

Paul Bachi

Prepared by the Department of Plant Pathology

Plant Diseases in Kentucky



UNIVERSITY OF KENTUCKY · COLLEGE OF AGRICULTURE
COOPERATIVE EXTENSION SERVICE
AGRICULTURE · HOME ECONOMICS · 4-H · DEVELOPMENT

PLANT DISEASE DIAGNOSTIC LABORATORY

SUMMARY OF PLANT DISEASES

1983

Compiled by

Cheryl A. Kaiser, Paul R. Bachi,
John R. Hartman, Richard E. Stuckey,
William C. Nesmith, and Wayne F. Wilcox

The College of Agriculture is an Equal Opportunity Organization authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap or national origin.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Charles E. Barnhart, Director of Cooperative Extension Service, University of Kentucky College of Agriculture, Lexington, and Kentucky State University, Frankfort.

TABLE OF CONTENTS

Introduction	2
Highlights	2
Explanatory Remarks	3
Table 1. Number of Referrals and Consultations.	5
Table 2. Summary by Grower Type	5
Table 3. Summary by Crop Category	6
Table 4. Summary by Problem Area	7
Table 5. A Breakdown of Biotic Problems Types	8
Table 6. Summary by County	9
Table 7. Special Laboratory Tests	11
Agronomic Crops	12
Corn	12
Forages	12
Soybeans	13
Small Grains	13
Tobacco	14
Fruit Crops	15
Small Fruits	15
Tree Fruits	16
Herbs	18
Identifications	18
Ornamentals	19
Herbaceous Ornamentals	19
Houseplants	20
Turfgrass	21
Woody Ornamentals	22
Vegetables	29
Miscellaneous	32
Total Specimens	32

Introduction

The University of Kentucky Plant Disease Diagnostic Laboratory expanded its services in 1983 with the opening of a second lab at the Research and Education Center in Princeton, KY. Twenty four counties in three areas (Pennyryle, Green River and Purchase) were assigned to the Princeton Lab. Agents in these counties are instructed to send all plant disease samples to the Princeton facility. The Lexington Lab continues to serve the remaining 96 counties. Soybean cyst nematode analyses and ELISA tests for barley yellow dwarf virus are performed only at the Lexington branch. This is largely due to the equipment, research faculty support and technical assistance readily available within the Plant Pathology Department at Lexington.

Another major advance in lab services has involved the computerization of diagnostic records. The Princeton branch makes use of their in-house Hewlett-Packard-3000 minicomputer and IMAGE/3000 database, while Lexington stores records on a Hewlett-Packard-125 microcomputer using the CONDOR Database Management System. These computer systems permit rapid data retrieval either in the form of individual records or tabulated summaries. In addition, special programs, along with the remote computer line, provide data transfer capabilities between Princeton and Lexington.

This annual report was compiled using our new computer technology. Lexington clinic records were transferred to the Princeton database where they were sorted and tabulated. The tabulated file was then transferred to the Lexington microcomputer where it was edited using a word-processing program. The resulting print-out was then photocopied for distribution. Information for the tables was also compiled via computer. No longer is the preparation of the annual report a time-consuming and tedious task!

Highlights

A total of 2987 samples were diagnosed at the Lexington clinic, while 689 samples were handled at Princeton. The combined total of 3676 was the lowest number of samples received by the Plant Diagnostic Lab services since 1979 (plant sample loads for 1980-1982 were in excess of 4000 each year). The relatively low 1983 sample number can be attributed to the rather unusual growing season: an extremely wet spring followed by an extremely dry summer. Spring weather conditions favored a number of diseases (particularly leaf spots of woody ornamentals and tree fruits, and root rots), however, dry summer conditions were decidedly not favorable for many diseases. Some highlights from 1983 follow:

Apple scab was severe throughout the state, especially on unsprayed apple and crabapple trees. Infections were so heavy

that leaves appeared completely black, giving the appearance of fireblight, rather than showing the typical spot symptoms normally associated with scab.

While wet spring weather favored fireblight, a late spring freeze acted as a fairly effective natural control of the disease. Typically, 10-35 fireblight-infected apple twig samples are submitted to the Clinic; only one sample was received in 1983!

The two labs received a number of reports of black shank of tobacco on farms and in counties where the disease had not previously been observed. Heavy spring rains and lowland flooding favored spread and infection of the causal fungus. Later, dry weather was particularly hard on plants with damaged shanks and root systems.

Woody ornamentals and tree fruits damaged by wet feet in the spring were also additionally stressed by excessive evapotranspiration rates and drought later in the season. We expect to see additional evidence of drought damage showing up this next season on these woody plants.

While the summer drought was generally unfavorable for most diseases, charcoal rot of soybeans was an exception. In most years we see very few charcoal rot samples submitted to the clinic. Samples increased from zero for the past three years to nine in 1983. This increase in specimens was a reflection of a corresponding increase in charcoal rot field infections.

Aphid-transmission of barley yellow dwarf virus (BYDV) is usually greatly reduced after the Hessian fly-free date (mid October). However, the mild fall and winter of 1982-83 permitted aphid populations to remain high well past this date, resulting in a number of late infections. Concern regarding this disease triggered an influx of samples submitted for BYDV ELISA testing. Of the 197 wheat, barley and oat samples tested in the spring of 1983, 45% were positive for BYDV.

Black root rot of holly, previously only observed on Japanese holly in Kentucky, was identified for the first time on blue hollies. Concern over the implications and effects of finding this disease has prompted additional research.

Explanatory Remarks

1. No diagnosis. This indicates that no pathogen was observed on the specimen submitted, and we were unable to pinpoint an exact abiotic or biotic cause of the problem, based on the sample and information submitted.
2. Referrals and consultations. Insect problems were generally identified or verified by a specialist in the Entomology Department. Chemical injury on all commercially grown crops was diagnosed by the Weed Control Specialist in the Agronomy

Department or by the Crop Specialist in the Agronomy or Horticulture Departments. We also consulted with crop specialists in other departments on abiotic problems.

3. Root problems. Samples designated as having a "root problem" had top symptoms suggestive of root dysfunction and/or evidence of root degeneration, however, a biotic or abiotic cause could not be determined. Roots were not submitted for examination.

Acknowledgments

We wish to thank Mr. John H. Byars and Mr. Freddie A. Higgins for their computer programming expertise, which made the compilation of this report possible. We also thank Mrs. Nancy Matherly for typing portions of the report, and Mrs. Jennie Pepoon for its duplication and distribution. Mrs. Lynne Moore's assistance was also appreciated.

Table 1. Number of referrals and/or consultations made with other departments or UK lab facilities in 1983.

Department or Facility	Agronomic Crops	Fruit Crops	Ornamental Crops	Vegetable Crops	Other	Total
Animal Diagnostic Laboratory	12	0	0	0	0	12
Agronomy Dept.	21	0	5	1	0	27
Entomology Dept.	10	18	77	7	2	114
Horticulture Dept.	0	6	39	2	0	47
Regulatory Services	2	0	0	0	0	2
Murray State Veterinary Lab	1	0	0	0	0	1

Table 2. A breakdown of samples received by grower type and crop group.

Grower Type	Number of Samples						Total Samples
	Agronomic Tobacco	Agronomic Other	Fruit	Ornamentals	Vegetables	Other	
Commercial	1147	715	114	108	46	22	2152
Homeowner	0	0	259	935	237	30	1461
Institution	2	0	2	14	1	1	20
Researcher	6	12	7	13	3	2	43

Table 3. Summary of diagnoses by crop and crop category, expressed as percentages.

Crop Category and Crop	# Specimens	% of Crop Category	% of Total Specimens
<u>Agronomic</u>	1879	100	51.1
Corn	99	5.3	2.7
Forage crops	86	4.6	2.3
Small grains	290	15.4	7.9
Soybeans	251	13.4	6.8
Tobacco	1153	61.4	31.4
<u>Fruit Crops</u>	383	100	10.4
Small fruits	154	40.2	4.2
Tree fruits	229	59.8	6.2
<u>Herbs</u>	18	100	0.5
<u>Identifications</u>	33	100	0.9
<u>Ornamentals</u>	1071	100	29.1
Herbaceous	80	7.5	2.2
Houseplants	71	6.6	1.9
Turfgrass	33	3.1	0.9
Woody	887	82.8	24.1
<u>Vegetables</u>	287	100	7.8
<u>Miscellaneous</u>	4	100	0.1
<u>Total Specimens</u>	3676		

Table 4. Total diagnoses according to crop category and problem area.

Crop Category	Abiotic Problems	Biotic ¹ Problems	Chemical Injury	Inadequate Specimen	Insect Injury	Other ²	Total Specimens
<u>Agronomic</u>							
Corn	27	16	10	3	9	34	99
Forages	11	49	1	8	4	13	86
Small Grains	3	167	1	4	0	115	290
Soybeans	10	177	3	6	2	53	251
Tobacco	284	555	66	58	59	131	1152
<u>Fruit</u>							
Small fruit	23	83	5	7	13	23	154
Tree fruit	38	121	5	14	18	33	229
<u>Herbs</u>	3	11	0	1	0	3	18
<u>Identification</u>	0	17	0	0	2	14	33
<u>Ornamentals</u>							
Herbaceous	14	43	4	6	5	8	80
Houseplants	33	18	0	2	9	8	70
Turfgrass	5	21	0	2	0	5	33
Woody	204	306	49	41	83	204	887
<u>Vegetables</u>	63	131	20	29	15	29	287
<u>Miscellaneous</u>	0	3	0	1	0	0	4

¹ Refer to Table 5 for a further breakdown of this category.

² "Other" includes the causal agent categories : No diagnosis, unknown and none (non-applicable).

Table 5. A breakdown of biotic problems by crop category.

Crop Category	Algal	Bacterial	Fungal	Nematode	Virus
<u>Agronomic</u>					
Corn	0	5	11	0	0
Forages	0	17	32	0	0
Small grains	0	0	32	0	135
Soybeans	0	1	37	139	0
Tobacco	0	80	458	0	17
<u>Fruit</u>					
Small fruit	0	2	77	0	4
Tree fruit	0	3	118	0	0
<u>Herbs</u>	0	0	11	0	0
<u>Identifications</u>	0	0	17	0	0
<u>Ornamentals</u>					
Herbaceous	0	10	31	1	1
Houseplants	0	5	13	0	0
Turfgrass	2	0	19	0	0
Woody	0	9	297	0	0
<u>Vegetables</u>	0	50	60	4	17
<u>Miscellaneous</u>	1	0	2	0	0
<u>Total</u>	3	182	1215	144	174

Table 6. Total number of specimens received from Kentucky counties and out-of-state sources.

<u>County</u>	<u>Total</u>	<u>Agronomic</u>	<u>Tobacco</u>	<u>Fruit</u>	<u>Ornamentals</u>	<u>Vegetables</u>	<u>Other</u>
Adair	1	0	0	1	0	0	0
Allen	47	6	26	6	2	7	0
Anderson	8	0	6	0	2	0	0
Ballard	24	11	10	1	2	0	0
Barren	85	2	51	5	23	4	0
Bath	27	1	23	1	0	2	0
Bell	7	0	0	3	4	0	0
Boone	30	1	5	10	12	1	1
Bourbon	83	10	48	6	16	0	3
Boyd	34	1	2	5	17	7	2
Boyle	63	5	13	5	35	5	0
Bracken	21	2	17	1	0	0	1
Breathitt	26	3	6	7	4	2	4
Breckinridge	21	4	8	3	6	0	0
Bullitt	46	1	4	12	16	8	5
Butler	9	1	6	0	1	1	0
Caldwell	42	9	14	7	6	5	1
Calloway	49	11	20	5	8	5	0
Campbell	6	0	0	2	3	1	0
Carlisle	23	4	6	9	3	2	0
Carroll	27	0	15	2	8	2	0
Carter	3	0	1	1	1	0	0
Casey	12	0	2	8	0	1	1
Christian	84	28	24	4	23	5	0
Clark	56	1	17	9	25	4	0
Clay	11	1	1	0	4	5	0
Clinton	13	3	7	0	2	2	0
Crittenden	21	9	0	5	0	7	0
Cumberland	4	2	1	0	0	1	0
Daviess	128	35	41	15	26	11	1
Edmonson	23	1	6	4	6	6	0
Elliott	4	0	3	0	0	1	0
Estill	37	2	13	5	5	12	0
Fayette	438	14	40	44	287	46	9
Fleming	18	4	10	2	2	0	0
Floyd	2	0	0	0	1	1	0
Franklin	28	1	3	2	21	0	1
Fulton	92	87	0	3	1	0	1
Gallatin	21	2	10	4	3	2	0
Garrard	11	1	2	1	5	2	0
Grant	31	0	19	4	8	0	0
Graves	36	11	15	5	3	2	0
Grayson	2	1	1	0	0	0	0
Greene	10	4	3	1	1	0	1
Greenup	6	0	4	0	2	0	0
Hancock	6	1	4	0	0	1	0
Hardin	57	18	19	5	15	1	0
Harlan	2	0	0	0	0	1	1

<u>County</u>	<u>Total</u>	<u>Agronomic</u>	<u>Tobacco</u>	<u>Fruit</u>	<u>Ornamental</u>	<u>Vegetables</u>	<u>Other</u>
Harrison	31	0	19	2	10	1	0
Hart	48	6	27	3	0	11	1
Henderson	19	6	1	0	12	0	0
Henry	27	7	12	2	6	0	0
Hickman	77	69	0	4	3	1	0
Hopkins	23	4	2	4	11	1	1
Jackson	20	0	8	2	9	0	1
Jefferson	68	3	2	8	47	8	0
Jessamine	15	3	4	0	6	2	0
Johnson	14	0	9	4	1	0	0
Kenton	14	0	5	1	6	2	0
Knott	0	0	0	0	0	0	0
Knox	10	0	1	1	3	5	0
LaRue	23	3	13	3	3	1	0
Laurel	15	1	4	1	7	1	1
Lawrence	19	0	15	0	2	2	0
Lee	0	0	0	0	0	0	0
Leslie	5	0	2	2	1	1	0
Letcher	6	0	0	2	3	1	0
Lewis	19	3	7	3	5	1	0
Lincoln	10	2	1	2	5	0	0
Livingston	5	3	1	0	1	0	0
Logan	88	15	46	5	12	10	0
Lyon	9	1	3	0	4	1	0
Madison	104	3	31	18	46	5	1
Magoffin	11	0	7	1	2	1	0
Marion	16	10	2	1	1	2	0
Marshall	29	15	4	3	6	2	0
Martin	1	0	0	0	1	0	0
Mason	20	4	6	1	7	2	0
McCracken	38	6	6	3	23	1	0
McCreary	4	0	1	0	3	0	0
McLean	43	30	9	1	2	1	0
Meade	13	2	5	2	3	1	0
Menifee	9	0	4	2	1	2	0
Mercer	20	0	7	2	10	1	0
Metcalf	11	1	9	1	0	0	0
Monroe	15	0	9	4	1	0	1
Montgomery	27	1	11	5	10	0	0
Morgan	17	0	13	0	1	3	0
Muhlenburg	52	29	7	8	6	2	0
Nelson	30	5	2	4	16	2	1
Nicholas	6	0	6	0	0	0	0
Ohio	8	1	6	0	1	0	0
Oldham	3	0	3	0	0	0	0
Owen	23	4	12	2	4	0	1
Owsley	6	0	4	1	0	0	1
Pendleton	5	0	3	0	2	0	0
Perry	5	0	0	0	5	0	0
Pike	12	0	0	2	6	4	0
Powell	7	1	3	2	1	0	0
Pulaski	41	5	13	4	12	5	2

County	Total	Agronomic ¹	Tobacco	Fruit	Ornamentals	Vegetables	Other
Robertson	1	0	1	0	0	0	0
Rockcastle	11	1	3	0	6	1	0
Rowan	23	0	7	4	8	3	1
Russell	42	5	17	5	4	10	1
Scott	22	5	5	6	6	0	0
Shelby	70	16	21	5	22	4	2
Simpson	66	42	16	1	6	0	1
Spencer	10	2	1	3	2	1	1
Taylor	14	0	9	3	1	1	0
Todd	36	39	23	12	6	6	0
Trigg	33	6	21	2	4	0	0
Trimble	11	1	7	1	0	2	0
Union	29	15	0	2	9	2	1
Warren	60	16	21	7	9	7	0
Washington	36	6	18	0	10	2	0
Wayne	43	10	17	0	7	9	0
Webster	26	10	2	3	8	2	1
Whitley	5	0	3	0	1	1	0
Wolfe	4	0	2	1	1	0	0
Woodford	42	7	21	1	12	1	0
Out-of-state	62	5	48	2	3	0	4

¹ Agronomic crops includes corn, soybeans, forages and small grains; but in this particular case, it excludes tobacco.

Table 7. Special laboratory tests performed.

Test	Number of cases
Cultured	127
Incubated	169
Nematode extractions (total = 189)	
Pinewood nematode	5
Soybean cyst nematode	182
Other	2
Potato soft rot test	2
Virus assays (total = 211)	
Indicator plants	7
Leaf dip (electron microscope)	7
ELISA	197
Soil tests (total = 120)	
pH	111 ^a
Soluble salts	9

^a This number may be much lower than the actual counts since soil pH was generally run routinely whenever soil was submitted with a plant sample. However, this information was not always entered into the computer database.

AGRONOMIC CROPS

Corn

CORN (Zea)

BROWN SPOT	- <u>PHYSDERMA</u>	1
CHEMICAL INJURY		10
CRAZY TOP	- <u>SCLEROPHTHORA</u>	1
EAR/KERNEL ROT	- <u>DIPLODIA, ASPERGILLUS</u>	6
ENVIRONMENTAL	- DROUGHT	3
	- OTHER	4
GENETIC PROBLEMS		2
HOLCUS SPOT	- <u>PSEUDOMONAS</u>	1
INADEQUATE SPECIMEN		3
INSECT INJURY		9
NO DIAGNOSIS		21
NUTRITIONAL	- ACID SOIL	7
	- FERTILIZER BURN	2
	- MANGANESE TOXICITY	2
	- PHOSPHORUS DEFICIENCY	2
	- ZINC DEFICIENCY	3
	- OTHER	2
PHYSIOLOGICAL		1
POWDERY MILDEW		1
REFERRAL		13
SEEDLING ROT	- <u>RHIZOCTONIA</u>	1
STEWART'S WILT	- <u>ERWINIA</u>	5

Forages

ALFALFA (Medicago)

ANTHRACNOSE	- <u>COLLETOTRICHUM</u>	1
BACTERIAL STEM BLIGHT	- <u>PSEUDOMONAS</u>	14
BACTERIAL WILT	- <u>CORYNEBACTERIUM</u>	2
CHEMICAL INJURY		1
CROWN ROT	- COMPLEX	2
	- <u>FUSARIUM</u>	3
	- <u>RHIZOCTONIA</u>	3
	- <u>SCLEROTINIA</u>	6
ENVIRONMENTAL STRESS		6
INADEQUATE SPECIMEN		5
INSECT INJURY	- LEAFHOPPER	4
LEAF SPOT	- <u>LEPTOSPHAERULINA</u>	8
	- <u>PSEUDOPPEZIZA, STEMPHYLIUM</u>	2
NO DIAGNOSIS		7
NUTRITIONAL	- BORON DEFICIENCY	2
	- PHOSPHORUS DEFICIENCY	1
	- OTHER	1
ROOT ROT	- FUNGAL	2
SPRING BLACK STEM	- <u>PHOMA</u>	1
VASCULAR WILT		1

CLOVER (<u>Trifolium</u>)		
BACTERIAL STEM BLIGHT - <u>PSEUDOMONAS</u>		1
CROWN ROT - <u>FUSARIUM</u> , etc.		2
<u>FUSARIUM</u> WILT		1
INADEQUATE SPECIMEN		3
NUTRITIONAL - NITROGEN DEFICIENCY		1
REFERRAL		1
SPRING BLACK STEM - <u>PHOMA</u>		1

LESPEDEZA (<u>Lespedeza</u>)		
NO DIAGNOSIS		1

TIMOTHY (<u>Phleum</u>)		
NO DIAGNOSIS		2
NUTRITIONAL - NITROGEN DEFICIENCY		1

Soybean

SOYBEAN (<u>Glycines</u>)		
ANTHRACNOSE - <u>COLLETOTRICHUM</u>		4
BLIGHT/WILT - <u>FUSARIUM</u>		1
BROWN SPOT - <u>SEPTORIA</u>		2
CHARCOAL ROT - <u>MACROPHOMINA</u>		9
CHEMICAL INJURY		3
ENVIRONMENTAL - DROUGHT		3
- OTHER		4
INADEQUATE SPECIMEN		6
INSECT INJURY		2
NO DIAGNOSIS		6
NUTRITIONAL - pH RELATED		1
<u>RHIZOBIUM</u> -INDUCED CHLOROSIS		1
ROOT PROBLEM		2
ROOT ROT - <u>PHYTOPHTHORA</u>		3
- <u>PYTHIUM</u>		3
- <u>RHIZOCTONIA</u>		15
SOYBEAN CYST NEMATODE - <u>HETERODERA</u>		139
SOYBEAN CYST NEMATODE ABSENT IN SOIL		47

Small Grains

BARLEY (<u>Hordeum</u>)		
BARLEY YELLOW DWARF VIRUS		59
BARLEY YELLOW DWARF VIRUS ABSENT (ELISA)		18
ENVIRONMENTAL STRESS		1
NET BLOTCH - <u>HELMINTHOSPORIUM TERES</u>		2

DAT (<u>Avena</u>)		
BARLEY YELLOW DWARF VIRUS		1
BARLEY YELLOW DWARF VIRUS ABSENT (ELISA)		1

RYE (<u>Secale</u>)			
	HEAD SCAB	- <u>FUSARIUM</u>	1
SORGHUM (<u>Sorghum</u>)			
	LEAF SPOT	- <u>PHOMA</u>	1
	NO DIAGNOSIS		2
	REFERRAL		2
WHEAT (<u>Triticum</u>)			
	ANTHRACNOSE	- <u>COLLETOTRICHUM</u>	1
	CHEMICAL INJURY		1
	ENVIRONMENTAL STRESS		1
	GLUME BLOTCH	- <u>SEPTORIA</u>	2
	INADEQUATE SPECIMEN		4
	LEAF RUST	- <u>PUCCINIA</u>	1
	LEAF SPOT	- <u>SEPTORIA</u>	16
	NO DIAGNOSIS		3
	POWDERY MILDEW	- <u>ERYSIPHE</u>	5
	ROOT PROBLEM		1
	ROOT ROT	- <u>RHIZOCTONIA</u>	1
	SEEDLING BLIGHT	- <u>FUSARIUM</u>	1
	SMUT	- <u>USTILAGO</u>	1
	VIRUSES - BARLEY YELLOW DWARF		42
	- BARLEY YELLOW DWARF ABSENT (ELISA)		89
	- UNKNOWN		1
	- WHEAT SOIL-BORNE MOSAIC		2
	- WHEAT STREAK MOSAIC		2
	- WHEAT SPINDLE STREAK MOSAIC		28

Tobacco

TOBACCO (<u>Nicotiana</u>)			
	ANGULAR LEAF SPOT	- <u>PSEUDOMONAS</u>	69
	ANTHRACNOSE	- <u>COLLETOTRICHUM</u>	7
	BACTERIAL BLACK STALK		3
	BLACK ROOT ROT	- <u>THIELAVIOPSIS</u>	10
	BLACK SHANK	- <u>PHYTOPHTHORA</u>	307
	BLACKLEG	- <u>ERWINIA</u>	6
	BLUE MOLD	- <u>PERONOSPORA</u>	39
	BROWN SPOT	- <u>ALTERNARIA</u>	4
	CHEMICAL INJURY		64
	DODDER	- <u>CUSCUTA</u>	1
	ENVIRONMENTAL	- COLD INJURY	13
		- DROUGHT	7
		- EARLY FLOWERING	1
		- LIGHTNING INJURY	18
		- SUNSCALD	29
		- OTHER	18
	FALSE BROOMRAPE		9
	FRENCHING		4
	FROG-EYE LEAF SPOT	- <u>CERCOSPORA</u>	1
	<u>FUSARIUM</u> WILT	- <u>FUSARIUM</u>	12

TOBACCO (cont'd)

GENETIC MUTATION		1
HOLLOW STALK	- <u>ERWINIA</u>	1
INADEQUATE SPECIMEN		58
INSECT INJURY		59
LEAF SCORCH/BURN		10
NO DIAGNOSIS		107
NUTRITIONAL	- FERTILIZER BURN	18
	- MANGANESE TOXICITY/ACID SOIL	81
	- NITROGEN DEFICIENCY	27
	- PHOSPHORUS DEFICIENCY	14
	- POTASSIUM DEFICIENCY	14
	- OTHER	2
PHYSICAL INJURY		5
PHYSIOLOGICAL SPOTTING		6
PIEBALD (improper curing)		1
RAGGED SPOT	- <u>ASCOCHYIA</u>	1
ROOT PROBLEM		12
ROOT ROT	- <u>PYTHIUM, RHIZOCTONIA</u>	9
SLIME MOLD		2
SOFT ROT	- <u>PYTHIUM</u>	15
SORE SHIN	- <u>RHIZOCTONIA</u>	47
STORAGE ROTTS	- <u>CLADOSPORIUM, PENICILLIUM</u>	4
UNKNOWN STUNT SYNDROME		19
VIRUSES	- COMPLEX	7
	- PEANUT STUNT	2
	- TOBACCO ETCH	3
	- TOBACCO MOSAIC	1
	- TOBACCO RINGSPOT	2
	- TOBACCO STREAK	1
	- TOBACCO VEIN MOTTLING	1

=====

FRUIT CROPS

Small Fruits

BLUEBERRY (Vaccinium)

ENVIRONMENTAL	- DROUGHT	4
	- OTHER	2
INADEQUATE SPECIMEN		1
INSECT INJURY		1
NO DIAGNOSIS		2

BRAMBLES - Blackberry and Raspberry (Rubus)

ANTHRACNOSE	- <u>ELSINOE</u>	3
CANE BLIGHTS	- <u>GNOMONIA, LEPTOSPHERIA</u>	7
CANKER	- FUNGAL	1
CHEMICAL INJURY		1
CROWN GALL	- <u>AGROBACTERIUM</u>	1
ENVIRONMENTAL	- DROUGHT	2
	- OTHER	3
INSECT INJURY		4

BRAMBLES (cont'd)

LEAF SCORCH		3
LEAF SPOT		1
NO DIAGNOSIS		7
NUTRITIONAL	- IRON DEFICIENCY	1
ORANGE RUST	- <u>GYMNODONIA</u>	1
ROOT PROBLEM		2
ROOT ROT	- FUNGAL	1
VIRUS	- STERILITY, etc.	4

CURRANT and GOOSEBERRY (Ribes)

INSECT INJURY		1
ROOT PROBLEM		1

GRAPE (Vitis)

ANTHRACNOSE	- <u>ELSINDE</u>	7
BLACK ROT	- <u>GUIGNARDIA</u>	18
CHEMICAL INJURY		4
CROWN GALL	- <u>AGROBACTERIUM</u>	1
INADEQUATE SPECIMEN		2
INSECT INJURY		4
NO DIAGNOSIS		6
POWDERY MILDEW	- <u>UNCINULA</u>	1

STRAWBERRY (Fragaria)

ANTHRACNOSE	- <u>COLLETOTRICHUM</u>	1
BLACK ROOT ROT	- COMPLEX	5
	- <u>FUSARIUM</u>	10
	- <u>RHIZOCTONIA</u>	5
ENVIRONMENTAL STRESS		3
INADEQUATE SPECIMEN		4
INSECT INJURY		3
LEAF SCORCH	- <u>DIPLOCARPON</u>	3
LEAF SPOT	- <u>MYCOSPHAERELLA</u>	15
LEATHER ROT	- <u>PHYTOPHTHORA</u>	1
NO DIAGNOSIS		5
RED STELE	- <u>PHYTOPHTHORA</u>	1
ROOT PROBLEM		1

Tree Fruits

APPLE (Malus)

ABIOTIC	- MISCELLANEOUS	3
APPLE SCAB	- <u>VENTURIA</u>	52
BARK NECROSIS		1
BITTER ROT	- <u>GLOMERELLA</u>	4
BLACK ROT CANKER	- <u>PHYSALOSPORA</u>	3
BLISTER SPOT	- <u>PSEUDOMONAS</u>	1
BURR KNOT		1
CANKER	- FUNGAL	1
CEDAR-APPLE RUST	- <u>GYMNOSPORANGIUM</u>	6
CEDAR-QUINCE RUST	- <u>GYMNOSPORANGIUM</u>	5

APPLE (cont'd)

CHEMICAL INJURY		1
ENVIRONMENTAL	- COLD/FROST INJURY	7
	- OTHER	6
FIREBLIGHT	- <u>ERWINIA</u>	1
FROG-EYE LEAF SPOT	- <u>PHYSALOSPORA</u>	5
INADEQUATE SPECIMEN		9
INSECT INJURY		8
NO DIAGNOSIS		12
NUTRITIONAL	- CALCIUM DEFICIENCY	1
REFERRAL		1
ROOT PROBLEM		3
RUSSET		2
SOOTY BLOTCH	- <u>GLOEDES</u>	1
THREAD BLIGHT	- <u>CERATOBASIDIUM</u>	1

CHERRY (Prunus)

ENVIRONMENTAL STRESS		1
INADEQUATE SPECIMEN		1
INSECT INJURY		1
LEAF SPOT	- <u>COCCOMYCES</u>	4
NO DIAGNOSIS		3
POWDERY MILDEW	- <u>PODOSPHAERA</u>	1
ROOT PROBLEM		1

PEACH, APRICOT and NECTARINE (Prunus)

BACTERIAL SPOT	- <u>XANTHOMONAS</u>	1
BROWN ROT	- <u>MONILINIA</u>	2
CHEMICAL INJURY		1
ENVIRONMENTAL STRESS		3
GUMMOSIS	- CAUSE UNKNOWN	1
INADEQUATE SPECIMEN		2
INSECT INJURY		5
NO DIAGNOSIS		4
NUTRITIONAL		5
PEACH LEAF CURL	- <u>TAPHRINA</u>	18
PERENNIAL CANKER	- <u>CYTOSPORA</u>	3
PHYSICAL INJURY		1
ROOT PROBLEM		2

PEAR (Pyrus)

CHEMICAL INJURY		2
ENVIRONMENTAL STRESS		2
<u>EUSARIUM</u> CANKER		1
INSECT INJURY		1
LEAF SCORCH		2
NO DIAGNOSIS		1
SOOTY MOLD		1

PECAN (Carya)

ENVIRONMENTAL	- DROUGHT	1
INSECT INJURY		2
NO DIAGNOSIS		3

PLUM (Prunus)

BLACK KNOT	- <u>DIBOTRYON</u>	4
BROWN ROT	- <u>MONILINIA</u>	2
CHEMICAL INJURY		1
INADEQUATE SPECIMEN		2
INSECT INJURY		1
NO DIAGNOSIS		2
PLUM POCKETS	- <u>TAPHRINA</u>	4

=====

HERBS

CANDYTUFT (Iberis)

NO DIAGNOSIS		1
--------------	--	---

GINSENG (Panax)

ALTERNARIA BLIGHT	- <u>ALTERNARIA</u>	3
DAMPING-OFF	- <u>RHIZOCTONIA</u>	3
ENVIRONMENTAL STRESS		2
INADEQUATE SPECIMEN		1
LEAF SPOT	- <u>COLLETOTRICHUM</u>	1
MILDEW	- <u>PHYTOPHTHORA</u>	1
NO DIAGNOSIS		2
NUTRITIONAL		1
ROOT ROT	- <u>PHYTOPHTHORA</u>	1
	- <u>RHIZOCTONIA</u>	2

=====

IDENTIFICATIONS

FUNGAL IDENTIFICATIONS

ASCOMYCETES		1
BASIDIOMYCETES (mushrooms, rust)		11
FUNGI IMPERFECTI		1
MYXOMYCETES (slime molds)		2
UNKNOWN		2

INSECT IDENTIFICATIONS (Referrals)

ENTOMOLOGY		2
------------	--	---

PLANT IDENTIFICATIONS (Referrals)

AGRONOMY		4
HORTICULTURE		10

=====

ORNAMENTALS

Herbaceous Ornamentals

AJUGA (<u>Ajuga</u>)			
	CROWN ROT	- <u>SCLEROTIUM</u>	3
	INADEQUATE SPECIMEN		1
BEGONIA (<u>Begonia</u>)			
	BLOTCH	- <u>BOTRYTIS</u>	2
	CULTURAL		2
	NO DIAGNOSIS		1
CHRISTMAS-ROSE (<u>Helleborus</u>)			
	BLIGHT	- <u>GLOEOSPORIUM</u>	1
CHRYSANTHEMUM (<u>Chrysanthemum</u>)			
	BACTERIAL BLIGHT	- <u>ERWINIA</u>	1
	CHEMICAL INJURY		1
	CULTURAL		1
	INSECT INJURY		1
	NUTRITIONAL	- HIGH SOLUBLE SALTS	2
	ROOT ROT	- <u>PYTHIUM</u>	1
CROWNVETCH (<u>Coronilla</u>)			
	ANTHRACNOSE	- <u>COLLETOTRICHUM</u>	1
FUCHSIA (<u>Fuchsia</u>)			
	ROOT PROBLEM		1
	ROOT/ROOTLET ROT	- <u>FUSARIUM, PYTHIUM</u>	1
GERANIUM (<u>Pelargonium</u>)			
	BACTERIAL BLIGHT	- <u>XANTHOMONAS</u>	8
	NO DIAGNOSIS		3
	NUTRITIONAL	- HIGH SOLUBLE SALTS	1
	ROOT KNOT NEMATODE	- <u>MELOIDOSYNE</u>	1
	STEM ROT	BACTERIAL	1
	VIRUS	- UNIDENTIFIED	1
HOLLYHOCK (<u>Althaea</u>)			
	RUST	- <u>PUCCINIA</u>	1
HOSTA (<u>Hosta</u>)			
	LEAF SPOT	- <u>COLLETOTRICHUM</u>	1
IRIS (<u>Iris</u>)			
	BASAL ROT	- <u>FUSARIUM</u>	1
	BULB ROT	- <u>SCLEROTIUM</u>	1
	CHEMICAL INJURY		1
	INSECT INJURY		1
	LEAF SPOT	- <u>DIDYMPELLINA</u>	4
LILY (<u>Lilium</u>)			
	STEM ROT		1

NASTURTIUM (<u>Tropaeolum</u>)			
ROOT ROT	- FUNGAL		1
PACHYSANDRA (<u>Pachysandra</u>)			
LEAF BLIGHT	- VOLUTELLA		2
PEONY (<u>Paeonia</u>)			
BUD BLAST			1
NO DIAGNOSIS			1
RED SPOT	- CLADOSPORIUM		1
ROOT PROBLEM			1
ROOT ROT	- FUNGAL		1
PETUNIA (<u>Petunia</u>)			
CHEMICAL INJURY			1
INSECT INJURY			1
ROOT ROT	- PYTHIUM, RHIZOCTONIA		2
SALVIA (<u>Salvia</u>)			
INADEQUATE SPECIMEN			1
ROOT ROT	- PYTHIUM		1
SNAPDRAGON (<u>Antirrhinum</u>)			
COLLAR ROT	- RHIZOCTONIA		1
ROOT ROT	- PELLICULARIA, PYTHIUM		2
VINCA (<u>Vinca</u>)			
ANTHRACNOSE	- COLLEIOTRICHUM		1
INSECT INJURY			1
ROOT ROT	- PELLICULARIA		1
MISCELLANEOUS HERBACEOUS ORNAMENTALS			
CULTURAL			10
INSECT INJURY			5
NO DIAGNOSIS			3

Houseplants

AFRICAN VIOLET (<u>Saintpaulia</u>)			
CROWN ROT	- PYTHIUM		1
INADEQUATE SPECIMEN			2
INSECT INJURY			1
POWDERY MILDEW	- OIDIUM		1
AGLAONEMA (<u>Aglaonema</u>)			
STEM ROT	- PYTHIUM		1
BENJAMIN FIG (<u>Ficus beniamina</u>)			
CULTURAL			7
DIEBACK	- PHOMOPSIS		1
INSECT INJURY			2
NO DIAGNOSIS			1

CROTON (<u>Croton</u>)	CUTTING ROT	- <u>PYTHIUM</u>	1
CYCLAMEN (<u>Cyclamen</u>)	SOFT ROT	- <u>ERWINIA</u>	3
DRACAENA (<u>Dracaena</u>)	BACTERIAL SOFT ROT	- <u>ERWINIA</u>	1
	CULTURAL		6
DUMBCANE (<u>Dieffenbachia</u>)	ANTHRACNOSE	- <u>GLOMERELLA</u>	1
	STEM ROT	- <u>COLLETOTRICHUM</u>	1
FERN (various)	LEAF BLISTER	- <u>TAPHRINA</u>	1
	NO DIAGNOSIS		1
PHILODENDRON (<u>Philodendron</u>)	NO DIAGNOSIS		1
	ROOT ROT	- <u>RHIZOCTONIA</u>	1
POINSETTIA (<u>Euphorbia</u>)	NO DIAGNOSIS		1
	ROOT ROT/STEM ROT	- <u>FUSARIUM</u> , <u>PYTHIUM</u> and <u>RHIZOCTONIA</u>	4
SCHIEFFLERA (<u>Brassaia</u>)	CULTURAL		8
	INSECT INJURY		1
SFATHIPHYLLUM (<u>Spathiphyllum</u>)	BACTERIAL SOFT ROT	- <u>ERWINIA</u>	1
	CULTURAL		1
MISCELLANEOUS HOUSEPLANTS			10
	CULTURAL		3
	INSECT INJURY		3
	NO DIAGNOSIS		3

Turfgrass

BENTGRASS (<u>Agrostis</u>)	ENVIRONMENTAL STRESS		1
	PINK SNOW MOLD	- <u>FUSARIUM</u>	1
BERMUDAGRASS (<u>Cynodon</u>)	SMUT	- <u>USTILAGO</u>	2
BLUEGRASS, Kentucky (<u>Poa</u>)	BROWN PATCH	- <u>RHIZOCTONIA</u>	2
	DOLLAR SPOT	- <u>SCLEROTINIA</u>	1

BLUEGRASS (cont'd)		
ENVIRONMENTAL STRESS		3
FADING OUT	- <u>CURVULARIA</u>	1
HELMINTHOSPORIUM LEAF SPOT	- <u>DRECHSLERA</u>	4
INADEQUATE SPECIMEN		1
MELTING-OUT	- <u>DRECHSLERA</u>	1
NO DIAGNOSIS		1
POWDERY MILDEW	- <u>ERYSIPHE</u>	1
RED THREAD	- <u>CORTICIUM</u>	1
ROOT PROBLEM		1
SLIME MOLD	- <u>PHYSARUM</u>	1
FESCUE (<u>Festuca</u>)		
NO DIAGNOSIS		2
RED THREAD	- <u>CORTICIUM</u>	1
TURFGRASS (unspecified species)		
ALGAE		2
DOLLAR SPOT	- <u>SCLEROTINIA</u>	1
HELMINTHOSPORIUM LEAF SPOT	- <u>DRECHSLERA</u>	2
INADEQUATE SPECIMEN		1
ZOYSIA (<u>Zoysia</u>)		
NO DIAGNOSIS		2

Woody Ornamentals

ARBORVITAE (<u>Thuja</u>)		
INSECT INJURY		1
TRANSPLANT SHOCK		1
TWIG BLIGHT	- <u>PESTALOTIA</u>	1
ASH (<u>Fraxinus</u>)		
ANTHRACNOSE	- <u>GLOEOSPORIUM</u>	3
CANKER	- FUNGAL	1
INSECT INJURY		3
LEAF SPOT	- FUNGAL	1
NO DIAGNOSIS		1
AZALEA - See RHODODENDRON		
BEECH (<u>Fagus</u>)		
INADEQUATE SPECIMEN		1
LEAF SPOT	- <u>PHYLLOSTICTA</u>	1
NO DIAGNOSIS		1
BIRCH (<u>Betula</u>)		
CANKER	- FUNGAL	1
ENVIRONMENTAL STRESS		2
INADEQUATE SPECIMEN		1
INSECT INJURY		3
LEAF SPOT	- <u>CYLINDROSPORIUM</u>	1

BIRCH (cont'd)		
	NO DIAGNOSIS	3
	ROOT PROBLEM	2
BLACK GUM (<u>Nyssa</u>)		
	ANTHRACNOSE	1
BOXWOOD (<u>Buxus</u>)		
	CANKER - <u>PSEUDONECTRIA</u>	1
	ENVIRONMENTAL STRESS	3
	INSECT INJURY	1
	LEAF SPOT - <u>MACROPHOMA</u>	2
	NO DIAGNOSIS	2
	NUTRITIONAL	3
	ROOT PROBLEM	1
BUCKEYE (<u>Aesculus</u>)		
	CANKER - FUNGAL	1
CHERRY, Weeping (<u>Prunus</u>)		
	LEAF SPOT - <u>COCCOMYCES</u>	1
CRABAPPLE (<u>Malus</u>)		
	APPLE SCAB - <u>VENTURIA</u>	45
	CEDAR-APPLE RUST - <u>GYMNOSPORANGIUM</u>	1
	FROG-EYE LEAF SPOT - <u>PHYSALOSPORA</u>	1
	NO DIAGNOSIS	1
	TRANSPLANT SHOCK	1
DOGWOOD (<u>Cornus</u>)		
	ANTHRACNOSE - <u>COLLETOTRICHUM</u>	1
	CANKER/DIEBACK - <u>CYTOSPORA, GLOEOSPORIUM</u>	1
	CHEMICAL INJURY	1
	DOGWOOD STRESS (environmental)	19
	INADEQUATE SPECIMEN	2
	NO DIAGNOSIS	6
	PHYSICAL INJURY	1
	SPOT ANTHRACNOSE - <u>ELSINOE</u>	10
	TWIG BLIGHT - <u>CRYPTOSTICTIS</u>	1
ELM (<u>Ulmus</u>)		
	ANTHRACNOSE - <u>GLOEOSPORIUM</u>	2
	BLACK SPOT - <u>GNOMONIA</u>	2
	INADEQUATE SPECIMEN	1
	INSECT INJURY	1
	LEAF BLISTER - <u>TAPHRINA</u>	2
	NO DIAGNOSIS	3
	PHYSICAL INJURY	1
	WET WOOD/SLIME FLUX	1
EUDNYMUS (<u>Euonymus</u>)		
	CHEMICAL INJURY	1
	CROWN GALL - <u>AGROBACTERIUM</u>	2
	ENVIRONMENTAL - DROUGHT	1

EUONYMUS (cont'd)		
INSECT INJURY		4
NO DIAGNOSIS		3
POWDERY MILDEW	- <u>OIDIUM</u>	3
ROOT PROBLEM		2
FORSYTHIA (<u>Forsythia</u>)		
ANTHRACNOSE	- <u>GLOEOSPORIUM</u>	1
CROWN GALL	- <u>AGROBACTERIUM</u>	1
ENVIRONMENTAL STRESS		1
NO DIAGNOSIS		1
ROOT PROBLEM		1
HAWTHORN (<u>Crataegus</u>)		
CEDAR-HAWTHORN RUST	- <u>GYMNOSPORANGIUM</u>	15
LEAF SPOT	- <u>FABRAEA</u>	1
HEMLOCK (<u>Tsuga</u>)		
ENVIRONMENTAL STRESS		3
INSECT INJURY		2
NO DIAGNOSIS		2
HOLLY, including Inkberry (<u>Ilex</u>)		
ANTHRACNOSE	- <u>GLOEOSPORIUM</u>	1
BLACK ROOT ROT	- <u>THIELAVIOPSIS</u>	7
DIEBACK	- <u>BOTRYOSPHERIA, DOTHIURELLA</u>	2
ENVIRONMENTAL	- DROUGHT	5
	- OTHER	3
INADEQUATE SPECIMEN		4
INSECT INJURY		4
LEAF SPOT	- <u>PHYLLUSTICTIA, etc.</u>	3
NATURAL SENESCENCE		2
NO DIAGNOSIS		16
ROOT PROBLEM		3
ROOT ROT	- <u>RHIZOCTONIA</u>	1
HONEYSUCKLE (<u>Lonicera</u>)		
AIR POLLUTION INJURY		1
LEAF SCORCH		1
NO DIAGNOSIS		1
ROOT PROBLEM		1
HYDRANGEA (<u>Hydrangea</u>)		
ANTHRACNOSE	- <u>GLOEOSPORIUM</u>	1
IVY (various)		
INSECT INJURY		1
LEAF SPOTS	- <u>GUIGNARDIA, XANTHOMONAS</u>	3
JUNIPER and RED CEDAR (<u>Juniperus</u>)		
ENVIRONMENTAL STRESS		3
INSECT INJURY		3
NO DIAGNOSIS		8
ROOT PROBLEM		1

JUNIPER and RED CEDAR (cont'd)		
SOOTY MOLD		1
TWIG BLIGHT	- <u>KABATINA</u>	5
	- <u>PHOMOPSIS</u>	5
WEB BLIGHT	- <u>RHIZOCTONIA</u>	1
LILAC (<u>Syringa</u>)		
CHEMICAL INJURY		1
ENVIRONMENTAL	- DROUGHT	1
LEAF SCORCH		1
POWDERY MILDEW	- <u>MICROSPHAERA</u>	2
LINDEN (<u>Tilia</u>)		
INSECT INJURY		1
PHYSICAL INJURY		1
VERTICILLIUM WILT		1
MAGNOLIA (<u>Magnolia</u>)		
CHEMICAL INJURY		1
ENVIRONMENTAL STRESS		3
INADEQUATE SPECIMEN		1
INSECT INJURY		1
LEAF SPOT	- FUNGAL	1
NO DIAGNOSIS		3
MAHONIA (<u>Mahonia</u>)		
ROOT PROBLEM		1
MAPLE (<u>Acer</u>)		
ANTHRACNOSE	- <u>GLOEOSPORIUM</u>	32
BULLS-EYE SPOT	- <u>CRISTULARIELLA</u>	1
CANKER	- FUNGAL	1
CHEMICAL INJURY		7
ENVIRONMENTAL	- COLD/FROST	7
	- DROUGHT	7
	- TRANSPLANT SHOCK	3
	- WET FEET	2
	- OTHER	14
GIRDLING ROOT		5
INADEQUATE SPECIMEN		6
INSECT INJURY		20
LEAF SCORCH		6
LEAF SPOT	- <u>PHYLLOSTICTA</u>	3
NO DIAGNOSIS		15
PHYSICAL INJURY		2
ROOT ROT	- <u>PHYTOPHTHORA</u>	1
SOOTY MOLD		1
TAR SPOT	- <u>RHYTISMA</u>	2
VERTICILLIUM WILT		3
MOUNTAIN ASH (<u>Sorbus</u>)		
FIREBLIGHT	- <u>ERWINIA</u>	1
TRANSPLANT SHOCK		1
WOOD DECAY	- POLYPORE (Basidiomycete)	1

MOUNTAIN LAUREL (<u>Kalmia</u>)		
INSECT INJURY		1
LEAF SCORCH	- DROUGHT	1
LEAF SPOT	- FUNGAL	1
ROOT PROBLEM		1
OAK (<u>Quercus</u>)		
ANTHRACNOSE	- <u>GNOMONIA</u>	8
CHEMICAL INJURY		5
ENVIRONMENTAL	- DROUGHT	4
	- OTHER	3
INADEQUATE SPECIMEN		1
INSECT INJURY		5
LEAF BLISTER	- <u>TAPHRINA</u>	11
LEAF SCORCH		4
LEAF SPOT	- <u>ACTINOPLEIE</u> , etc.	3
NO DIAGNOSIS		5
NUTRITIONAL	- IRON DEFICIENCY	3
POWDERY MILDEW		3
REFERRAL		1
WOOD DECAY		1
PINE (<u>Pinus</u>)		
AIR POLLUTION INJURY		1
CANKER	- FUNGAL	2
ENVIRONMENTAL	- DROUGHT	7
	- TRANSPLANT SHOCK	8
	- OTHER	6
INADEQUATE SPECIMEN		3
INSECT INJURY		10
NO DIAGNOSIS		15
NEEDLE RUST	- <u>COLEOSPORIUM</u>	3
NEEDLECAST	- FUNGAL	1
NORMAL NEEDLE DROP		2
ROOT PROBLEM		5
ROOT ROT	- FUNGAL	2
SOOTY MOLD		3
TWIG BLIGHT	- <u>DIFLODIA</u>	6
WHITE PINE DECLINE		6
PLUM, Flowering (<u>Prunus</u>)		
BLACK KNOT	- <u>DIBOTRYON</u>	1
NO DIAGNOSIS		1
PYRACANTHA (<u>Pyracantha</u>)		
SCAB	- <u>VENTURIA</u>	3
REDBUD (<u>Cercis</u>)		
CHEMICAL INJURY		2
INADEQUATE SPECIMEN		1
TRANSPLANT SHOCK		1

RHODODENDRON and AZALEA (<u>Rhododendron</u>)		
AZALEA GALL	- EXOBASIDIUM	20
CANKER	- BOTRYOSPHERA, etc.	4
CHEMICAL INJURY		1
CROWN ROT	- PHYTOPHTHORA	1
DIEBACK	- PHYTOPHTHORA, SPHAEROPSIS	2
ENVIRONMENTAL	- DROUGHT	2
	- OTHER	6
GREY BLIGHT	- PESTALOTIA	1
INADEQUATE SPECIMEN		2
LEAF SCORCH		1
LEAF SPOT	- GLOEOSPORIUM, SEPTORIA	2
NO DIAGNOSIS		2
NUTRITIONAL	- IRON DEFICIENCY	1
REFERRAL		1
ROOT PROBLEM	- CAUSE UNKNOWN	9
ROSE (<u>Rosa</u>)		
BLACK SPOT	- DIPLOCARPON	7
CANKER	- LEPTOSPHERA, etc.	2
CHEMICAL INJURY		2
CROWN GALL	- AGROBACTERIUM	2
CULTURAL/NUTRITIONAL		2
INSECT INJURY		1
LEAF SPOT	- FUNGAL	1
NO DIAGNOSIS		2
POWDERY MILDEW	- SPHAEROTHECA	1
ROOT PROBLEM		1
RUSSIAN OLIVE (<u>Elaeagnus</u>)		
CANKER	- FUSICOCUM	1
SMOKETREE (<u>Cotinus</u>)		
VERTICILLIUM WILT		1
SPRUCE (<u>Picea</u>)		
CANKER	- CYTOSFORA	1
CHEMICAL INJURY		3
ENVIRONMENTAL	- DROUGHT	1
	- TRANSPLANT SHOCK	3
	- OTHER	5
INADEQUATE SPECIMEN		2
INSECT INJURY		6
NO DIAGNOSIS		11
NUTRITIONAL		1
PHYSICAL INJURY		1
ROOT PROBLEM		1
SWEETGUM (<u>Liquidambar</u>)		
BLEEDING NECROSIS	- BOTRYOSPHERA	1
CANKER	- CYTOSFORA, etc.	1
ENVIRONMENTAL STRESS		2
INSECT INJURY		1

SWEETGUM (cont'd)		
NO DIAGNOSIS		4
NUTRITIONAL	- pH RELATED	1
SYCAMORE and PLANETREE (<u>Platanus</u>)		
ANTHRACNOSE	- <u>GONOMONIA</u>	4
CANKER	- FUNGAL	1
CHEMICAL INJURY		1
INSECT INJURY		1
NO DIAGNOSIS		1
PHYSICAL INJURY		1
TAXUS (<u>Taxus</u>)		
CANKER	- CAUSE UNKNOWN	1
CHEMICAL INJURY		15
ENVIRONMENTAL	- DROUGHT	3
	- WET FEET	3
	- OTHER	2
INADEQUATE SPECIMEN		5
LEAF SCORCH		1
NO DIAGNOSIS		27
NUTRITIONAL	- ACID SOIL	1
PHYSICAL INJURY		1
ROOT PROBLEM		5
ROOT ROTS	- <u>PYTHIUM, PHYTOPHTHORA</u>	3
TULIPTREE (<u>Liriodendron</u>)		
CHEMICAL INJURY		3
ENVIRONMENTAL STRESS		1
INADEQUATE SPECIMEN		1
INSECT INJURY		3
NO DIAGNOSIS		5
PHYSICAL INJURY		1
VIBURNUM (<u>Viburnum</u>)		
INADEQUATE SPECIMEN		1
INSECT INJURY		1
NO DIAGNOSIS		1
ROOT ROT	- <u>PHYTOPHTHORA</u>	1
WALNUT (<u>Juglans</u>)		
CHEMICAL INJURY		1
DOWNY SPOT	- <u>MICROSTROMA</u>	1
ENVIRONMENTAL/NUTRITIONAL		2
INADEQUATE SPECIMEN		1
WEIGELA (<u>Weigela</u>)		
LEAF SCORCH		1
ROOT PROBLEM		1
WILLOW (<u>Salix</u>)		
CANKER	- <u>PHYSALOSEFORA, etc.</u>	3
NO DIAGNOSIS		4

ZELKOVA (Zelkova)
 CANKER - SPHAEROPSIS, etc. 2

=====

VEGETABLES

ASPARAGUS (Asparagus)
 ENVIRONMENTAL - DROUGHT 1
 NO DIAGNOSIS 2
 ROOT PROBLEM - CAUSE UNKNOWN 1

BEAN (Phaseolus)
 BEAN RUST - UROMYCES 1
 BEAN YELLOW MOSAIC VIRUS 16
 CHEMICAL INJURY 2
 ENVIRONMENTAL - WET FEET 1
 - DROUGHT 2
 INADEQUATE SPECIMEN 6
 INSECT INJURY 3
 LEAF SCORCH 1
 LEAF SPOT - PHYLLUSTICTA 1
 NO DIAGNOSIS 3
 ROOT PROBLEM 1
 ROOT ROTS - FUSARIUM 2
 - RHIZOCTONIA 9
 SOUTHERN STEM BLIGHT - SCLEROTIUM 1

CORN, Sweet (Zea)
 BACTERIAL STALK ROT- ERWINIA CHRYSANTHEMI 2
 CHEMICAL INJURY UNK 2
 ENVIRONMENTAL - DROUGHT 1
 INADEQUATE SPECIMEN 1
 INSECT INJURY 2
 NO DIAGNOSIS 1
 NUTRITIONAL - ACID SOIL 2
 - OTHER 1
 ROOT ROT - FUNGAL 1
 SMUT - USTILAGO 1
 STEWART'S WILT - ERWINIA STEWARTII 6

CRUCIFERS - Broccoli, Cabbage, Cauliflower, Mustard,
 Radish and Turnip (Brassica)
 BACTERIAL SOFT ROT - ERWINIA 5
 BLACK ROT - XANTHOMONAS 12
 CHEMICAL INJURY 1
 CLUBROOT - PLASMODIOPHORA 1
 ENVIRONMENTAL STRESS 5
 INSECT INJURY 3
 LEAF SCORCH 1
 NO DIAGNOSIS 3
 NUTRITIONAL 1
 PHYSICAL INJURY 2
 TIF BURN 2

CRUCIFERS (cont'd)			
	WIRESTEM	- RHIZOCTONIA	2
CUCURBITS - Cantaloupe, Cucumber (<u>Cucumis</u>); Squash (<u>Cucurbita</u>); Watermelon (<u>Citrulus</u>)			
	AIR POLLUTION INJURY		1
	ANTHRACNOSE	- COLLETOTRICHUM	2
	BACTERIAL WILT	- ERWINIA	11
	CHEMICAL INJURY		4
	ENVIRONMENTAL STRESS		2
	FRUIT ROT	- CHOANEOPHORA	1
	INADEQUATE SPECIMEN		4
	INSECT INJURY		1
	LEAF SPOT	- ALTERNARIA	1
	NO DIAGNOSIS		2
	NUTRITIONAL	- MAGNESIUM DEFICIENCY	1
	ROOT KNOT NEMATODE	- MELOIDOGYNE	1
LIMA BEAN (<u>Phaseolus</u>)			
	SEED FITTING	- STINK BUG	1
ONION (<u>Allium</u>)			
	ENVIRONMENTAL	- WET FEET	1
	NO DIAGNOSIS		1
	NUTRITIONAL	- NITROGEN DEFICIENCY	2
	PHYSICAL INJURY		1
PEA (<u>Pisum</u>)			
	INADEQUATE SPECIMEN		1
	ROOT ROT	- RHIZOCTONIA	2
	SOUTHERN STEM BLIGHT	- SCLEROTIUM	1
	STEM SPOT	- ASCOCHYTA	1
PEANUT (<u>Arachis</u>)			
	SOUTHERN STEM BLIGHT	- SCLEROTIUM	1
PEPPER (<u>Capsicum</u>)			
	BACTERIAL SPOT	- XANTHOMONAS	4
	CHEMICAL INJURY		2
	ENVIRONMENTAL -	- SUNSCALD	4
		- OTHER	2
	FUSARIUM WILT		1
	INADEQUATE SPECIMEN		4
	NO DIAGNOSIS		2
	NUTRITIONAL		2
	ROOT ROT	- FUSARIUM	1
	SOUTHERN STEM BLIGHT	- SCLEROTIUM	3
POTATO (<u>Solanum</u>)			
	BLACKLEG	- ERWINIA	2
	CANKER	- RHIZOCTONIA	1
	CHEMICAL INJURY		1
	EARLY BLIGHT	- ALTERNARIA	1

POTATO (cont'd)			
ENVIRONMENTAL	- FRUIT PRODUCTION		1
	- WET FEET		1
NO DIAGNOSIS			2
ROOT KNOT NEMATODE	- <u>MELOIDOGYNE</u>		1
SCAB	- <u>STREPTOMYCES</u>		2
RHUBARB (<u>Rheum</u>)			
CROWN ROT	- <u>PHYTHIUM</u>		1
NO DIAGNOSIS			1
SPINACH (<u>Spinacea</u>)			
NUTRITIONAL	- NITROGEN DEFICIENCY		1
SWEETPOTATO (<u>Ipomoea</u>)			
BLACK ROT	- <u>CERATOCYSTIS</u>		1
ENVIRONMENTAL	- SUNSCALD		1
INADEQUATE SPECIMEN			1
SCURF	- <u>MONILOCHAEETES</u>		2
TOMATO (<u>Lycopersicon</u>)			
BACTERIAL CANKER	- <u>CORYNEBACTERIUM</u>		1
BACTERIAL SPOT	- <u>XANTHOMONAS</u>		1
BACTERIAL STEM ROT			1
BACTERIAL WILT	- <u>PSEUDOMONAS</u>		4
BLOSSOM END ROT			1
CAT FACING			1
CHEMICAL INJURY			8
CUCUMBER MOSAIC VIRUS			1
EARLY BLIGHT	- <u>ALTERNARIA</u>		1
ENVIRONMENTAL	- DROUGHT		1
	- WET FEET		2
	- OTHER		3
FRUIT ROT	- FUNGAL		1
<u>FUSARIUM</u> WILT			5
GRAY WALL			1
GROWTH CRACK			1
INADEQUATE SPECIMEN			10
INSECT INJURY			5
LEAF SPOT	- <u>SEPTORIA</u>		9
NO DIAGNOSIS			8
NUTRITIONAL			4
PHYSICAL INJURY			1
PHYSIOLOGICAL LEAF ROLL			7
ROOT KNOT NEMATODE	- <u>MELOIDOGYNE</u>		2
ROOT PROBLEM			1
ROOT ROT	- <u>PHYTOPHTHORA, etc.</u>		2
SOUTHERN STEM BLIGHT	- <u>SCLEROTIUM</u>		2
STEM ROT	- FUNGAL		1
MISCELLANEOUS VEGETABLES			
INADEQUATE SPECIMEN			1
NO DIAGNOSIS			2

=====

MISCELLANEOUS

LEAVES	ALGAL GROWTH	1
ROOTS	NO DIAGNOSIS	1
WEEDS	LEAF SPOT - <u>CERCOSPORA</u>	2

=====

TOTAL SPECIMENS 3676