DIAGNOSES BY CROP CATEGORY AND CROP.

Crop Category and Crop	Number of Primary Diagnoses[1]	Number of Secondary Diagnoses[2]	Total Diagnoses[3]
Agronomic			
Corn	142	15	157
Forages	138	41	179
Rapeseed (Canola)	1	0	1
Small grains	137	44	181
Soybeans	967*	31	998
Tobacco	975	95	1070
Fruit			
Small fruit	94	14	108
Tree fruit	149	21	170
Herbs	19	3	22
Identification	36	0	36
Ornamentals			
Herbaceous and Houseplants	213	16	229
Turfgrass	115	17	132
Woody	1288	117	1405
Vegetables	404	52	456
Miscellaneous	10	0	10
Total	4688	466	5154

[1] The number of primary diagnoses corresponds to the number of different specimens examined.

[2] If a second problem was evident on the plant specimen it was considered the secondary diagnosis. See "Expanatory Remarks."

[3] Total diagnoses equals the number of primary plus the number of secondary diagnoses.

* Includes 844 samples sent to Nematode Lab in Princeton.

Table 5.

SUMMARY OF SAMPLES RECEIVED BY GROWER TYPE AND CROP GROUP.

	Grower Type							
	Commercial		Homeowner		Research		Institution	
Crop Group	Ext[1]	Non-Ext[2]	Ext[1]	Non-Ext[2]	Ext[1]	Non-Ext[2]	Ext[1]	Non-Ext[2]
Agronomic								
Corn	133	5	0	0	1	2	0	1
Forages	132	0	0	0	2	3	1	0
Small grains	129	7	0	0	1	1	0	0
Soybeans	304	3	0	0	659	1	0	0
Tobacco	940	21	0	0	2	11	1	0
Fruit								
Small Fruit	50	2	38	1	1	2	0	0
Tree Fruit	35	1	107	4	0	1	2	0
Herbs	13	2	4	0	0	0	0	0
Identification	5	1	20	1	5	1	1	1
Ornamental								
Herbaceous and Houseplants	43	15	125	11	2	7	8	3
Turfgrass	17	0	83	1	1	2	7	4
Woody	82	6	1033	52	58	7	46	3
Vegetable	224	10	156	7	2	5	0	0
Miscellaneous	4	0	5	0	0	1	0	0
Total	2111	73	1571	77	734	44	66	12
Total/Grower Type	2184		1648		778		78	

Total number of samples received = 4688

[1] Ext = Extension samples submitted via County Extension Agents or Extension Specialists.

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

Table 6.

NUMBER OF REFERRALS AND/OR CONSULTATIONS MADE WITH OTHER DEPARTMENTS, UK LAB FACILITIES OR OUTSIDE AGENCIES.

Department, Facility or outside agency	Crop Category					
	Agronomic	**Fruit**	**Ornamental**	**Vegetable**	**Other**	**Total**
Agronomy Department	92	2	13	9	4	120
Breathitt Veterinary Center	1	0	0	0	0	1
Entomology Department	13	18	84	4	3	122
Forestry Department	0	0	1	0	0	1
Horticulture Department	0	3	24	10	4	41
Regulatory Services	1	0	0	0	0	1
					Total	286
					Total number of plant samples	3844
					Percent of plant samples referred outside Diagnostic Lab for consultation	7.4%

Table 7.

SPECIAL LABORATORY TESTS PERFORMED.

Test	Number of Cases
Culturing	44
Incubation	191
Nematode extraction (total = 860)	
Pinewood nematode	14
Soybean cyst nematode	844
Other	2
Virus assays (total = 123)	
Electron Microscope	2
ELISA	111
Indicator plants (includes soil bioassays)	10
Soil tests (total = 174)	
pH	156
Soluble salts	5
pH/Soluble Salts	13
Miscellaneous tests	
Quick nitrate test (tobacco)	16

Table 8. **NUMBER OF PLANT SAMPLES RECEIVED BY COUNTY (KY AND OUT-OF-STATE SOURCES) AND CROP CATEGORY.**

COUNTY	Total	Agronomic[1]	Tobacco	Fruit	Ornamental	Vegetable	Other
ADAIR	3	0	1	0	1	1	0
ALLEN	36	3	15	1	9	7	1
ANDERSON	15	1	8	1	5	0	0
BALLARD	13	7	1	0	2	3	0
BARREN	24	5	9	2	8	0	0
BATH	16	3	6	1	5	0	1
BELL	17	0	0	1	13	2	1
BOONE	19	1	1	2	12	2	1
BOURBON	58	10	31	5	10	2	0
BOYD	12	0	0	0	11	0	1
BOYLE	37	3	4	5	24	1	0
BRACKEN	6	0	3	2	1	0	0
BREATHITT	5	0	1	2	0	2	0
BRECKINRIDGE	29	1	15	0	8	5	0
BULLITT	31	2	9	7	11	0	2
BUTLER	13	8	1	1	2	1	0
CALDWELL	91	24	27	7	21	10	2
CALLOWAY	94	6	39	3	34	12	0
CAMPBELL	42	3	4	1	27	5	2
CARLISLE	22	7	4	1	7	3	0
CARROLL	16	0	7	1	7	1	0
CARTER	20	0	13	2	5	0	0
CASEY	43	2	16	4	4	17	0
CHRISTIAN	138	30	39	10	52	6	0
CLARK	22	4	11	0	6	1	0
CLAY	4	0	1	1	2	0	0
CLINTON	7	2	3	0	0	2	0
CRITTENDEN	29	15	0	2	5	7	0
CUMBERLAND	7	1	5	1	0	0	0
DAVIESS	145	18	40	3	60	20	4
EDMONSON	4	0	0	0	2	2	0
ELLIOTT	6	0	4	0	2	0	0
ESTILL	34	4	10	5	8	6	1
FAYETTE	476	23	27	26	370	19	11
FLEMING	27	7	10	2	4	4	0
FLOYD	12	0	0	0	11	1	0
FRANKLIN	70	7	12	3	45	3	0
FULTON	21	3	0	6	5	7	0
GALLATIN	3	1	1	0	1	0	0
GARRARD	2	0	1	0	1	0	0
GRANT	3	1	2	0	0	0	0
GRAVES	40	11	11	2	10	6	0
GRAYSON	7	0	3	1	3	0	0
GREEN	7	4	1	0	2	0	0
GREENUP	9	0	0	3	5	1	0
HANCOCK	14	6	5	0	3	0	0
HARDIN	45	9	12	0	18	5	1
HARLAN	11	0	0	5	3	2	1
HARRISON	16	6	7	1	1	1	0
HART	27	1	18	1	3	4	0
HENDERSON	45	15	6	4	17	3	0
HENRY	31	6	20	0	4	1	0
HICKMAN	14	9	2	0	2	1	0
HOPKINS	58	14	8	3	25	7	1
JACKSON	20	4	4	1	6	3	2
JEFFERSON	99	0	3	9	79	5	3
JESSAMINE	16	0	4	1	9	1	1
JOHNSON	13	0	4	1	6	2	0
KENTON	10	0	0	3	4	3	0
KNOTT	14	1	0	2	11	0	0
KNOX	19	1	4	0	8	6	0

Table 8. (cont)

COUNTY	Total	Agronomic[1]	Tobacco	Fruit	Ornamental	Vegetable	Other
LARUE	29	3	17	1	2	4	2
LAUREL	22	2	8	2	5	5	0
LAWRENCE	21	0	7	0	12	2	0
LEE	4	0	1	0	3	0	0
LESLIE	11	0	0	1	2	6	2
LETCHER	3	0	0	0	3	0	0
LEWIS	34	3	17	3	10	1	0
LINCOLN	23	3	5	0	8	4	3
LIVINGSTON	10	4	0	0	5	0	1
LOGAN	45	13	13	1	13	5	0
LYON	8	1	0	3	2	1	1
McCRACKEN	84	4	2	7	56	14	1
McCREARY	11	0	2	1	4	4	0
McLEAN	31	11	6	3	7	4	0
MADISON	89	5	19	4	59	2	0
MAGOFFIN	11	0	7	0	2	2	0
MARION	14	5	1	1	4	3	0
MARSHALL	46	3	10	1	23	9	0
MARTIN	3	0	0	0	3	0	0
MASON	23	10	7	0	6	0	0
MEADE	12	3	7	0	0	1	1
MENIFEE	7	0	4	1	1	0	1
MERCER	28	5	9	2	11	1	0
METCALFE	12	2	7	0	3	0	0
MONROE	8	1	4	1	0	2	0
MONTGOMERY	49	4	16	4	20	4	1
MORGAN	24	0	12	3	4	4	1
MUHLENBERG	27	4	8	1	12	2	0
NELSON	31	9	6	2	13	1	0
NICHOLAS	15	0	9	2	3	1	0
OHIO	11	4	2	0	2	2	1
OLDHAM	21	5	5	0	10	1	0
OWEN	21	3	12	0	3	3	0
OWSLEY	6	0	4	0	2	0	0
PENDELTON	18	2	9	1	5	1	0
PERRY	9	0	0	1	7	1	0
PIKE	2	0	1	0	1	0	0
POWELL	9	1	1	0	5	2	0
PULASKI	71	9	14	5	38	4	1
ROBERTSON	11	2	3	3	2	0	1
ROCKCASTLE	15	1	4	2	5	3	0
ROWAN	12	1	3	0	7	1	0
RUSSELL	76	10	10	3	23	30	1
SCOTT	10	0	0	1	6	2	1
SHELBY	74	17	26	4	26	1	0
SIMPSON	15	2	5	1	6	1	0
SPENCER	11	0	1	0	5	4	0
TAYLOR	26	6	7	3	5	4	1
TODD	78	16	30	4	17	8	2
TRIGG	34	6	12	2	11	3	0
TRIMBLE	9	2	6	1	0	0	0
UNION	31	21	0	1	6	3	0
WARREN	58	8	6	6	28	9	1
WASHINGTON	26	2	12	1	10	1	0
WAYNE	62	8	29	1	3	21	0
WEBSTER	44	17	4	5	12	4	2
WHITLEY	31	1	9	1	12	8	0
WOLFE	11	0	9	0	1	1	0
WOODFORD	65	8	11	8	34	1	3
Out-of-State	54	3	42	1	8	0	0
TOTALS	3844	541	975	243	1616	404	65

[1] Agronomic crops include corn, soybeans, forages, rapeseed (Canola) and small grains but in this particular case, it excludes tobacco.

Table 9.

THE NUMBER OF CASES IN WHICH EXTENSION SPECIALISTS, DIAGNOSTICIANS OR RESEARCHERS WERE INVOLVED IN MAKING A PRIMARY DIAGNOSIS AND THE NUMBER OF CASES IN WHICH THEY SERVED AS CONSULTANTS.

		Number of cases	
Specialists, Researchers, Diagnosticians	Department	Primary Diagnoses[1]	Consultations[2]
LEXINGTON			
Anderson, RG	Horticulture	1	12
Bitzer, MJ	Agronomy	6	3
Case, VW	Regulatory Services	0	1
Christensen, CM	Entomology	1	1
Downy, JC	Plant Pathology	0	1
Eshenaur, BC (Diagnostician)	Plant Pathology	1818	72
Fountain, WF	Horticulture	6	2
Green, JD	Agronomy	35	28
Hartman, JR	Plant Pathology	114	38
Henning, JC	Agronomy	0	1
Kennedy, BS	Agronomy	2	2
McNiel, RE	Horticulture	2	2
Nesmith, WC	Plant Pathology	229	27
Palmer, GK	Agronomy	16	4
Powell, AJ	Agronomy	0	1
Roberts, CR	Horticulture	10	7
Scheibner, RA	Entomology	55	69
Smiley, JH	Agronomy	145	26
Strang, JG	Horticulture	0	5
Townsend, LH	Entomology	24	14
Taylor, NL	Agronomy	1	0
Vincelli, PV	Plant Pathology	119	15
Witt, ML	Horticulture	1	4
PRINCETON			
Bachi, PR (Diagnostician)	Plant Pathology	1182	17
Brown, GR	Horticulture	2	12
Dunwell, WC	Horticulture	11	26
Herbek, JH	Agronomy	11	15
Hershman, DE	Plant Pathology	32	10
Johnson, DJ	Entomology	1	13
Lacefield, GD	Agronomy	1	6
Martin, JR	Agronomy	7	52
Murdock, LW	Agronomy	0	19
Maksymowicz, WC	Agronomy	12	58
Rasnake, M	Agronomy	0	1

[1] The specialist or diagnostician signing the Plant Diagnostic Form was considered the primary diagnoser.

[2] In some cases, more than one person was consulted, however, only one name can be entered into the computer database. Therefore, these numbers may indicate fewer consultations than were actually performed.

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
		AGRONOMIC CROPS			
CORN (Zea)					
	BUGGY-WHIPPING	- UNKNOWN	1	0	1
	CHARCOAL ROT	- MACROPHOMINA	1	0	1
	CHEMICAL INJURY	- HERBICIDE, GROWTH REG.	20	0	20
	DAMPING-OFF	- PYTHIUM	1	0	1
	EAR/KERNEL ROTS	- DIPLODIA	1	0	1
		- FUSARIUM	2	0	2
		- PENICILLIUM	0	2	2
	ENVIRONMENTAL	- COMPACTION	7	0	7
		- OTHER STRESSES	6	4	10
	GRAY LEAF SPOT	- CERCOSPORA	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE, UNKNOWN		43	0	43
	INSECT INJURY		16	3	19
	NUTRITIONAL	- ACID SOIL	7	2	9
		- ZN DEFICIENCY	10	0	10
		- OTHERS	5	0	5
	RUST, COMMON	- PUCCINIA	4	0	4
	RUST, SOUTHERN	- PUCCINIA	1	0	1
	STALK ROT	- DIPLODIA	1	1	2
		- FUSARIUM	1	0	1
		- GIBBERELLA	1	0	1
		- PYTHIUM	1	0	1
		- UNKNOWN	1	0	1
	STEWART'S WILT	- ERWINIA	6	0	6
	VIRUS	- MAIZE DWARF MOSAIC	1	0	1
		- UNKNOWN	1	0	1
		FORAGES			
ALFALFA (Medicago)					
	BACTERIAL WILT	- CLAVIBACTER	7	0	7
	CHEMICAL	- HERBICIDE	1	0	1
		- INSECTICIDE	0	1	1
	CHARCOAL ROT	- MACROPHOMINA	0	1	1
	CROWN/ROOT ROT	- COMPLEX	1	0	1
	CROWN/STEM ROT	- SCLEROTINIA	13	0	13
	ENVIRONMENTAL STRESSES		4	5	9
	INADEQUATE SPECIMEN, NO DISEASE		17	0	17
	INSECT INJURY		20	5	25
	LEAF SPOT	- FUNGAL	0	2	2
		- LEPTOSPHAERULINA	29	16	45
		- STEMPHYLIUM	4	0	4
	NUTRITIONAL	- ACID SOIL	3	0	3
		- B DEFICIENCY	2	1	3
		- POOR NODULATION	1	0	1
		- OTHER	1	1	2
	ROOT ROT	- APHANOMYCES	0	1	1
		- MYCOLEPTODISCUS	0	1	1
		- PHYTOPHTHORA	14	2	16
		- PYTHIUM	2	1	3

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
ALFALFA (cont)					
	SEEDLING BLIGHT	- PHYTOPHTHORA	1	0	1
	SPRING BLACK STEM	- PHOMA	3	3	6
CLOVER (Trifolium)					
	NO DISEASE		1	0	1
	NUTRITIONAL	- P DEFICIENCY	1	0	1
FESCUE (Festuca)					
	ENDOPHYTE	- ACREMONIUM	1	0	1
	ENVIRONMENTAL	- FROST INJURY	1	0	1
	LEAF SPOT	- RHIZOCTONIA	1	0	1
	NO DISEASE		1	0	1
	PHYSIOLOGICAL	- SMOTHERING	1	0	1
ORCHARDGRASS (Dactylis)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	0	1
	LEAF SPOT	- SEPTORIA	1	0	1
	NO DISEASE		1	0	1
	RUST	- PUCCINIA	0	1	1
SUDANGRASS (Sorghum)					
	ENVIRONMENTAL	- STRESS	1	0	1
	LEAF SPOT	- UNKNOWN	1	0	1
	NO DISEASE		1	0	1
		RAPESEED			
"CANOLA" (Brassica)					
	BLACKLEG	- PHOMA	1	0	1
		SOYBEAN			
SOYBEAN (Glycine)					
	ANTHRACNOSE	- COLLETOTRICHUM	0	1	1
	BACTERIAL BLIGHT	- PSEUDOMONAS	1	0	1
	BLACK ROOT ROT	- CHARLARA	1	0	1
	BLIGHT	- FUSARIUM	2	0	2
	BROWN SPOT	- SEPTORIA	1	0	1
	CHARCOAL ROT	- MACROPHOMINA	4	0	4
	CHEMICAL INJURY	- HERBICIDE, GROWTH REG.	16	3	19
		- OTHER	5	0	5
	DOWNY MILDEW	- PERONOSPORA	1	0	1
	ENVIRONMENTAL STRESSES		19	4	23
	INADEQUATE SPECIMEN, NO DISEASE, UNKNOWN		16	0	16
	INSECT INJURY		4	0	4
	NUTRITIONAL	- MN DEFICIENCY	5	0	5
		- K DEFICIENCY	4	1	5
		- POOR NODULATION	1	1	2
		- OTHER	3	0	3
	POD STEM ROT	- DIAPORTHE	0	1	1
	PHYSICAL INJURY	- UNKNOWN	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
SOYBEAN (cont)					
	ROOT/STEM ROT	- PHYTOPHTHORA	6	0	6
		- RHIZOCTONIA	7	3	10
	SOYBEAN CYST NEMATODE - on plant samples		9	17	26
	HETERODERA	* in soil samples			788
		* absent in soil samples			56
	(*soil submitted to Nematode Lab)				
	SOUTHERN BLIGHT	- ATHELIA	3	0	3
	STEM CANKER	- DIAPORTHE	2	0	2
	SUDDEN DEATH SYNDROME	- FUSARIUM	10	0	10
	VIRUS	- SOYBEAN MOSAIC	1	0	1
		SMALL GRAINS			
BARLEY (Hordeum)					
	NO DISEASE		1	0	1
	NET BLOTCH	- DRESCHLERA	1	0	1
	VIRUS	- BARLEY YELLOW DWARF	1	0	1
OAT (Avena)					
	ENVIRONMENTAL STRESSES		4	0	4
	NO DISEASE		1	0	1
	NUTRITIONAL	- K DEFICIENCY	0	1	1
		- P DEFICIENCY	1	0	1
	VIRUS	- BARLEY YELLOW DWARF	2	0	2
RYE (Secale)					
	RUST	- PUCCINIA	1	0	1
SORGHUM (Sorghum)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	0	1
	ENVIRONMENTAL	- STRESS	0	1	1
	LEAF SPOT	- UNKNOWN	2	0	2
	NO DISEASE		1	0	1
	ROOT ROT	- RHIZOCTONIA	1	0	1
	STALK ROT	- FUSARIUM	1	0	1
	VIRUS	- MAIZE DWARF MOSAIC	0	1	1
WHEAT (Triticum)					
	BLACK CHAFF	- XANTHOMONAS	0	1	1
	CHEMICAL	- HERBICIDE	1	1	2
		- SUCKER AGENT	1	0	1
		- UNKNOWN	0	1	1
	ENVIRONMENTAL	- COLD INJURY	32	11	43
		- OTHER	10	1	11
	GLUME BLOTCH	- SEPTORIA	17	1	18
	INADEQUATE SPECIMEN, NO DISEASE		9	0	9
	INSECT INJURY		1	1	2
	LEAF BLOTCH	- SEPTORIA	4	6	10
	LEAF SPOT	- HELMINTHOSPORIUM	3	1	4
		- UNKNOWN	0	2	2

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
WHEAT (cont)					
	NUTRITIONAL	- ACID SOIL	1	0	1
		- FERTILIZER BURN	1	1	2
		- P DEFICIENCY	1	0	1
	POWDERY MILDEW	- ERYSIPHE	8	4	12
	TAKE-ALL	- GAEUMANNOMYCES	2	0	2
	VIRUS	- WHEAT SPINDLE STREAK	22	9	31
		TOBACCO			
TOBACCO (Nicotiana)					
	ALGAE	- BLUE-GREEN	3	0	3
		- UNKNOWN	0	1	1
	ANGULAR LEAF SPOT	- PSEUDOMONAS	62	5	67
	ANTHRACNOSE	- COLLETOTRICHUM	5	1	6
	BACTERIAL SOFT ROT	- ERWINIA	6	0	6
	BLACK LEG	- ERWINIA	7	4	11
	BLACK ROOT ROT	- CHARLARA	16	8	24
	BLACK SHANK	- PHYTOPHTHORA	199	0	199
	BLUE MOLD	- PERONOSPORA	32	1	33
	BROWN SPOT	- ALTERNARIA	11	3	14
	CHEMICAL INJURY	- GROWTH REGULATOR	31	0	31
		- HERBICIDE	26	2	28
		- UNKNOWN	13	3	16
	CULTURAL	- BRUISING	9	1	10
		- OTHER	6	2	8
	DAMPING OFF	- PYTHIUM	1	0	1
		- RHIZOCTONIA	1	0	1
	ENVIRONMENTAL	- COLD INJURY	16	1	17
		- COMPACTION	9	3	12
		- LIGHTNING	21	0	21
		- WET FEET	32	7	39
		- WEATHER SCALD	20	1	21
		- OTHER STRESSES	18	3	21
	FALSE BROOMRAPE	- UNKNOWN	1	0	1
	FRENCHING	- METABOLITES	2	1	3
	FROGEYE	- CERCOSPORA	2	0	2
	HOLLOW STALK	- ERWINIA	4	1	5
	IMPROPER CURING	- GREENING	2	0	2
	INADEQUATE SPECIMEN, NO DISEASE, UNKNOWN		141	0	141
	INSECT INJURY		14	2	16
	LEAF SPOT	- PHYLLOSTICTA	1	0	1
		- PHYSIOLOGICAL	3	0	3
	NUTRITIONAL	- ACID SOIL	11	0	11
		- FERTILIZER BURN	20	1	21
		- K DEFICIENCY	10	2	12
		- MN TOXICITY	48	2	50
		- N DEFICIENCY	27	3	30
		- P DEFICIENCY	25	6	31
		- OTHER	9	2	11
	PHYSICAL INJURIES		5	2	7
	PHYSIOLOGICAL	- UNKNOWN	1	0	1

CROP	DIAGNOSIS	CAUSAL AGENT	#1° DIAGs	#2 DIAGs	TOTAL
TOBACC0 (cont)					
	RAGGED SPOT	- ASCOCHYTA	1	0	1
	ROOT KNOT NEMATODE	- MELOIDOGYNE	0	2	2
	ROOT PROBLEM	- UNKNOWN	2	0	2
	ROOT ROT	- RHIZOCTONIA	10	7	17
		- PYTHIUM	3	2	5
		- UNKNOWN	0	1	1
	SENESCENCE	- NORMAL	1	0	1
	SOUTHERN BLIGHT	- ATHELIA	1	0	1
	SOFT ROT	- PYTHIUM	5	2	7
	SOOTY MOLD	- species	1	0	1
	TARGET SPOT	- RHIZOCTONIA	15	9	24
	VARIEGATION	- GENETIC	2	0	2
	VIRUS	- ALFALFA MOSAIC	2	0	2
		- COMPLEX	5	1	6
		- PEANUT STUNT	1	1	2
		- POTATO VIRUS Y	1	1	2
		- TOBACCO ETCH	8	0	8
		- TOBACCO MOSAIC	1	0	1
		- TOBACCO RINGSPOT	9	0	9
		- TOBACCO VEIN MOTTLING	1	0	1
		- TOMATO SPOTTED WILT	18	1	19
		- UNKNOWN	2	1	3
	WEATHER FLECK	- OZONE	4	0	4
	WILT	- FUSARIUM	6	2	8
		FRUIT CROPS			
		SMALL FRUITS			
BLUEBERRY (Vaccinium)					
	CANKER	- BOTRYOSPHAERIA	0	1	1
		- FUSICOCCUM	1	0	1
	CULTURAL	- INSUFFICIENT WATER	1	0	1
	ENVIRONMENTAL STRESSES		1	1	2
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	NUTRITIONAL	- FE DEFICIENCY	1	0	1
		- FERTILIZER BURN	1	0	1
		- GENERAL	1	0	1
BRAMBLES - Blackberry and Raspberry (Rubus)					
	ANTHRACNSOE	- ELSINOE	1	0	1
	CANE BLIGHT	- CONIOTHYRIUM	1	0	1
	CHEMICAL INJURY	- GROWTH REGULATOR	2	0	2
	ENVIRONMENTAL STRESSES		5	0	5
	GRAY MOLD	- BOTRYTIS	2	0	2
	INSECT INJURY		2	1	3
	LEAF SPOT	- CYLINDROSPORIUM	1	0	1
	NO DISEASE, UNKNOWN		6	0	6
	ORANGE RUST	- GYMNOCONIA	1	0	1
	ROOT ROT	- PHYTOPHTHORA	4	0	4
		- RHIZOCTONIA	0	1	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
BRAMBLES - Blackberry and Raspberry (cont)					
	VIRUS	- MOSAIC	1	0	1
		- STERILITY	2	0	2
GOOSEBERRY (Ribes)					
	FRUIT ROT	- BOTRYTIS	0	2	2
	POWDERY MILDEW	- MICROSPHAERA	1	0	1
GRAPE (Vitis)					
	ANTHRACNOSE	- ELSINOE	1	1	2
	BITTER ROT	- MELANCONIUM	1	0	1
	BLACK ROT	- GUIGNARDIA	7	0	7
	CHEMICAL INJURY	- FUNGICIDE	1	0	1
		- GROWTH REGULATOR	1	0	1
		- UNKNOWN	1	0	1
	ENVIRONMENTAL STRESS	- UNKNOWN	1	0	1
	INSECT INJURY		5	2	7
	LEAF SPOT	- PHYSIOLOGICAL	1	0	1
	NO DISEASE, UNKNOWN		7	0	7
STRAWBERRY (Fragaria)					
	ANTHRACNOSE	- ELSINOE	1	0	1
	BLACK ROOT	- RHIZOCTONIA	6	0	6
	CHEMICAL INJURY	- UNKNOWN	0	1	1
	CULTURAL	- IMPROPER PLANTING DEPTH	2	0	2
	ENVIRONMENTAL STRESS		4	2	6
	GRAY MOLD	- BOTRYTIS	0	1	1
	INADEQUATE SPECIMEN, NO DISEASE	3	0	3	
	INSECT INJURY		1	0	1
	LEAF BLIGHT	- PHOMOPSIS	4	1	5
		- RHIZOCTONIA	1	0	1
	LEAF SPOT	- MYCOSPHAERELLA	6	0	6
		TREE FRUITS			
APPLE (Malus)					
	ADVENTITIOUS ROOTING	- PHYSIOLOGICAL	1	0	1
	BITTER PIT	- CA DEFICIENCY	0	1	1
	BLACK ROT	- BOTRYOSPHAERIA	2	1	3
	CEDAR APPLE RUST	- GYMNOSPORANGIUM	4	1	5
	CANKER	- NECTRIA	1	0	1
		- UNKNOWN	1	0	1
	CORK SPOT	- CA DEFICIENCY	1	1	2
	ENVIRONMENTAL STRESSES		8	2	10
	FIRE BLIGHT	- ERWINIA	4	0	4
	FLYSPECK	- SCHIZOTHYRIUM	1	2	3
	FROGEYE	- BOTRYOSPHAERIA	5	1	6
	INADEQUATE SPECIMEN, NO DISEASE	8	0	8	
	INSECT INJURY		21	3	24
	NECROTIC LEAF BLOTCH	- PHYSIOLOGICAL	0	1	1
	NUTRITIONAL	- GENERAL	1	0	1
	ROOT ROT	- RHIZOCTONIA	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
APPLE (cont)					
	SCAB	- VENTURIA	5	1	6
	SOOTY BLOTCH	- GLOEODES	2	0	2
CHERRY (Prunus)					
	ENVIRONMENTAL	- WINTER INJURY	11	0	11
	INADEQUATE SPECIMEN, NO DISEASE		5	0	5
	INSECT INJURY		5	0	5
	LEAF SPOT	- BLUMERIELLA	0	1	1
		- PHYLLOSTICTA	1	0	1
GRAPEFRUIT (Citrus)					
	INSECT INJURY		1	0	1
ORANGE (Citrus)					
	INSECT INJURY		1	0	1
PEACH (Prunus)					
	BROWN ROT	- MONILINIA	1	0	1
	ENVIRONMENTAL STRESSES		4	0	4
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	INSECT INJURY		3	1	4
PEAR (Pyrus)					
	CHEMICAL INJURY	- HERBICIDE	2	0	2
	ENVIRONMENTAL STRESSES		5	0	5
	FIRE BLIGHT	- ERWINIA	2	0	2
	INSECT INJURY		1	1	2
	NO DISEASE		3	0	3
	SOOTY MOLD	- species	2	0	2
PECAN (Carya)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	INSECT INJURY		3	1	4
PLUM (Prunus)					
	BLACK KNOT	- APIOSPORINA	2	0	2
	ENVIRONMENTAL STRESSES		2	1	3
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	INSECT INJURY		5	1	6
	LEAF SPOT	- COCCYMYCES	1	0	1
	PLUM POCKETS	- TAPHRINA	2	0	2
	SCAB	- VENTURIA	1	0	1
QUINCE (Cydonia)					
	CEDAR QUINCE RUST	- GYMNOSPORANGIUM	1	0	1
	INADEQUATE SPECIMEN		1	0	1
WALNUT (Juglans)					
	ENVIRONMENTAL STRESS		1	0	1
	INSECT INJURY		1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1° DIAGs*	*#2 DIAGs*	*TOTAL*
		HERBS			
BASIL (Ocimum)					
	INSECT INJURY		2	0	2
BAY (Persea)					
	NO DISEASE		1	0	1
BEE-BALM (Monarda)					
GINSENG (Panax)					
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
	ENVIRONMENTAL	- COMPACTION	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	INSECT INJURY		2	2	4
	ROOT ROT	- PHYTOPHTHORA	4	0	4
MINT (Mentha)					
	ENVIRONMENTAL	- FROST INJURY	1	0	1
ROSEMARY (Rosmarinus)					
	POWDERY MILDEW	- OIDIUM	1	0	1
SAGE (Salvia)					
	NO DISEASE		2	0	2
THYME (Thymus)					
	POWDERY MILDEW	- species	1	0	1
YARROW (Achillea)					
	INSECT INJURY		1	0	1
		IDENTIFICATIONS			
FUNGAL IDENTIFICATION					
	AGARICUS	- CAMPESTRIS	1	0	1
	BASIDIOMYCETE	- SHIITAKE	2	0	2
	CALVATIA	- GIGANTEA	1	0	1
	CHLOROPHYLLUM	- MOLYBDITES	1	0	1
	PENICILLIUM	- species	3	0	3
	PHAEOLUS	- species	1	0	1
	PLUEROTUS	- SAPIDUS	1	0	1
	RUSSULA	- EMETICA	1	0	1
	SAPROPHYTE	- HYPHOMYCETE	1	0	1
	TREMELLACEAE	- species	2	0	2
	USNIA (Lichen)	- species	1	0	1
PLANT IDENTIFICATION					
	ACER	- RUBRUM	1	0	1
	AGROSTIS	- species	1	0	1
	ALGAE	- BLUE-GREEN	1	0	1

CROP	DIAGNOSIS	CAUSAL AGENT	#1° DIAGs	#2 DIAGs	TOTAL
PLANT IDENTIFICATION (cont)					
	CUCURBITA	- species	2	0	2
	DRACAENA	- MARGINATO	1	0	1
	EUONYMUS	- KIAUTSCHOVIC	1	0	1
	MAHONIA	- AQUIFOLIUM	1	0	1
	MALUS	- species	1	0	1
	MOMORDICA	- CHARANTIA	1	0	1
	MORUS	- ALBA	2	0	2
	ORIGANUM	- MARJORANA	1	0	1
	RANUNCULUS	- species	3	0	3
	REFERRAL	- AGRONOMY	1	0	1
	REFERRAL	- HORTICULTURE	1	0	1
	STAPHYLEA	- TRIFOLIA	1	0	1
	TRIFOLIUM	- PRATENSE	1	0	1
	TRITICALE	- species	1	0	1
		MISCELLANEOUS			
DANDELION (Taraxacum)					
	POWDERY MILDEW	- species	1	0	1
SOIL					
	INSECT	- MITE	1	0	1
	NO DISEASE		3	0	3
	ALFALFA SOIL	- PYTHIUM species	1	0	1
THISTLE (Cirsium)					
	NO DISEASE		2	0	2
UNKNOWN			2	0	2
		ORNAMENTALS			
		HERBACEOUS ORNAMENTALS AND INDOOR PLANTS			
AEGOPODIUM (Aegopodium)					
	INSECT INJURY		1	0	1
	LEAF BLIGHT	- ALTERNARIA	1	0	1
AFRICAN VIOLET (Saintpaulia)					
	ENVIRONMENTAL	- COLD INJURY	1	0	1
	NO DISEASE		3	0	3
AJUGA (Ajuga)					
	CROWN ROT	- ATHELIA	1	0	1
ALYSSUM (Lobularia)					
	CHEMICAL INJURY	- BURN	1	0	1
BABYS BREATH (Gypsophila)					
	CROWN GALL	- AGROBACTERIUM	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
BEGONIA (Begonia)					
	CULTURAL	- OEDEMA	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	INSECT INJURY		1	0	1
	SLIME MOLD	- species	1	0	1
BENJAMIN FIG (Ficus)					
	CANKER	- PHOMOPSIS	1	0	1
	NO DISEASE		2	0	2
BLUEBEARD (Caryopteris)					
	NO DISEASE		1	0	1
CACTUS (various)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	0	1
	NO DISEASE		1	0	1
	NUTRITIONAL	- HIGH SOLUBLE SALTS	1	0	1
CALATHEA (Calathea)					
	INSECT INJURY		1	0	1
CAMPANULA (Campanula)					
	CULTURAL	- OVERWATERING	0	1	1
	ROOT ROT	- UNKNOWN	1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	1	0	1
CHRYSANTHEMUM (Chrysanthemum)					
	BACTERIAL BLIGHT	- ERWINIA	1	0	1
	ENVIRONMENTAL STRESS		1	0	1
	NO DISEASE		5	0	5
	NUTRITIONAL	- GENERAL	1	0	1
	WILT	- FUSARIUM	1	0	1
CLEMATIS (Clematis)					
	NO DISEASE		1	0	1
CLEOME (Cleome)					
	SOUTHERN BLIGHT	- ATHELIA	1	0	1
CORALBELL (Heuchera)					
	ENVIRONMENTAL	- WINTER INJURY			
COREOPSIS (Coreopsis)					
	SOUTHERN BLIGHT	- ATHELIA	1	0	1
CYPHOMANDRA (Cyphomandra)					
	ENVIRONMENTAL	- COLD INJURY	1	0	1
DAHLIA (Dahlia)					
	VIRUS	- UNKNOWN	1	0	1
DRACAENA (Dracaena)					
	CULTURAL	- OEDEMA	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
FERN (Various)					
	INADEQUATE SPECIMEN		1	0	1
FUCHSIA (Fuchsia)					
	GRAY MOLD	- BOTRYTIS	2	0	2
GAILLAROIA (Gaillaroia)					
	INSECT INJURY		1	0	1
GARDENIA (Gardenia)					
	ENVIRONMENTAL	- WET FEET	1	0	1
	NUTRITIONAL	- HIGH SOLUBLE SALTS	0	1	1
GERANIUM (Pelargonium)					
	BACTERIAL BLIGHT	- XANTHOMONAS	5	0	5
	BLACK ROOT ROT	- CHARLARA	1	0	1
	BLACK STEM ROT	- FUSARIUM	1	0	1
	CULTURAL	- OEDEMA	4	1	5
	ENVIRONMENTAL STRESSES		1	1	2
	INSECT INJURY		0	1	1
	LEAF SPOT	- CERCOSPORA	1	0	1
	NO DISEASE		5	0	5
	NUTRITIONAL	- ACID SOIL	1	0	1
		- FE DEFICIENCY	1	0	1
		- GENERAL	1	0	1
		- HIGH SOLUBLE SALTS	2	0	2
		- N DEFICIENCY	1	0	1
		- PH HIGH	0	1	1
	VIRUS	- TOMATO SPOTTED WILT	1	0	1
GLADIOLUS (Gladiolus)					
	VIRUS	- UNKNOWN	2	0	2
GODETIA (Godetia)					
	BACTERIAL BLIGHT	- XANTHOMONAS	2	0	2
	GRAY MOLD	- BOTRYTIS	0	1	1
	ROOT ROT	- RHIZOCTONIA	1	0	1
HEATHER (Calluna)					
	NO DISEASE		1	0	1
HOLLYHOCK (Althaea)					
	RUST	- PUCCINIA	1	0	1
HOSTA (Hosta)					
	NO DISEASE		10	1	
IMPATIENS (Impatiens)					
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
	ENVIRONMENTAL STRESS		1	0	1
	GRAY MOLD	- BOTRYTIS	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		7	0	7
	INSECT INJURY		1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
IMPATIENS (cont)					
	NUTRITIONAL	- FERTILIZER BURN	1	0	1
		- N DEFICIENCY	2	0	2
	PHYSICAL INJURY	- UNKNOWN	1	0	1
	ROOT ROT	- RHIZOCTONIA	2	1	3
	VIRUS	- TOMATO SPOTTED WILT	3	0	3
IRIS (Iris)					
	BACTERIAL LEAF SPOT	- PSEUDOMONAS	1	0	1
	BACTERIAL SOFT ROT	- ERWINIA	3	0	3
	LEAF BLIGHT	- XANTHOMONAS	0	1	1
	LEAF SPOT	- DIDYMELLINA	2	0	2
		- HETEROSPORIUM	3	0	3
		- MICROSPHAERELLA	0	1	1
	NO DISEASE		1	0	1
IVY (Various)					
	CANKER	- COLLETOTRICHUM	2	0	2
	ENVIRONMENTAL	- WINTER INJURY	2	0	2
	LEAF SPOT	- COLLETOTRICHUM	1	1	2
		- PHYLLOSTICTA	4	0	4
JADE PLANT (Crassula)					
	ROOT ROT	- RHIZOCTONIA	1	0	1
LANTANA (Lantana)					
	CHEMICAL INJURY	- UNKNOWN	0	1	1
	INSECT INJURY		1	0	1
LIATRUS (Liatrus)					
	NO DISEASE		2	0	2
LILY (Lilium)					
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	LEAF SPOT	- UNKNOWN	1	0	1
LOBELIA (Lobelia)					
	NO DISEASE		1	0	1
LUPINE (Lupine)					
	NUTRITIONAL	- GENERAL	1	0	1
MARANTA (Maranta)					
	CULTURAL	- INSUFFICIENT WATER	1	0	1
MARIGOLD (Tagetes)					
	INSECT INJURY		2	0	2
	LEAF SPOT	- ALTERNARIA	1	0	1
	ROOT ROT	- RHIZOCTONIA	1	0	1
	WILT	- FUSARIUM	0	1	1
MYOSOTIS (Myosotis)					
	NUTRITIONAL	- GENERAL	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
NASTURTIUM (Nasturtium)					
	NO DISEASE		3	0	3
	NUTRITIONAL	- GENERAL	1	0	1
NEOMARICA (Neomarica)					
	INSECT INJURY		1	0	1
NEPETA (Nepeta)					
	CHEMICAL INJURY	- BURN	1	0	1
ORCHID (Various)					
	BROWN SPOT	- PSEUDOMONAS	1	0	1
PACHYSANDRA (Pachysandra)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	LEAF/STEM BLIGHT	- PSEUDONECTRIA	4	0	4
	NUTRITIONAL	- HIGH PH	1	0	1
PALM (Various)					
	CULTURAL	- OVERWATERING	1	0	1
	INSECT INJURY		1	0	1
PANSY (Viola)					
	BOTRYTIS BLIGHT	- BOTRYTIS	1	0	1
	NO DISEASE		1	0	1
PEONY (Paeonia)					
	ANTHRACNOSE	- GLOEOSPORIUM	0	1	1
	INSECT INJURY		1	0	1
	LEAF SPOT	- ALTERNARIA	1	0	1
	NO DISEASE		2	0	2
	RED SPOT	- CLADOSPORIUM	2	0	2
PETUNIA (Petunia)					
	NO DISEASE		2	0	2
	NUTRITIONAL	- FERTILIZER BURN	1	0	1
		- GENERAL	1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	2	0	2
PHILODENDRON (Philodendron)					
	LEAF SPOT	- COLLETOTRICHUM	1	0	1
PHLOX (Phlox)					
	BLACK ROOT ROT	- CHARLARA	1	0	1
	INSECT INJURY		1	0	1
	SOUTHERN BLIGHT	- ATHELIA	1	0	1
POINSETTIA (Euphorbia)					
	GRAY MOLD	- BOTRYTIS	0	1	1
	NO DISEASE		1	0	1
	NUTRITIONAL	- CA DEFICIENCY	1	0	1
		- HIGH SOLUBLE SALTS	1	0	1
	SOOTY MOLD	- species	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
SALVIA (Salvia)					
	INSECT INJURY		1	0	1
SCHEFFLERA (Brassaia)					
	ANTHRACNSOE	- COLLETOTRICHUM	1	0	1
	CULTURAL	- OEDEMA	1	0	1
		- STRESS	0	1	1
	ENVIRONMENTAL	- STRESS	1	0	1
	INSECT INJURY		1	0	1
	LEAF BLIGHT	- PSEUDOMONAS	1	0	1
	NO DISEASE		3	0	3
SNAPDRAGON (Antirrhinum)					
	NO DISEASE		1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	3	0	3
	STEM BLIGHT	- PHYLLOSTICTA	1	0	1
	VIRUS	- TOMATO SPOTTED WILT	2	0	2
SPATHIPHYLLUM (Spathiphyllum)					
	NO DISEASE		2	0	2
SWEET WILLIAM (Dianthus)					
	CHEMICAL INJURY	- BURN	1	0	1
TULIP (Tulipa)					
	BLIGHT	- BOTRYTIS	4	0	4
UNKNOWN					
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
	INADEQUATE SPECIMEN		1	0	1
VERBENA (Verbena)					
	CHEMICAL INJURY	- BURN	1	0	1
	CULTURAL	- HIGH TEMPERATURE	1	0	1
VINCA (Vinca)					
	CANKER/DIEBACK	- PHOMA	1	0	1
	GRAY MOLD	- BOTRYTIS	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	INSECT INJURY		1	0	1
	ROOT ROT	- RHIZOCTONIA	2	0	2
WALLFLOWER (Cheiranthus)					
	NO DISEASE		1	0	1
WANDERING JEW (Zebrina)					
	NO DISEASE		1	0	1
YUCCA (Yucca)					
	PHYSICAL INJURY	- UNKNOWN	1	0	1
ZINNIA (Zinnia)					
	BACTERIAL SPOT	- BACTERIAL	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
		TURFGRASS			
BENTGRASS (Agrostis)					
	ANTHRACNOSE	- COLLETOTRICHUM	2	0	2
	BLIGHT	- FUSARIUM	1	0	1
		- PYTHIUM	1	0	1
	BROWN PATCH	- RHIZOCTONIA	1	0	1
	CULTURAL	- OVERWATERING	1	0	1
	ENVIRONMENTAL	- WET FEET	1	0	1
	NO DISEASE		3	0	3
	NECROTIC RING SPOT	- LEPTOSPHAERIA	1	0	1
	ROOT ROT	- PYTHIUM	2	1	3
	SUMMER PATCH	- PHIALOPHORA	1	0	1
BLUEGRASS (Poa)					
	BLIGHT	- PYTHIUM	1	0	1
	BROWN PATCH	- RHIZOCTONIA	4	1	5
	CULTURAL	- HEAVY THATCH	4	2	6
	DOLLAR SPOT	- LANZIA./MOELL.	3	0	3
	ENVIRONMENTAL STRESSES		4	2	6
	FAIRY RING	- BASIDIOMYCETE	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		10	0	10
	LEAF BLIGHT	- ASCOCHYTA	0	1	1
	LEAF SPOT	- HELMINTHOSPORIUM	1	0	1
		- RHIZOCTONIA	1	0	1
	NECROTIC RING SPOT	- LEPTOSPHAERIA	1	0	1
	NUTRITIONAL	- ACID SOIL	1	0	1
	POWDERY MILDEW	- ERYSIPHE	1	0	1
	RED THREAD	- LAETISARIA	1	0	1
	ROOT PROBLEM	- UNKNOWN	1	0	1
	ROOT ROT	- PYTHIUM	1	0	1
		- UNKNOWN	1	0	1
	SUMMER PATCH	- PHIALOPHORA	5	1	6
FESCUE (Festuca)					
	ALGAE	- GREEN	1	0	1
		- RED	1	0	1
	BLIGHT	- PYTHIUM	2	0	2
	BROWN PATCH	- RHIZOCTONIA	8	0	8
	CHEMICAL INJURY	- UNKNOWN	1	0	1
	CULTURAL	- HEAVY THATCH	1	0	1
	ENVIRONMENTAL STRESSES		4	2	6
	FAIRY RING	- BASIDIOMYCETE	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		6	0	6
	LEAF SPOT	- SAPHROPHYTIC	0	1	1
	NUTRITIONAL	- GENERAL	3	0	3
	ROOT PROBLEM	- RHIZOCTONIA	1	0	1
	SLIME MOLD	- species	1	0	1
	SUMMER PATCH	- PHIALOPHORA	3	0	3
RYEGRASS (Lolium)					
	BROWN PATCH	- RHIZOCTONIA	1	1	2
	ENVIRONMENTAL	- STRESS	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
RYEGRASS (cont)					
	NO DISEASE		1	0	1
	SUMMER PATCH	- PHIALOPHORA	1	0	1
TURF (Various)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	1	2
	BLIGHT	- FUSARIUM	1	0	1
	BROWN PATCH	- RHIZOCTONIA	4	0	4
	CULTURAL	- HEAVY THATCH	1	0	1
	ENVIRONMENTAL STRESSES		1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		5	0	5
	LEAF SPOT	- ASCOCHYTA	0	1	1
		- DRECHSLERA	0	1	1
		- RHIZOCTONIA	1	0	1
	POWDERY MILDEW	- ERYSIPHE	4	0	4
	SLIME MOLD	- species	1	0	1
	SUMMER PATCH	- PHIALOPHORA	2	1	3
ZOYSIA (Zoysia)					
	ENVIRONMENTAL STRESS		1	0	1
	RUST	- PUCCINIA	1	0	1

WOODY ORNAMENTALS

ARBORVITAE (Thuja)					
	ENVIRONMENTAL STRESS		1	0	1
	INSECT INJURY		5	0	5
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	SENESCENCE	- NATURAL	1	0	1
	TWIG BLIGHT	- PESTALOTIOPSIS	1	0	1
ASH (Fraxinus)					
	ANTHRACNOSE	- DISCULA	5	0	5
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL STRESSES		2	0	2
	INSECT INJURY		2	2	4
	NO DISEASE		1	0	1
AZALEA - See Rhododendron					
BALDCYPRESS (Taxodium)					
	LEAF SCORCH	- UNKNOWN	1	0	1
BARBERRY (Berberis)					
	CULTURAL	- INSUFFICIENT WATER	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	11	0	11
		- OTHER	2	0	2
	INSECT INJURY		1	0	1
	NO DISEASE		2	0	2

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
BEECH (Fagus)					
	ANTHRACNOSE	- GLOMERELLA	1	0	1
	CANKER	- NECTRIA	1	0	1
	ENVIRONMENTAL STRESS		1	0	1
	LEAF SCORCH	- UNKNOWN	1	0	1
	PHYSICAL INJURY	- CONSTRUCTION	1	0	1
BIRCH (Betula)					
	CHEMICAL INJURY	- BURN	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	INSECT INJURY		0	1	1
	LEAF SPOT	- CYLINDROSPORIUM	1	0	1
		- DISCULA	5	0	5
	NO DISEASE		3	0	3
	CULTURAL	- TRANSPLANT SHOCK	2	0	2
BOXELDER (Acer)					
	CANKER	- BOTRYOSPHAERIA	1	0	1
	INSECT INJURY		2	1	3
BOXWOOD (Buxus)					
	BRANCH BLIGHT	- COLLETOTRICHUM	2	0	2
	CANKER	- PSEUDONECTRIA	2	0	2
	CHEMICAL INJURY	- BURN	1	0	1
		- UNKNOWN	1	0	1
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	11	1	12
		- OTHER	4	1	5
	INSECT INJURY		1	0	1
	LEAF SCORCH	- WINTER DRYING	1	0	1
	LEAF SPOT	- COLLETOTRICHUM	1	1	2
		- MACROPHOMA	3	1	4
	NO DISEASE		2	0	2
	PHYSICAL INJURY	- UNKNOWN	1	0	1
	ROOT ROT	- PHYTOPHTHORA	1	0	1
CHAMAECYPARIS (Chamaecyparis)					
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL	- FROST INJURY	1	0	1
	INADEQUATE SPECIMEN		1	0	1
	PHYSICAL INJURY	- RODENT	1	0	1
	SENESCENCE	- NATURAL	1	0	1
CHERRY (Prunus)					
	CANKER	- DIAPORTHE	0	1	1
	CHEMICAL	- HERBICIDE	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	7	0	7
		- OTHERS	2	0	2
	INADEQUATE SPECIMEN, NO DISEASE		3	0	3
CHESTNUT (Castanea)					
	INSECT INJURY		1	0	1
	LEAF SPOT	- PHOMA	1	0	1

CROP	DIAGNOSIS	CAUSAL AGENT	#1 DIAGs	#2 DIAGs	TOTAL
CHESTNUT (cont)					
	NO DISEASE		1	0	1
	SOOTY MOLD	- species	1	0	1
CLEMATIS (Clematis)					
	NUTRITIONAL	- GENERAL	1	0	1
COTONEASTER (Cotoneaster)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	INSECT INJURY		1	0	1
COTTONWOOD (Populus)					
	INSECT INJURY		1	0	1
	NUTRITIONAL	- GENERAL	1	0	1
CRABAPPLE (Malus)					
	CEDAR/APPLE RUST	- GYMNOSPORANGIUM	0	1	1
	ENVIRONMENTAL STRESSES		2	1	3
	FROGEYE	- BOTRYOSPHAERIA	1	0	1
	INSECT INJURY		1	1	2
	LEAF SPOT	- ENTOMOSPORIUM	1	0	1
	NO DISEASE		3	0	3
	SCAB	- VENTURIA	17	0	17
DOGWOOD (Cornus)					
	ANTHRACNOSE	- DISCULA	13	0	13
	CALLUS	- NORMAL	1	0	1
	CHEMICAL INJURY	- HERBICIDE	1	1	2
	CULTURAL INJURY	- IMPROPER DEPTH	1	0	1
		- INSUFFICIENT WATER	4	0	4
		- TRANSPLANT SHOCK	7	1	8
	ENVIRONMENTAL STRESSES		36	1	37
	INADEQUATE SPECIMEN, NO DISEASE		29	0	29
	INSECT INJURY		3	2	5
	LEAF SCORCH	- UNKNOWN	11	0	11
	LEAF SPOT	- SEPTORIA	1	0	1
	PHYSICAL INJURY	- MOWING	1	0	1
	SPOT ANTHRACNOSE	- ELSINOE	2	0	2
ELM (Ulmus)					
	CANKER	- NECTRIA	1	0	1
		- UNKNOWN	1	0	1
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	DUTCH ELM DISEASE	- CERATOCYSTIS	5	0	5
	ENVIRONMENTAL STRESSES		3	0	3
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	INSECT INJURY		3	1	4
	LEAF SCORCH	- UNKNOWN	1	0	1
	PHLOEM NECROSIS	- MLO	1	0	1
	PHYSICAL INJURY	- UNKNOWN	1	0	1
	WOOD DECAY	- BASIDIOMYCETE	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
EUONYMUS (Euonymus)					
	ANTHRACNOSE	- GLOEOSPORIUM	1	0	1
	CROWN GALL	- AGROBACTERIUM	8	0	8
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL STRESSES		4	0	4
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	INSECT INJURY		8	1	9
	PHYSICAL INJURY	- RODENT	1	0	1
	ROOT PROBLEM	- UNKNOWN	1	0	1
FIR (Abies)					
	CULTURAL INJURY	- TRANSPLANT SHOCK	1	0	1
FORSYTHIA (Forsythia)					
	NO DISEASE		1	0	1
	ROOT PROBLEM	- UNKNOWN	1	0	1
GOATSBEARD (Aruncus)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	0	1
GINKO (Ginko)					
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	NO DISEASE		1	0	1
HACKBERRY (Celtis)					
	ENVIRONMENTAL	- COLD INJURY	1	0	1
	INSECT INJURY		2	0	2
	WITCHES BROOM	- UNKNOWN	0	1	1
HAWTHORN (Crataegus)					
	CEDAR-HAWTHORN RUST	- GYMNOSPORANGIUM	5	1	6
	DECLINE	- ENVIRONMENTAL	1	0	1
	FIRE BLIGHT	- ERWINIA	1	0	1
	INSECT INJURY		1	0	1
HEMLOCK (Tsuga)					
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL STRESSES		2	0	2
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	INSECT INJURY		1	0	1
	ROOT PROBLEM	- UNKNOWN	2	0	2
HIBISCUS (Hibiscus)					
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
	WILT	- FUSARIUM	1	0	1
HICKORY (Carya)					
	GALL	- PHOMOPSIS	1	0	1
	LEAF BLOTCH	- GNOMONIA	1	0	1
	NO DISEASE		1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
HOLLY (Ilex)					
	BLACK ROOT ROT	- CHARLARA	3	0	3
	CHEMICAL INJURY	- BURN	1	0	1
		- UNKNOWN	1	0	1
	CROWN GALL	- AGROBACTERIUM	1	0	1
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	17	1	18
		- OTHERS	5	2	7
	INADEQUATE SPECIMEN, NO DISEASE		15	0	15
	INSECT INJURY		2	4	6
	LEAF SCORCH	- WINTER DRYING	2	0	2
	LEAF SPOT	- FUNGAL	3	2	5
		- PHYLLOSTICTA	2	1	3
		- SEPTORIA	1	0	1
	NUTRITIONAL	- HIGH PH	2	0	2
	ROOT ROT	- RHIZOCTONIA	1	1	2
HONEYLOCUST (Gleditsia)					
	ANTHRACNOSE	- COLLETOTRICHUM	1	0	1
	CANKER	- THYRONECTRIA	1	0	1
	INSECT INJURY		1	0	1
HONEYSUCKLE (Lonicera)					
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	POWDERY MILDEW	- species	1	0	1
HORNBEAM (Carpinus)					
	ENVIRONMENTAL STRESS		1	0	1
HYDRANGEA (Hydrangea)					
	LEAF SCORCH	- UNKNOWN	1	0	1
	NO DISEASE		2	0	2
	NUTRITIONAL	- N DEFICIENCY	1	0	1
	SENESCENCE	- NATURAL	1	0	1
JUNIPER (Juniperus)					
	CEDAR/APPLE RUST	- GYMNOSPORANGIUM	1	0	1
	CULTURAL	- INSUFFICIENT WATER	1	0	1
		- OVERCROWDING	1	0	1
		- TRANSPLANT SHOCK	2	0	2
	ENVIRONMENTAL STRESSES		4	1	5
	INSECT INJURY		25	5	30
	INADEQUATE SPECIMEN, NO DISEASE		13	0	13
	NEEDLE BLIGHT	- PESTALOTIOPSIS	3	0	3
	ROOT PROBLEM	- UNKNOWN	3	0	3
	TWIG BLIGHT	- KABATINA	5	1	6
		- PHOMOPSIS	3	0	3
LILAC (Syringa)					
	BACTERIAL BLIGHT	- PSEUDOMONAS	2	1	3
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL STRESSES		3	0	3

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
LILAC (cont)					
	LEAF SCORCH	- ENVIRONMENTAL	1	0	1
	NO DISEASE		1	0	1
LINDEN (Tilia)					
	INSECT INJURY		1	0	1
	ROOT PROBLEM	- UNKNOWN	1	0	1
LOCUST (Robinia)					
	INSECT INJURY		1	0	1
	NO DISEASE		2	0	2
MAGNOLIA (Magnolia)					
	ENVIRONMENTAL	- WINTER INJURY	7	0	7
		- OTHER	1	1	2
	INSECT INJURY		3	0	3
	LEAF SCORCH	- UNKNOWN	1	0	1
	LEAF SPOT	- PSEUDOMONAS	3	0	3
	NO DISEASE		3	0	3
	PUBESCENCE	- NORMAL	1	0	1
	WOOD DECAY	- BASIDIOMYCETE	1	0	1
MAHONIA (Mahonia)					
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
MAPLE (Acer)					
	ANTHRACNOSE	- KABATIELLA	26	2	28
		- DISCULA	2	0	2
	CANKER	- BOTRYOSPHAERIA	2	1	3
		- NECTRIA	1	0	1
	CHEMICAL INJURY	- HERBICIDE	1	0	1
		- UNKNOWN	1	0	1
	CULTURAL	- TRANSPLANT SHOCK	5	1	6
		- GIRDLING ROOT	2	0	2
	DECLINE	- ENVIRONMENTAL	3	0	3
	ENVIRONMENTAL STRESSES		15	2	17
	GALL	- UNKNOWN	0	1	1
	INADEQUATE SPECIMEN, NO DISEASE		37	0	37
	INSECT INJURY		16	7	23
	LEAF SCORCH	- ENVIRONMENTAL, UNKNOWN	8	0	8
	LEAF SPOT	- PHYLLOSTICTA	7	1	8
	NUTRITIONAL	- GENERAL	1	0	1
	PHYSICAL INJURY	- PRUNING, UNKNOWN	2	0	2
	ROOT PROBLEM	- UNKNOWN	2	0	2
	SOOTY MOLD	- species	1	1	2
	TAR SPOT	- RHYTISMA	1	0	1
	WILT	- VERTICILLIUM	9	0	9
MOUNTAIN LAUREL (Kalmia)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	LEAF SPOT	- FUNGAL	1	0	1
		- PHYLLOSTICTA	1	0	1
	NO DISEASE		1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
OAK (Quercus)					
	ANTHRACNOSE	- APIOGNOMONIA	1	0	1
	BACTERIAL SCORCH	- XYLELLA	34	0	34
	CANKER	- BOTRYOSPHAERIA	1	0	1
		- PYRENODIAETA	0	1	1
		- UNKNOWN	1	0	1
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
		- HERBICIDE	1	1	2
	CULTURAL	- TRANSPLANT SHOCK	2	0	2
	DECLINE	- ENVIRONMENTAL	4	0	4
	ENVIRONMENTAL STRESSES		3	3	6
	INADEQUATE SPECIMEN, NO DISEASE		61	0	61
	INSECT INJURY		26	7	33
	LEAF BLISTER	- TAPHRINA	1	0	1
	LEAF SCORCH	- UNKNOWN	0	1	1
	LEAF SPOT	- TUBAKIA	13	0	13
	NUTRITIONAL	- FE DEFICIENCY	3	1	4
	POWDERY MILDEW	- species	5	0	5
	SOOTY MOLD	- species	0	2	2
	WETWOOD	- BACTERIAL	1	0	1
	WILT	- CERATOCYSTIS	1	0	1
PAULOWNIA (Paulownia)					
	NO DISEASE		1	0	1
PEAR (Pyrus)					
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
		- HERBICIDE	1	0	1
	CULTURAL	- HEAVY SOIL	1	0	1
		- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL	- COLD INJURY	2	0	2
	FIRE BLIGHT	- ERWINIA	2	0	2
	LEAF SCORCH	- UNKNOWN	1	0	1
	LEAF SPOT	- FABRAEA	1	0	1
	NO DISEASE		2	0	2
PERSIMMON (Diospyros)					
	INADEQUATE SPECIMEN, NO DISEASE		2	0	2
	LEAF SPOT	- UNKNOWN	1	0	1
PIERIS (Pieris)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	NO DISEASE		1	0	1
PINE (Pinus)					
	CANKER	- LEUCOSTOMA	2	0	2
	CHARCOAL ROT	- MACROPHOMINA	1	0	1
	CHEMICAL INJURY	- HERBICIDE, UNKNOWN	2	0	2
	CULTURAL	- "J" ROOT	0	1	1
		- GIRDLING ROOT	1	0	1
		- TRANSPLANT SHOCK	5	0	5
	ENVIRONMENTAL STRESSES		20	3	23
	FUSIFORM RUST	- CRONARTIUM	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
PINE (cont)					
	INADEQUATE SPECIMEN, NO DISEASE		41	0	41
	INSECT INJURY		24	7	31
	NEEDLE CAST	- CYCLANEUSMA	1	0	1
		- LOPHODERMIUM	4	1	5
		- UNKNOWN	4	0	4
	NEEDLE DROP	- NORMAL	4	0	4
	NEEDLE RUST	- COLEOSPORIUM	3	0	3
	NUTRITIONAL	- HIGH PH	2	0	2
	PHYSICAL INJURY	- CONSTRUCTION	1	0	1
		- UNKNOWN	2	0	2
	PINEWOOD NEMATODE	- BURSAPHELENCUS	1	0	1
	ROOT ROT	- UNKNOWN	1	0	1
	SOOTY MOLD	- species	1	0	1
	TIP BLIGHT	- SPHAEROPSIS	12	0	12
	WOOD DECAY	- BASIDIOMYCETE	1	0	1
	WHITE PINE DECLINE	- ENVIRONMENTAL	18	2	20
PLUM (Prunus)					
	INSECT INJURY		2	0	2
	NO DISEASE		2	0	2
POPLAR (Populus)					
	ENVIRONMENTAL STRESS		1	0	1
	INSECT INJURY		4	0	4
	NO DISEASE		2	0	2
	WILT	- VERTICILLIUM	1	0	1
POTENTILLA (Potentilla)					
	LEAF SPOT	- ENTOMOSPORIUM	1	0	1
PRIVET (Ligustrum)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	NO DISEASE		1	0	1
PYRACANTHA (Pyracantha)					
	ENVIRONMENTAL STRESSES		2	0	2
	FIRE BLIGHT	- ERWINIA	1	0	1
	SCAB	- SPILOCAEA	1	0	1
REDBUD (Cercis)					
	CHEMICAL INJURY	- HERBICIDE	2	0	2
	ENVIRONMENTAL	- COLD INJURY	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	LEAF SPOT	- PESTALOTIOPSIS	1	0	1
	WILT	- VERTICILLIUM	2	0	2
RHODODENDRON and AZALEA (Rhododendron)					
	CULTURAL	- INSUFFICIENT WATER	1	1	2
		- POOR PLANTING	1	0	1
		- REPOTTING	1	0	1
		- TRANSPLANT SHOCK	4	0	4
	DIEBACK	- BOTRYOSPHAERIA	2	0	2

CROP	DIAGNOSIS	CAUSAL AGENT	#1 DIAGs	#2 DIAGs	TOTAL
RHODODENDRON and AZALEA (cont)					
	ENVIRONMENTAL STRESSES		13	2	15
	INADEQUATE SPECIMEN, NO DISEASE		24	0	24
	INSECT INJURY		6	0	6
	LEAF SCORCH	- WINTER DRYING	3	0	3
	LEAF SPOT	- COLLETOTRICHUM	2	0	2
		- FUNGAL	1	0	1
		- PHYLLOSTICTA	1	0	1
		- UNKNOWN	1	0	1
	LEAF/FLOWER GALL	- EXOBASIDIUM	3	0	3
	NUTRITIONAL	- ACID SOIL	2	0	2
		- CA DEFICIENCY	1	0	1
		- FE DEFICIENCY	1	1	2
		- MG DEFICIENCY	0	1	1
		- HIGH PH	2	1	3
	POWDERY MILDEW	- MICROSPHAERA	0	1	1
	ROOT PROBLEM	- UNKNOWN	2	0	2
	ROOT ROT	- PHYTOPHTHORA	3	0	3
		- UNKNOWN	1	0	1
	SOOTY MOLD	- species	1	0	1
ROSE (Rosa)					
	BLACK SPOT	- DIPLOCARPON	1	0	1
	CHEMICAL INJURY	- FUNGICIDE	1	0	1
		- HERBICIDE	2	0	2
		- UNKNOWN	1	0	1
	ENVIRONMENTAL STRESSES		4	0	4
	INADEQUATE SPECIMEN, NO DISEASE		4	0	4
	INSECT INJURY		5	1	6
	NUTRITIONAL	- GENERAL	1	0	1
	POWDERY MILDEW	- SPHAEROTHECA	1	0	1
	SLIME MOLD	- species	1	0	1
	UNKNOWN		1	0	1
	VIRUS	- ROSE MOSAIC	4	1	5
RUSSIAN-OLIVE and AUTUMN-OLIVE (Elaeagnus)					
	CANKER	- LEUCOSTOMA	1	0	1
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
	NO DISEASE		1	0	1
SASSAFRAS (Sassafras)					
	ANTHRACNOSE	- GLOMERELLA	1	0	1
SPRUCE (Picea)					
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	ENVIRONMENTAL STRESSES		8	0	8
	INADEQUATE SPECIMEN, NO DISEASE		22	0	22
	INSECT INJURY		18	2	20
	NEEDLE CAST	- PHOMOPSIS	1	0	1
		- RHIZOSPHAERA	4	1	5
	ROOT PROBLEM	- UNKNOWN	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
SWEETGUM (Liquidambar)					
	ENVIRONMENTAL STRESSES		5	0	5
	INSECT INJURY		1	0	1
	NO DISEASE		3	0	3
	NUTRITIONAL	- GENERAL	1	0	1
	PHYSICAL INJURY	- CONSTRUCTION	1	0	1
SYCAMORE (Platanus)					
	ANTHRACNOSE	- APIOGNOMONIA	4	0	4
TAXUS (Taxus)					
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	CULTURAL	- IMPROPER PLANTING DEPTH	1	0	1
		- TRANSPLANT SHOCK	2	0	2
	ENVIRONMENTAL STRESSES		25	5	30
	INADEQUATE SPECIMEN, NO DISEASE		10	0	10
	INSECT INJURY		2	0	2
	NUTRITIONAL	- ACID SOIL	1	1	2
	ROOT ROT	- PHYTOPHTHORA	1	0	1
	SHOESTRING ROOT ROT	- ARMILLARIA	1	0	1
	SOOTY MOLD	- species	1	0	1
TULIPTREE (Liriodendron)					
	ANTHRACNOSE	- GLOEOSPORIUM	1	0	1
	CHEMICAL INJURY	- GROWTH REGULATOR	1	0	1
		- HERBICIDE	1	0	1
	CULTURAL	- TRANSPLANT SHOCK	1	0	1
	INSECT INJURY		11	1	12
	NO DISEASE		2	0	2
	SOOTY MOLD	- species	2	5	7
	WILT	- VERTICILLIUM	1	0	1
TUPELO (Tupelo)					
	CHEMICAL INJURY	- UNKNOWN	1	0	1
UNKNOWN					
	C/HAWTHORN RUST	- GYMNOSPORANGIUM	1	0	1
	INSECT INJURY		1	0	1
VIBURNUM (Viburnum)					
	BACTERIAL BLIGHT	- PSEUDOMONAS	1	0	1
	CULTURAL	- INSUFFICIENT WATER	1	0	1
		- TRANSPLANT SHOCK	2	0	2
	ENVIRONMENTAL STRESSES		5	0	5
	NO DISEASE		4	0	4
WALNUT (Juglans)					
	ANTHRACNOSE	- GNOMONIA	1	0	1
	ENVIRONMENTAL STRESS		2	0	2
	INSECT INJURY		1	0	1
	NO DISEASE		1	0	1

CROP	DIAGNOSIS	CAUSAL AGENT	#1° DIAGs	#2 DIAGs	TOTAL
WEIGELA (Weigela)					
	ENVIRONMENTAL	- WINTER INJURY	1	0	1
WILLOW (Salix)					
	ANTHRACNOSE	- KABATIELLA	1	0	1
	CANKER	- BOTRYOSPHAERIA	0	2	2
		- UNKNOWN	1	0	1
	CROWN GALL	- AGROBACTERIUM	1	0	1
	INADEQUATE SPECIMEN, NO DISEASE		3	0	3
	INSECT INJURY		2	0	2

VEGETABLES

ASPARAGUS (Asparagus)					
	WILT	- FUSARIUM	1	0	1
BEAN (Phaseolus)					
	ANTHRACNOSE	- COLLETOTRICHUM	3	0	3
	CHEMICAL INJURY	- HERBICIDE	1	0	1
		- UNKNOWN	1	0	1
	ENVIRONMENTAL STRESSES		8	0	8
	INADEQUATE SPECIMEN, NO DISEASE		10	0	10
	INSECT INJURY		7	2	9
	NUTRITIONAL	- GENERAL	1	0	1
	ROOT ROT	- FUSARIUM	1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	3	3	6
	RUST	- UROMYCES	1	0	1
	SOUTHERN BLIGHT	- ATHELIA	5	0	5
	VIRUS	- BEAN YELLOW MOSAIC	9	0	9
		- COMMON MOSAIC	1	0	1
	WALNUT WILT	- JUGLONE	1	0	1
	YEAST SPOT	- NEMATOSPORA	1	0	1

BROCCOLI - see listing under **CRUCIFERS**

CABBAGE - see listing under **CRUCIFERS**

CANTALOUPE - see listing under **CUCURBITS**

CORN, sweet (Zea)					
	BACTERIAL STALK ROT	- ERWINIA	2	0	2
	BUGGY WHIPPING	- UNKNOWN	1	0	1
	ENVIRONMENTAL STRESSES		1	1	2
	INSECT INJURY		4	0	4
	NUTRITIONAL	- ZN DEFICIENCY	1	0	1
	ROOT ROT	- RHIZOCTONIA	1	0	1
	SMUT	- USTILAGO	1	0	1
	STEWARTS WILT	- ERWINIA	6	0	6

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
CRUCIFERS - BROCCOLI, CABBAGE, COLLARDS, KALE, KOHLRABI, MUSTARD and TURNIP (Brassica) and RADISH (Raphanus)					
	BLACK ROT	- XANTHOMONAS	8	0	8
	BLACK SPOT	- ALTERNARIA	3	0	3
	CHEMICAL INJURY	- BURN	1	0	1
	CULTURAL	- LATE PLANTING	1	0	1
		- HIGH TEMPERATURE	1	0	1
	DAMPING-OFF	- PYTHIUM	1	0	1
	DOWNY MILDEW	- PERONOSPORA	2	1	3
	INSECT INJURY		2	3	5
	LEAF SPOT	- CERCOSPORELLA	2	0	2
	NO DISEASE		9	0	9
	NUTRITIONAL	- GENERAL	1	0	1
		- N DEFICIENCY	1	0	1
	PHYSIOLOGICAL	- OEDEMA	1	0	1
	POWDERY MILDEW	-			
	SCAB	- STREPTOMYCES	1	0	1
	STEM ROT	- SCLEROTINIA	1	0	1
	VARIEGATION	- GENETIC	1	0	1
	WIRE STEM	- RHIZOCTONIA	4	0	4
CUCURBITS - CANTALOUPE, CUCUMBER (Cucumis), GOURD, PUMPKIN, SQUASH, ZUCCHINI (Cucurbita) and WATERMELON (Citrulis)					
	ANTHRACNOSE	- COLLETOTRICHUM	2	0	2
	BACTERIAL WILT	- ERWINIA	4	0	4
	CHEMICAL INJURY	- HERBICIDE	2	0	2
	DAMPING-OFF	- PYTHIUM	4	0	4
	ENVIRONMENTAL STRESSES		3	0	3
	FRUIT DECAY	- FUSARIUM	1	1	2
		- UNKNOWN	1	0	1
	FRUIT SPOT	- PHYSIOLOGICAL	1	0	1
	GUMMY STEM BLIGHT	- DIDYMELLA	3	0	3
	INADEQUATE SPECIMEN, NO DISEASE		8	0	8
	INSECT INJURY		1	1	2
	LEAF BLIGHT	- ALTERNARIA	1	1	2
	NUTRITIONAL	- FERTILIZER BURN	1	0	1
		- MN DEFICIENCY	1	0	1
	POLLEN PROBLEM	- NO BEES	1	0	1
		- UNKNOWN	2	0	2
	STEM ROT	- PYTHIUM	3	0	3
	STORAGE DECAY	- ALTERNARIA	0	1	1
	VIRUS	- COMPLEX	1	0	1
		- SQUASH MOSAIC	0	1	1
		- WATERMELON MOSAIC	1	0	1
	WILT	- FUSARIUM	1	0	1
EGGPLANT (Solanum)					
	NUTRITIONAL	- GENERAL	1	0	1
LEEK - see listing under ONION					
LETTUCE (Lactuca)					
	GRAY MOLD	- BOTRYTIS	1	0	1

CROP	DIAGNOSIS	CAUSAL AGENT	#1 DIAGs	#2 DIAGs	TOTAL
OKRA (Hibiscus)					
	INSECT INJURY		1	0	1
	NO DISEASE		2	0	2
	WILT	- FUSARIUM	1	0	1
ONION and LEEK (Allium)					
	CHEMICAL INJURY	- HERBICIDE	1	0	1
	NO DISEASE		2	0	2
PEA (Pisum)					
	ENVIRONMENTAL	- COLD INJURY	1	0	1
	ROOT ROT	- RHIZOCTONIA	1	0	1
	VIRUS	- UNKNOWN	3	0	3
PEANUT (Arachis)					
	INSECT INJURY		1	0	1
PEPPER (Capsicum)					
	BACTERIAL SOFT ROT	- ERWINIA	2	0	2
	BACTERIAL SPOT	- XANTHOMONAS	9	2	11
	BLIGHT	- PHYTOPHTHORA	1	0	1
	BLOSSOM END ROT	- CA DEFICIENCY/DRY	2	0	2
	CANKER	- RHIZOCTONIA	1	0	1
	CHEMICAL	- HERBICIDE	1	0	1
		- UNKNOWN	1	0	1
	ENVIRONMENTAL STRESSES		7	1	8
	INSECT INJURY		1	0	1
	LEAF SPOT	- PHYLLOSTICTA	1	0	1
	NO DISEASE		11	0	11
	NUTRITIONAL	- N DEFICIENCY	1	0	1
		- GENERAL	2	0	2
	PHYSICAL INJURY	- BRUISING	1	0	1
	PHYSIOLOGICAL	- MATURITY	1	0	1
	ROOT PROBLEM	- UNKNOWN	1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	8	5	13
	SOUTHERN BLIGHT	- ATHELIA	2	0	2
	STEM ROT	- BOTRYTIS	16	3	19
		- SCLEROTINIA	1	1	2
	UNKNOWN		1	0	1
	VIRUS	- TOBACCO ETCH	1	1	2
		- TOMATO SPOTTED WILT	1	0	1
POTATO (Solanum)					
	BACTERIAL SOFT ROT	- ERWINIA	0	1	1
	BLACK LEG	- ERWINIA	5	0	5
	CHEMICAL INJURY	- HERBICIDE	2	0	2
		- INSECTICIDE	1	0	1
		- UNKNOWN	0	1	1
	DRY ROT	- FUSARIUM	2	0	2
	ENVIRONMENTAL STRESSES		2	0	2
	INSECT INJURY		2	1	3
	NO DISEASE		3	0	3
	NEMATODE	- UNKNOWN	0	1	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1 DIAGs*	*#2 DIAGs*	*TOTAL*
POTATO (cont)					
	SCAB	- STREPTOMYCES	2	1	3
	SLIME MOLD	- species	1	0	1
	VIRUS	- UNKNOWN	1	0	1
PUMPKIN - see listing under CUCURBITS					
RADISH - see listing under CRUCIFERS					
RHUBARB (Rheum)					
	CROWN ROT	- FUNGAL	1	0	1
	ENVIRONMENTAL STRESS		1	0	1
	LEAF SPOT	- ASCOCHYTA	1	0	1
		- PHYLLOSTICTA	1	0	1
	SOFT ROT	- ERWINIA	1	0	1
SQUASH - see listing under CUCURBITS					
SWEET POTATO (Ipomoea)					
	BLACK ROT	- CERATOCYSTIS	1	0	1
	DECAY	- UNKNOWN	1	0	1
	MUTATION	- GENETIC	1	0	1
	SCURF	- MONILOCHAETE	1	0	1
TOMATO (Lycopersicon)					
	AIR POLLUTION	- ETHYLENE	1	0	1
		- OZONE	0	1	1
		- UNKNOWN	1	0	1
	BACTERIAL CANKER	- CLAVIBACTER	8	0	8
	BACTERIAL SOFT ROT	- ERWINIA	0	2	2
	BACTERIAL SPECK	- PSEUDOMONAS	3	0	3
	BACTERIAL SPOT	- XANTHOMONAS	2	0	2
	BACTERIAL WILT	- PSEUDOMONAS	2	0	2
		- UNKNOWN	0	1	1
	BLOSSOM END ROT	- CA DEFICIENCY/DRY	5	1	6
	BUCKEYE ROT	- PHYTOPHTHORA	1	0	1
	CATFACING	- ENVIRONMENTAL	3	1	4
	CHEMICAL INJURY	- GROWTH REGULATOR	5	1	6
		- BURN	1	0	1
	CULTURAL	- IMPROPER LIGHT	0	1	1
		- UNKNOWN	7	0	7
	DAMPING-OFF	- PYTHIUM	1	0	1
	EARLY BLIGHT	- ALTERNARIA	13	3	16
	ENVIRONMENTAL STRESSES		4	1	5
	GRAY MOLD	- BOTRYTIS	1	0	1
	GROWTH CRACK	- ENVIRONMENTAL	0	1	1
	INADEQUATE SPECIMEN, NO DISEASE		32	0	32
	INSECT INJURY		5	1	6
	LEAF SCORCH	- ENVIRONMENTAL	1	0	1
	LEAF SPOT	- SEPTORIA	2	2	4
	NUTRITIONAL	- GENERAL	1	0	1
		- N DEFICIENCY	1	0	1
		- SOLUBLE SALTS	1	0	1

CROP	*DIAGNOSIS*	*CAUSAL AGENT*	*#1° DIAGs*	*#2 DIAGs*	*TOTAL*
TOMATO (cont)					
	PHYSICAL INJURY	- UNKNOWN	2	0	2
	PHYSIOLOGICAL	- LEAF ROLL	2	0	2
	ROOT KNOT NEMATODE	- MELOIDOGYNE	2	0	2
	ROOT PROBLEM	- UNKNOWN	1	0	1
	ROOT/STEM ROT	- RHIZOCTONIA	3	0	3
	SOUTHERN BLIGHT	- ATHELIA	4	0	4
	SOOTY MOLD	- species	1	0	1
	STEM ROT	- SCLEROTINIA	2	1	3
		- PYTHIUM	1	0	1
	VIRUS	- TOMATO SPOTTED WILT	1	0	1
	WALNUT WILT	- JUGLONE	5	0	5
	WILT	- FUSARIUM	8	0	8
		- UNKNOWN	1	0	1
		- VERTICILLIUM	0	1	1

TURNIP - see listing under CRUCIFERS

WATERMELON - see listing under CUCURBITS

ZUCCHINI -see listing under CUCURBITS

TOTALS	**4688**	**466**	**5154**