

Common Names for Plant Diseases

An effort to assemble and standardize common names for agricultural and ornamental crops began in 1978 with the formation of The American Phytopathological Society's Committee on Standardization of Common Names for Plant Diseases. G. L. Worf of the University of Wisconsin, Madison, served as the first chairman, followed by A. H. McCain of the University of California, Berkeley; R. P. Covey of the University of Washington, Wenatchee; and B. J. Castanho of the Monsanto Company, St. Louis.

As each commodity list of plant diseases was completed, it was published in *Phytopathology News*, with the request that readers react favorably or unfavorably to the decisions made. Lists of names were then revised and collected until now we have 35 commodity lists to publish. When another group is ready, it

will also be published. It is expected that the lists will not be revised for at least 5 years so that stability in use of common names will be achieved. The APS Council approved these names as *preferred* names, and editors will request that authors consider using these names in journal and other publications.

The committee thanks F. A. Uecker, mycologist with the U.S. Department of Agriculture, Beltsville; nematologists A. M. Golden of the U.S. Department of Agriculture, Beltsville, K. R. Barker of North Carolina State University, Raleigh, and O. J. Dickerson of Clemson University; and the individual collators and many unnamed assistants for the hours they devoted to this project.

J. D. Hansen, *Chairman, Committee on Standardization of Common Names for Plant Diseases*

Reprints of this group of common names for plant diseases will be made available, if there are sufficient orders, at a price of \$10.00 per booklet. Orders must be received by October 1, 1985. Write, giving total number of booklets desired, to Common Names for Plant Diseases, The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN 55121.

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Alfalfa (*Medicago sativa* L.)

Joseph H. Graham, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Colletotrichum trifolii</i> Bain
2. Bacterial leaf spot	<i>Xanthomonas campestris</i> pv. <i>alfalfae</i> (Riker et al) Dye
3. Bacterial wilt	<i>Clavibacter michiganense</i> subsp. <i>insidiosum</i> (McCulloch) Davis et al (= <i>Corynebacterium insidiosum</i> (McCulloch) Jensen)
4. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synonym: <i>Chalara elegans</i> Nag Raj & Kendrick)
5. Boron deficiency
6. Common leaf spot	<i>Pseudopeziza medicaginis</i> (Lib.) Sacc.
7. Crown and root rot complex	<i>Fusarium</i> spp. and other organisms
8. Crown wart	<i>Physoderma alfalfae</i> (Lagerh.) Karling (= <i>Urophlyctis alfalfae</i> (Lagerh.) Magn.)
9. Damping-off (seedling diseases)	<i>Fusarium acuminatum</i> Ell. & Ev. (teleomorph: <i>Gibberella acuminata</i> Wr.) <i>F. culmorum</i> (W. G. Sm.) Sacc. <i>Pythium debaryanum</i> Hesse <i>P. irregulare</i> Buis <i>P. splendens</i> Braun <i>P. ultimum</i> Trow <i>Pythium</i> spp. <i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
10. Dodder	<i>Cuscuta</i> spp.
11. Downy mildew	<i>Peronospora trifoliorum</i> dBy.
12. Dwarf	Unidentified bacterium (gram-negative rod)
13. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>medicaginis</i>
14. Leafhopper burn	<i>Empoasca fabae</i> (Harris)
15. Leptosphaerulina leaf spot	<i>Leptosphaerulina briosiana</i> (Poll.) Graham & Luttrell
16. Nematodes (parasitic):	
a. Bulb and stem	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
b. Cyst	<i>Heterodera trifolii</i> Goffart
c. Dagger, American	<i>Xiphinema americanum</i> Cobb
d. Needle	<i>Longidorus</i> spp.
e. Pin	<i>Paratylenchus hamatus</i> Thorne & Allen <i>Paratylenchus</i> spp.
f. Reniform	<i>Rotylenchulus</i> spp.
g. Root-knot*	<i>Meloidogyne hapla</i> Chitwood <i>M. incognita</i> (Kofoid & White) Chitwood

h. Root lesion*	<i>Meloidogyne</i> spp. <i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>Pratylenchus</i> spp.
i. Spiral	<i>Helicotylenchus</i> spp.
j. Stubby-root	<i>Paratrichodorus</i> spp.
k. Stunt	<i>Tylenchorhynchus</i> spp.
17. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
18. Phytophthora root rot	<i>Phytophthora megasperma</i> Drechs.
19. Plenodomus root rot	<i>Plenodomus meliloti</i> Dearn. & Sanf.
20. Potassium deficiency
21. Rhizoctonia root rot	<i>Rhizoctonia solani</i> Kühn
22. Rust	<i>Uromyces striatus</i> Schroet. (= <i>U. striatus</i> var. <i>medicaginis</i> (Pass.) Arth.)
23. Sclerotinia crown and stem rot	<i>Sclerotinia trifoliorum</i> Erikss.
24. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
25. Spring black stem and leaf spot	<i>Phoma medicaginis</i> Malbr. & Roum. var. <i>medicaginis</i> (= <i>Ascochyta imperfecta</i> Pk.)
26. Stagonospora leaf spot and root rot	<i>Stagonospora meliloti</i> (Lasch) Petr. (= <i>Leptosphaeria pratensis</i> Sacc. & Briard) (anamorph: <i>Phoma meliloti</i> Allesch.)
27. Stemphylium leaf spot	<i>Stemphylium botryosum</i> Wallr. (teleomorph: <i>Pleospora herbarum</i> (Fr.) Rabenh.)
28. Summer black stem and leaf spot	<i>Cercospora medicaginis</i> Ell. & Ev.
29. Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berth. <i>V. dahliae</i> Kleb.
30. Violet root rot	<i>Helicobasidium purpureum</i> Pat. (anamorph: <i>Rhizoctonia crocorum</i> (Pers.: Fr.) DC.)
31. Virus and mycoplasmalike (MLO) diseases:	
a. Alfalfa latent	Alfalfa latent virus
b. Alfalfa mosaic	Alfalfa mosaic virus
c. Pea streak	Pea streak virus
d. Witches' broom	MLO
32. Winter crown rot (Coprinus snow mold)	<i>Coprinus psychromorbidus</i> Redhead & Traquair
33. Yellow leaf blotch	<i>Leptotrochila medicaginis</i> (Fckl.) Schuepp (= <i>Pyrenopeziza medicaginis</i> Fckl., = <i>Pseudopeziza jonesii</i> Nannf.) (anamorph: <i>Sporonema phacidioides</i> Desm.)

*Common names of the nematode diseases of alfalfa and of the nematodes themselves.

Apple (*Malus domestica* Borkh.)

Kenneth G. Parker, Primary Collator

Common name	Pathogen or cause		
1. Alternaria leaf spot and storage rot	<i>Alternaria mali</i> Roberts		
2. American brown rot	<i>Monilinia fructicola</i> (Wint.) Honey		
3. Anthracnose, bull's eye rot, and perennial canker	<i>Neofabraea malicorticis</i> Jacks (= <i>Pezicula malicorticis</i> (Jacks) Nannf.) (anamorph: <i>Cryptosporiopsis curvispora</i> (Pk.) Gremmen)		
4. Bitter pit	Localized calcium deficiency		
5. Bitter rot	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk		
6. Black pox	<i>Helminthosporium papulosum</i> Berg.		
7. Black root rot	<i>Xylaria mali</i> Fromme		
8. Black rot, frog-eye leaf spot, and canker	<i>Phylospora obtusa</i> (Schw.) Cke. (anamorph: <i>Sphaeropsis malorum</i> (Berk.) Berk.) <i>Phylospora</i> spp.		
9. Blister canker	<i>Nummularia discreta</i> (Schw.) Tul.		
10. Blister spot	<i>Pseudomonas syringae</i> pv. <i>papulans</i> (Rose) Dhanvantari		
11. Blossom blast	Boron deficiency		
12. Blossom and shoot blast	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall		
13. Blotch (fruit), leaf spot, and twig canker	<i>Phyllosticta solitaria</i> Ell. & Ev.		
14. Blue mold	<i>Penicillium expansum</i> Lk.		
15. Botryosphaeria canker and fruit rot	<i>Botryosphaeria dothidea</i> (Moug.: Fr.) Ces. & de Not. (= <i>B. ribis</i> Gross. & Dug.) (anamorph: <i>Dothiorella gregaria</i> Sacc.) <i>B. ribis</i> var. <i>chromogena</i> Shear et al (anamorph[s]: <i>Dothiorella</i> spp.)		
16. Brown rot blossom blight	<i>Monilinia laxa</i> (Aderh. & Ruhl.) Honey		
17. Burr knot	Unidentified (frequently confused with aerial crown gall)		
18. Calyx-end rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.		
19. Cedar apple rust	<i>Gymnosporangium juniperi-virginianae</i> Schw.		
20. Clitocybe root rot	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.)		
21. Collar rot and sprinkler rot	<i>Phytophthora cactorum</i> (Leb. & Cohn) Schroet.		
22. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn		
23. Cytospora canker and dieback	<i>Cytospora ambiens</i> Sacc. <i>C. chrysosperma</i> Pers.: Fr. <i>C. leucosticta</i> Ell. & Barth. <i>C. leucostoma</i> (Pers.) Sacc. (teleomorph: <i>Leucostoma persoonii</i> (Nits.) Hoehn.) <i>C. microspora</i> (Cda.) Rabenh. <i>C. personata</i> Fr. <i>C. rubescens</i> Fr. (teleomorph: <i>Valsa</i> sp.)		
24. Dapple apple	Unidentified		
25. Dematophora root rot (western white root rot)	<i>Rosellinia necatrix</i> Prill. (anamorph: <i>Dematophora necatrix</i> Hartig)		
26. Eastern white root rot	<i>Scytinostroma galactinum</i> (Fr.) Donk		
27. Fire blight	<i>Erwinia amylovora</i> (Burrill) Winslow et al		
28. Fish-eye rot	<i>Corticium centrifugum</i> (Lév.) Bres.		
29. Flyspeck	<i>Schizothyrium pomi</i> (Mont.: Fr.) von Arx (anamorph: <i>Zygophiala jamaicensis</i> Mason)		
30. Fruit cracking	Genetic		
31. Fruit russet	Frost, sprays, etc.		
32. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. <i>Botrytis</i> spp.		
33. Green crinkle	Unidentified		
34. Green mottle	Unidentified		
35. Hairy root	<i>Agrobacterium rhizogenes</i> (Riker et al) Conn		
36. Hawthorn rust	<i>Gymnosporangium globosum</i> Farl.		
37. Hollow apple	High temperature		
38. Hypochynus leaf blight	<i>Pellicularia koleroga</i> Cke.		
39. Internal bark necrosis (measles)	Low pH and mineral nutrient imbalance		
40. Internal browning	Boron and calcium deficiencies, etc.		
41. Jonathan spot	Unidentified		
42. Leptosphaeria canker and fruit rot	<i>Leptosphaeria coniothyrium</i> (Fckl.) Sacc. (anamorph: <i>Coniothyrium fuckelii</i> Sacc.)		
43. Moldy core	<i>Alternaria alternata</i> (Fr.) Keissl.		
44. Narrow leaf	Genetic		
45. Nectria canker	<i>Nectria galligena</i> Bres.		
46. Nectria twig blight	<i>Nectria cinnabarina</i> (Tode: Fr.) Fr.		
47. Nematodes (parasitic):			
a. Dagger, American	<i>Xiphinema americanum</i> Cobb		
b. Lance	<i>Hoplolaimus</i> sp.		
c. Pin	<i>Paratylenchus hamatus</i> Thorne & Allen <i>Paratylenchus</i> spp. <i>Criconebella</i> spp. <i>Meloidogyne</i> spp. <i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>Pratylenchus</i> spp. <i>Hemicycliophora</i> spp. <i>Helicotylenchus</i> spp. <i>Paratrichodorus minor</i> (Colbran) Siddiqi <i>Paratrichodorus</i> spp. <i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.		
d. Ring			
e. Root-knot*			
f. Root lesion*			
g. Sheath			
h. Spiral			
i. Stubby-root			
j. Stunt			
48. Phoma fruit spot (Brook's fruit rot)	<i>Mycosphaerella pomi</i> (Pass.) Lindau (anamorph: <i>Phoma pomi</i> Pass.)		
49. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.		
50. Pink rot	<i>Cephalothecium roseum</i> Cda. (= <i>Trichothecium roseum</i> Lk.: Fr.)		
51. Powdery mildew	<i>Podosphaera leucotricha</i> (Ell. & Ev.) Salm.		
52. Quince rust	<i>Gymnosporangium clavipes</i> (Cke. & Pk.) Cke. & Pk.		
53. Ring spot	Unidentified		
54. Rosette	Genetic		
55. Rough bark	<i>Phomopsis mali</i> Roberts		
56. Scab	<i>Venturia inaequalis</i> (Cke.) Wint. (anamorph: <i>Spilocaea pomi</i> Fr.)		
57. Septobasidium canker	<i>Septobasidium pedicellatum</i> (Berk. & Curt.) Pat.		
58. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)		
59. Side rot	<i>Phialophora malorum</i> (Kidd & Beaum.) McColloch		
60. Silver leaf	<i>Stereum purpureum</i> (Pers.: Fr.) Fr.		
61. Soft scald	Low temperature storage		
62. Sooty blotch	<i>Gloeodes pomigena</i> (Schw.) Colby		
63. Storage scald	Injury to fruit surfaces by gases produced by the fruit itself		
64. Sunburn	Sun injury to fruit		
65. Sunscald	Freezing of bark following high temperatures in winter		
66. Superficial bark canker and fruit rot	<i>Pezicula corticola</i> (Jorg.) Nannf. (anamorph: <i>Cryptosporiopsis corticola</i> (Edgert.) Nannf.)		
67. Twig canker	<i>Monochaetia mali</i> (Ell. & Ev.) Sacc. & D. Sacc.		
68. Variegation	Chimaeral		
69. Virus, mycoplasma-like (MLO), and uncharacterized graft-transmissible pathogen (GTP) diseases:			
a. Blister bark	GTP		
b. Chat fruit	MLO		
c. Chlorotic leaf spot	Apple chlorotic leaf spot virus		
d. False sting	Virus		
e. Flat apple	Cherry rasp leaf virus		

f. Flat limb (twisted limb)	MLO
g. Flute fruit	Apple stem pitting virus
h. Fruit scurf	Virus
i. Leaf pucker	Clover yellow mosaic virus
j. Mosaic	Prunus necrotic ringspot virus
k. Platycarpa scaly bark	Virus
l. Proliferation (witches' broom)	MLO
m. Pustule canker	Virus
n. Rough skin	GTP
o. Rubbery wood	MLO
p. Russet ring	Virus
q. Scar skin	GTP
r. Spy lethal	Virus
s. Star crack	GTP
t. Stem grooving/graft union brown line	Apple stem grooving virus
u. Stem pitting	Virginia crab apple stem pitting virus
v. Tulare apple mosaic	Tulare apple mosaic virus
w. Union necrosis and decline	Tomato ringspot virus
70. Water core	Overmaturity of the fruit
71. White heart rot	Various basidiomycetous fungi

*Common names of the nematode diseases of apple and of the nematodes themselves.

Apricot (*Prunus armeniaca* L.)

J. M. Ogawa, Primary Collator

Common name	Pathogen or cause
1. Alternaria spot and fruit rot	<i>Alternaria alternata</i> (Fr.) Keissl.
2. Apricot gumboil	Unknown (nontransmissible)
3. Bacterial canker and blast	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall
4. Bacterial spot	<i>Xanthomonas campestris</i> pv. <i>pruni</i> (Smith) Dye
5. Brown rot blossom and twig blight and fruit rot	<i>Monilinia laxa</i> (Aderh. & Ruhl.) Honey
6. Ceratocystis canker	<i>Ceratocystis fimbriata</i> Ell. & Halst.
7. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
8. Cytospora canker	<i>Cytospora leucostoma</i> (Pers.) Sacc. (teleomorph: <i>Leucostoma persoonii</i> (Nits.) Hoehn.)
9. Eutypa dieback	<i>Eutypa ameniaceae</i> Hansf. & Carter (anamorph: <i>Cytosporina</i> sp.)
10. Green fruit rot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia</i> <i>fuckeliana</i> (dBy.) Whetz.)
11. Leaf rust	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy. <i>Tranzschelia discolor</i> (Fckl.) Tranz. & Litv.
12. Nematodes (parasitic):	
a. Ring	<i>Criconebella</i> spp.
b. Root-knot*	<i>Meloidogyne</i> spp.
c. Root lesion*	<i>Pratylenchus</i> spp.
13. Penicillium fruit rot	<i>Penicillium expansum</i> Lk.
14. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
15. Phytophthora crown and root rot	<i>Phytophthora</i> spp.
16. Powdery mildew	<i>Sphaerotheca pannosa</i> (Wallr.: Fr.) Lév. <i>Podosphaera tridactyla</i> (Wallr.) dBy. <i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill. <i>R. circinans</i> v. Tiegh. <i>R. arrhizus</i> Fischer
17. Rhizopus fruit rot	<i>Fusicladium carpophilum</i> (Thuem.) Oud. (= <i>Cladosporium carpophilum</i> Thuem.)
18. Scab	

19. Shoestring crown and root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> Vahl: Fr.) Karst.)
20. Shothole (= <i>Coryneum</i> blight)	<i>Stigmina carpophila</i> (Lév.) Ell. (= <i>Coryneum beyerinckii</i> Oud.)
21. Silver leaf	<i>Stereum purpureum</i> (Pers.: Fr.) Fr.
22. Verticillium wilt	<i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.
23. Virus and mycoplasma-like (MLO) diseases:	
a. Apricot virus gummosis	Prune dwarf virus
b. Apricot line pattern	Prunus ringspot virus
c. Apricot ring pox	Apricot ring pox virus
d. Blossom anomaly	MLO
e. Peach mosaic	Peach mosaic virus
f. Prunus stem pitting	Tomato ringspot virus, stem pitting strain
g. Ring spot	Prunus ringspot virus
h. Sharka (plum pox)	Plum pox virus
i. X-disease	MLO
j. Yellow bud mosaic	Tomato ringspot virus, yellow bud mosaic strain

*Common names of the nematode diseases of apricot and of the nematodes themselves.

Azalea (*Rhododendron* sp.)

D. M. Benson, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
2. Botrytis petal blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia</i> <i>fuckeliana</i> (dBy.) Whetz.)
3. Bud and twig blight	<i>Briosia azaleae</i> (Pk.) Dearn.
4. Cercospora leaf spot	<i>Cercospora handelii</i> Bub. (= <i>C. rhododendri</i> Marchal & Verpl.)
5. Clitocybe root rot (mushroom root rot)	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.)
6. Cylindrocladium blight and root rot	<i>Cylindrocladium scoparium</i> Morgan <i>C. floridanum</i> Sobers & Seymour <i>C. theae</i> (Petch) Subram.
7. Damping-off, Pythium	<i>Pythium irregulare</i> Buism. <i>P. ultimum</i> Trow
8. Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus</i> <i>cucumeris</i> (Frank) Donk)
9. Dodder	<i>Cuscuta gronoovii</i> Willd.
10. Exobasidium leaf spot	<i>Exobasidium burtii</i> Zeller
11. Leaf scorch	<i>Septoria azaleae</i> Vogl.
12. Leaf and flower gall	<i>Exobasidium azaleae</i> Peck (= <i>E. vaccinii</i> Wor.)
13. Leaf rust	<i>Pucciniastrum vaccinii</i> (Wint.) Joerst.
14. Nematodes (parasitic):	
a. Dagger, American	<i>Xiphinema americanum</i> Cobb
b. Pin	<i>Paratylenchus curvatus</i> Springer
c. Root-knot*	<i>Meloidogyne</i> spp.
d. Sheath	<i>Hemicycliophora</i> spp.
e. Spiral	<i>Rotylenchus buxophilus</i> Golden <i>R. robustus</i> Rhuele
f. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi
g. Stunt	<i>Tylenchorhynchus claytoni</i> Steiner
15. Ovulinia petal blight	<i>Ovulinia azaeae</i> Weiss
16. Pestalotia leaf spot, twig blight, and crown rot	<i>Pestalotia rhododendri</i> Guba
17. Phomopsis dieback	<i>Phomopsis</i> sp.
18. Phyllosticta leaf spot	<i>Phyllosticta</i> sp.
19. Phytophthora blight and dieback	<i>Phytophthora nicotianae</i> B. de Haan var. <i>parasiitica</i> (Dast.) Waterh.

20. Phytophthora root rot and wilt *Phytophthora cinnamomi* Rands
 21. Powdery mildew *Erysiphe polygoni* DC.
Microsphaera penicillata (Wallr.: Fr.) Lév.
 22. Shoestring root rot (oak root fungus) *Armillaria mellea* (Vahl: Fr.) Kummer (= *Armillariella mellea* (Vahl: Fr.) Karst.)
 23. Twig blight *Monilinia azaleae* Honey
 24. Web blight *Rhizoctonia solani* Kühn
 25. Witches' broom Unknown etiology

*Common name of a nematode disease of azalea and of the nematode itself.

Barley (*Hordeum vulgare* L. emend. Bowden)

Richard L. Kiesling, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
2. Aster yellows	Mycoplasmalike organism (MLO)
3. Barley stripe	<i>Pyrenophora graminea</i> Ito & Kurib. (anamorph: <i>Drechslera graminea</i> (Rabenh.) Shoemaker, = <i>Helminthosporium gramineum</i> Rabenh.)
4. Black chaff and bacterial streak	<i>Xanthomonas campestris</i> pv. <i>translucens</i> (Jones et al) Dye
5. Blotch, net	<i>Pyrenophora teres</i> Drechs. (anamorph: <i>Drechslera teres</i> (Sacc.) Shoemaker, = <i>Helminthosporium teres</i> Sacc.)
6. Blotch, Septoria avenae	<i>Leptosphaeria avenaria</i> Weber f. sp. <i>triticea</i> (anamorph: <i>Septoria avenae</i> Frank f. sp. <i>triticea</i>)
7. Blotch, Septoria nodorum	<i>Leptosphaeria nodorum</i> E. Müller (anamorph: <i>Septoria nodorum</i> (Berk.) Berk.)
8. Blotch, Septoria passerinii	<i>Mycosphaerella graminicola</i> (Fckl.) Schroet. (anamorph: <i>Septoria passerinii</i> Sacc.)
9. Blotch, spot	<i>Cochliobolus sativus</i> (Ito & Kurib. in Kurib.) Drechs. ex Dast. (anamorph: <i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker, = <i>Helminthosporium sativum</i> Pam. et al)
10. Downy mildew	<i>Sclerophthora macrospora</i> (Sacc.) Thirum. et al (= <i>Sclerospora macrospora</i> Sacc.)
11. Dwarf bunt	<i>Tilletia controversa</i> Kühn
12. Ergot	<i>Claviceps purpurea</i> (Fr.) Tul.
13. Eyespot	<i>Pseudocercospora herpotrichoides</i> (Fron) Deighton
14. Eyespot, sharp, and Rhizoctonia root rot	<i>Rhizoctonia cerealis</i> v. d. Hoeven in Boerema & Verhoeven (teleomorph: <i>Ceratobasidium</i> sp.) <i>R. solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
15. Kernel blight, bacterial	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall
16. Kernel blight (black point)	<i>Alternaria</i> spp. <i>Cochliobolus sativus</i> (Ito & Kurib. in Kurib.) Drechs. ex Dast. (anamorph: <i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker, = <i>Helminthosporium sativum</i> Pam. et al) <i>Fusarium</i> spp.
17. Nematodes (parasitic):	
a. Cereal cyst	<i>Heterodera avenae</i> Wollenweber <i>H. hordecalis</i> Andersson <i>H. latipons</i> Franklin
b. Root-gall	<i>Subanguina radicularis</i> (Greeff)
c. Root-knot*	<i>Paramonov</i> <i>Meloidogyne naasi</i> Franklin <i>Meloidogyne</i> spp. <i>Pratylenchus</i> spp.
d. Root lesion*	<i>Merlinius brevidens</i> (Allen) Siddiqi
e. Stunt	<i>Erysiphe graminis</i> DC.: Fr. f. sp. <i>hordei</i>
18. Powdery mildew	<i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium sativum</i> Pam. et al) <i>Fusarium culmorum</i> (W. G. Sm.) Sacc. (= <i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'culmorum') <i>F. graminearum</i> Schwabe (teleomorph: <i>Gibberella zeae</i> (Schweinitz) Petch)
19. Root rot, common (also crown rot and seedling blight)	<i>Pythium arrhenomanes</i> Drechs. (= <i>P. arrhenomanes</i> var. <i>canadense</i> Van & Trusc.) <i>P. graminicola</i> Subram. <i>P. tardicrescens</i> Vanderpool <i>Pythium</i> spp. <i>Pseudomonas atrofaciens</i> (McCulloch) Stevens
20. Root rot, Pythium	<i>Puccinia hordei</i> Otth
21. Rot, basal glume	<i>Puccinia graminis</i> Pers. f. sp. <i>tritici</i> <i>P. graminis</i> Pers. f. sp. <i>secalis</i> <i>Puccinia striiformis</i> Westend.
22. Rust, leaf	<i>Fusarium graminearum</i> Schwabe <i>Fusarium</i> spp.
23. Rust, stem	<i>Rhynchosporium secalis</i> (Oud.) J. J. Davis
24. Rust, stripe	<i>Ustilago hordei</i> (Pers.) Lagerh.
25. Scab (head blight)	<i>Ustilago nuda</i> (Jensen) Rostr. <i>Ustilago nigra</i> Tapke <i>Fusarium nivale</i> Ces. ex Sacc. (= <i>Microdochium nivalis</i> (Fr.) Samuel & Hallett, = <i>Gerlachia nivalis</i> (Ces. ex Sacc.) W. Gams & E. Müller) (teleomorph: <i>Monographella nivalis</i> (Schaffnit) E. Müller)
26. Scald	<i>Typhula incarnata</i> Lasch: Fr. <i>T. ishikariensis</i> Imai var. <i>canadensis</i> Smith & Arsvoll <i>T. ishikariensis</i> Imai var. <i>idahoensis</i> (Remsb.) Arsvoll & Smith <i>T. ishikariensis</i> Imai var. <i>ishikariensis</i>
27. Smut, covered	<i>Myriosclerotinia borealis</i> (Bub. & Vleug.) Kohn (= <i>Sclerotinia borealis</i> Bub. & Vleug.)
28. Smut, loose	<i>Selenophoma donacis</i> (Pass.) Sprague & A. G. Johnson
29. Smut, semiloose	Unknown
30. Snow mold, pink (Fusarium patch)	<i>Pseudomonas syringae</i> pv. <i>striaefaciens</i> (Elliott) Young et al <i>Cephalosporium gramineum</i> Nisik. & Ikata <i>Gaeumannomyces graminis</i> (Sacc.) von Arx & Olivier var. <i>tritici</i> Walker (= <i>Ophiobolus graminis</i> Sacc.)
31. Snow mold, speckled or gray (Typhula blight)	<i>Oat blue dwarf virus</i> <i>Brome mosaic virus</i> <i>Hordeum mosaic virus</i> <i>Barley stripe mosaic virus</i> <i>Wheat soilborne mosaic virus</i>
32. Snow scald (Sclerotinia snow mold)	<i>Wheat streak mosaic virus</i> <i>Barley yellow dwarf virus</i>
33. Spot, halo	
34. Spot, physiological leaf	
35. Stripe, bacterial	
36. Stripe, Cephalosporium	
37. Take-all	
38. Virus diseases:	
a. Blue dwarf	
b. Brome mosaic	
c. Hordeum mosaic	
d. Stripe mosaic	
e. Wheat soilborne mosaic	
f. Wheat streak	
g. Yellow dwarf	

*Common names of the nematode diseases of barley and of the nematodes themselves.

Bean (*Phaseolus vulgaris* L.)

Axel L. Anderson, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria fasciculata</i> (Cke. & Ell.) L. R. Jones & Grout
2. Angular leaf spot	<i>Isariopsis griseola</i> Sacc.
3. Anthracnose	<i>Colletotrichum lindemuthianum</i> (Sacc. & Magn.) Briosi & Cav.
4. Ascochyta leaf spot	<i>Ascochyta boltshauseri</i> Sacc.
5. Bacterial brown spot	<i>Pseudomonas syringae</i> van Hall
6. Bacterial wilt	<i>Curtobacterium flaccumfaciens</i> (Hedges) Collins & Jones (= <i>Corynebacterium flaccumfaciens</i> (Hedges) Dowson)
7. Bald head	Mechanical injury to seed
8. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
9. Bronzing	Ozone air pollution
10. Cercospora leaf blotch	<i>Cercospora cruenta</i> Sacc.
11. Charcoal rot (ashy stem blight)	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
12. Common blight	<i>Xanthomonas campestris</i> pv. <i>phaseoli</i> (Smith) Dye
13. Damping-off and stem rot, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
14. Damping-off, Pythium	<i>Pythium</i> spp.
15. Downy mildew	<i>Phytophthora parasitica</i> Dast.
16. Downy mildew (of lima)	<i>Phytophthora phaseoli</i> Thaxt.
17. Fusarium root rot	<i>Fusarium solani</i> (Mart.) Appel & Wr. f. sp. <i>phaseoli</i>
18. Fusarium yellows	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>phaseoli</i>
19. Fuscos blight	<i>Xanthomonas campestris</i> pv. <i>phaseoli</i> (Smith) Dye
20. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
21. Halo blight	<i>Pseudomonas syringae</i> pv. <i>phaseolicola</i> (Burkholder) Young et al
22. Manganese deficiency
23. Nematodes (parasitic):	
a. Awl	<i>Dolichodorus</i> spp.
b. Cyst	<i>Heterodora</i> spp.
c. Dagger, American	<i>Xiphinema americanum</i> Cobb
d. Pin	<i>Paratylenchus</i> spp.
e. Root-knot*	<i>Meloidogyne</i> spp.
f. Root lesion*	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven
	<i>Pratylenchus</i> spp.
g. Spiral	<i>Helicotylenchus</i> spp.
h. Sting	<i>Belonolaimus longicaudatus</i> Rau
	<i>Belonolaimus</i> spp.
i. Stubby-root	<i>Paratrichodorus</i> spp.
j. Stunt	<i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.
24. Phyllosticta leaf spot	<i>Phyllosticta phaseolina</i> Sacc.
25. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
26. Powdery mildew	<i>Erysiphe polygoni</i> DC.
27. Pythium blight	<i>Pythium aphanidermatum</i> (Edson) Fitzp.
28. Pythium root rot	<i>Pythium</i> spp.
29. Rust	<i>Uromyces phaseoli</i> (Reben.) Wint. var. <i>typica</i> Arth.
30. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curai) Tu & Kimbrough)
31. Virus diseases:	
a. Common mosaic	Bean common mosaic virus
b. Curly top	Beet curly top virus
c. Peanut stunt	Peanut stunt virus
d. Pod mottle	Bean pod mottle virus

e. Red node	Tobacco streak virus
f. Southern mosaic	Bean southern mosaic virus
g. Tobacco ringspot	Tobacco ringspot virus
h. Yellow mosaic	Bean yellow mosaic virus
32. Web blight	<i>Rhizoctonia solani</i> Kühn (= <i>R. microsclerotia</i> Matz)
33. White mold (Sclerotinia rot)	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.
34. Zinc deficiency

*Common names of the nematode diseases of beans and of the nematodes themselves.

Beet (*Beta vulgaris* L.)

Earl G. Ruppel, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria brassicae</i> (Berk.) Sacc. <i>A. alternata</i> (Fr.) Keissl.
2. Aphanomyces root rot	<i>Aphanomyces cochlioides</i> Drechs.
3. Bacterial blight	<i>Pseudomonas syringae</i> van Hall
4. Bacterial pocket	<i>Xanthomonas beticola</i> (Smith et al) Savulescu
5. Bacterial vascular necrosis	<i>Erwinia carotovora</i> (Jones) Bergey et al subsp. <i>betavascularum</i> Thomson et al
6. Black wood vessel	<i>Pythium irregulare</i> Buis.
7. Cercospora leaf spot	<i>Cercospora beticola</i> Sacc.
8. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
9. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
10. Damping-off, Aphanomyces	<i>Aphanomyces cochlioides</i> Drechs.
11. Damping-off and root rot, Phoma	<i>Pleospora bjoerlingii</i> Byford (anamorph: <i>Phoma betae</i> Frank)
12. Damping-off, Pythium	<i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. debaryanum</i> Hesse <i>P. ultimum</i> Trow
13. Damping-off, crown and root rot, and foliar blight, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
14. Docking disorder	<i>Longidorus</i> spp. and <i>Paratrichodorus</i> spp.
15. Downy mildew	<i>Peronospora farinosa</i> (Fr.) Fr. f. sp. <i>betae</i>
16. Fusarium yellows	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>betae</i>
17. Heart rot	Boron deficiency
18. Leaf gall	<i>Urophlyctis leproides</i> (Trabut) Magn.
19. Nematodes (parasitic):	
a. Bulb and stem	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
b. Cyst (sugar beet)	<i>Heterodera schachtii</i> Schmidt
c. False root-knot*	<i>Nacobbus aberrans</i> (Thorne) Thorne & Allen
d. Needle	<i>Longidorus</i> spp.
e. Root-knot*	<i>Meloidogyne</i> spp.
f. Root lesion*	<i>Pratylenchus</i> spp.
g. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi
	<i>Paratrichodorus</i> spp.
20. Phoma leaf spot	<i>Phoma betae</i> Frank
21. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
22. Phytophthora wet rot	<i>Phytophthora drechsleri</i> Tucker
23. Pythium wet rot	<i>Pythium aphanidermatum</i> (Edson) Fitzp.
24. Powdery mildew	<i>Erysiphe polygoni</i> DC. (= <i>E. betae</i> (Vanha) Weltz.)
25. Pythium root rot	<i>Pythium aphanidermatum</i> (Edson) Fitzp.
26. Ramularia leaf spot	<i>Ramularia beticola</i> Fautr. & Lambotte
27. Rhizopus root rot	<i>Rhizopus arrhizus</i> Fischer <i>R. oryzae</i> Went & Prin.-Geerl. <i>R. stolonifer</i> (Ehr.: Fr.) Vuill. <i>Uromyces betae</i> Tul. ex Kickx. <i>Streptomyces scabies</i> (Thaxter) Waksman & Henrici
28. Rust	
29. Scab	

30. Sclerotinia crown and root rot *Sclerotinia sclerotiorum* (Lib.) dBy.
31. Seedling rust *Puccinia subnitens* Diet.
32. Silvering disease *Curto bacterium flaccumfaciens* pv. *betae* (Hedges) Collins & Jones (= *Corynebacterium betae* Keyworth et al)
33. Southern blight (Sclerotium root rot) *Sclerotium rolfsii* Sacc. (teleomorph: *Athelia rolfsii* (Curzi) Tu & Kimbrough)
34. Storage rot, Botrytis *Botrytis cinerea* Pers.: Fr. (teleomorph: *Botryotinia fuckeliana* (dBy.) Whetz.)
35. Storage rot, Penicillium *Penicillium claviforme* Bainier
P. cyclopium Westling
P. funiculosum Thom
P. variable Sopp
36. Storage rot, Phoma *Phoma betae* Frank
37. Verticillium wilt *Verticillium albo-atrum* Reinke & Berth.
38. Violet root rot *Helicobasidium purpureum* Pat. (anamorph: *Rhizoctonia crocorum* (Pers.: Fr.) DC.)
39. Virus and viroid diseases:
a. Alfalfa mosaic virus
b. Beet crinkle Suspected virus
c. Beet curly top Beet curly top virus
d. Beet mosaic Beet mosaic virus
e. Beet savoy Suspected virus
f. Beet yellow net Beet yellow net virus
g. Beet yellow vein Suspected virus
h. Beet yellows Beet western yellows virus
Beet yellows virus
i. Cucumber mosaic Cucumber mosaic virus
j. Rhizomania Beet necrotic yellow vein virus (fungal vector: *Polymyxa betae* Keskin)
40. Yellow wilt Yellow wilt spiroplasma
- *Common names of the nematode diseases of beet and of the nematodes themselves.

Caneberries (*Rubus* spp.)

R. H. Converse, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Elsinoë veneta</i> (Burkh.) Jenkins
2. Bacterial blight	<i>Pseudomonas syringae</i> van Hall
3. Blackberry leaf and cane spot	<i>Septoria rubi</i> West. (teleomorph: <i>Mycosphaerella rubi</i> Roark)
4. Black rot	<i>Phyllostictina carpogena</i> Shear
5. Blotch	<i>Mycosphaerella confusa</i> Wolf (anamorph: <i>Cercospora rubi</i> Sacc.)
6. Blue mold fruit rot	<i>Penicillium</i> spp.
7. Brown berry disease (of black raspberry)	Cause unknown
8. Cane and leaf rust	<i>Kuehneola uredinis</i> (Lk.) Arth.
9. Cane blight	<i>Leptosphaeria coniothyrium</i> (Fckl.) Sacc. (anamorph: <i>Coniothyrium fuckelii</i> Sacc.)
10. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
11. Crumbly berries	Various causes: Pollination, genetic, virus, insect, nutrition, winter injury, water relations
12. Downy mildew	<i>Peronospora rubi</i> Rabenh. <i>P. potentillae</i> dBy.
13. Dryberry disease (of loganberry)	<i>Phyllocoptes gracilis</i> (Nalepa) (dryberry mite) and <i>Rhizoctonia rubi</i> McKeen
14. Fasciation	Cause unknown
15. Fire blight	<i>Erwinia amylovora</i> (Burrill) Winslow et al f. sp. <i>rubi</i>
16. Fruit rots	<i>Alternaria</i> spp. <i>Cladosporium</i> spp.

17. Gray mold *Mucor* spp.
Rhizopus spp.
Botrytis cinerea Pers.: Fr. (teleomorph: *Botryotinia fuckeliana* (dBy.) Whetz.)
18. Late leaf rust *Pucciniastrum americanum* (Farl.) Arth.
19. Leaf spots *Sphaerulina rubi* Demaree & M. S. Wilcox (anamorph: *Cylindrosporium rubi* Ell. & Morg.)
Mycosphaerella spp.
Pezizella oenotherae (Cke. & Ell.) Sacc. (anamorph: *Hainesia lythri* (Desm.) Hoehn.)
Phyllosticta spp.
20. Nematodes (parasitic):
a. Dagger, American *Xiphinema americanum* Cobb
Xiphinema bakeri Williams
X. rivesi Dalmasso
b. Dagger *Pratylenchus* spp.
c. Root lesion* *Sphaerotheca humuli* (DC.) Burr.
21. Powdery mildew *Acalitus essigi* (Hassan) (redberry mite)
22. Redberry disease *Collybia dryophila* (Bull.: Fr.) Kummer
Cylindrocarpon radicolica (McAlp.) Wr.
Fusarium spp.
Helicobasidium purpureum Pat. (anamorph: *Rhizoctonia crocorum* (Pers.: Fr.) DC.)
Phymatotrichum omnivorum (Shear) Dug.
Pythium spp.
Rhizoctonia spp.
24. Rosette *Cercospora rubi* (Wint.) Plakidas
25. Rubus stunt† Mycoplasma-like organism (MLO)
26. Rust, orange *Gymnoconia peckiana* (Howe) Trott. (= *Kunkelia nitens* (Schw.) Arth.)
27. Shoestring root rot (oak root fungus) *Armillaria mellea* (Vahl: Fr.) Kummer (= *Armillariella mellea* (Vahl: Fr.) Karst.)
28. Spur blight *Didymella appplanata* (Niesl) Sacc. (anamorph: *Phoma* sp.)
29. Stamen blight *Hapalosphaeria deformans* Syd.
30. Verticillium wilt *Verticillium dahliae* Kleb.
V. albo-atrum Reinke & Berth.
31. Virus diseases:
a. American rubus ringspot Tomato ringspot virus (nematode vector: *Xiphinema rivesi* Dalmasso)
b. Blackberry calico Virus suspected
c. Blackberry dwarf Virus suspected
d. Blackberry sterility disease Virus suspected
e. Black raspberry latent virus disease Black raspberry latent virus
f. Blackberry raspberry streak Virus suspected
g. Cherry leaf roll virus disease† Cherry leaf roll virus
h. Loganberry calico Virus suspected
i. Raspberry bushy dwarf Raspberry bushy dwarf virus
j. Raspberry leaf curl Bacilliform virus(es)
k. Raspberry mosaic Black raspberry necrosis virus, rubus yellow-net (bacilliform) virus, raspberry leaf spot (probable virus), raspberry leaf mottle (probable virus)
l. Raspberry ringspot† Raspberry ringspot virus and tomato blackring virus
m. Raspberry vein chlorosis Raspberry vein chlorosis (bacilliform) virus
n. Raspberry yellow dwarf† Arabis mosaic virus
o. Raspberry yellows disease† Viruses suspected (may include raspberry bushy dwarf virus)

- p. Red raspberry calico Virus suspected
- q. Strawberry latent ringspot virus (in *Rubus*)† Strawberry latent ringspot virus
- r. Tobacco ringspot virus disease Tobacco ringspot virus
- s. Tobacco streak virus disease Tobacco streak virus
- t. Yellow mosaic disease† A potyvirus
32. Wet soil root rot *Phytophthora erythroseptica* Pethyb.
Phytophthora spp.
33. Yellow rust *Phragmidium rubi-idaei* (DC.) Karst.

*Common name of a nematode disease of caneberrries and of the nematode itself.

†Not known to occur naturally on caneberrries in the United States of America at the time this list was prepared.

Carnation (*Dianthus caryophyllus* L.)

Arthur H. McCain, Primary Collator

Common name	Pathogen or cause
1. Alternaria blight	<i>Alternaria dianthi</i> Stev. & Hall <i>A. dianthicola</i> Neerg.
2. Anther smut	<i>Ustilago violacea</i> Roussel
3. Bacterial leaf spot	<i>Pseudomonas woodsii</i> (Smith) Stevens
4. Bacterial wilt	<i>Pseudomonas caryophylli</i> (Burkholder) Starr & Burkholder
5. Bacterial slow wilt	<i>Erwinia chrysanthemi</i> Burkholder, McFadden & Dimock
6. Calyx rot	<i>Stemphylium botryosum</i> Wallr. (teleomorph: <i>Pleospora herbarum</i> (Fr.) Rabenh.)
7. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
8. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
9. Downy mildew	<i>Peronospora dianthicola</i> Barthelet
10. Fasciation	<i>Rhodococcus rubropertinctus</i> (Hefferan) Goodfellow & Alderson (= <i>Corynebacterium fascians</i> (Tilford) Dowson)
11. Fairy-ring leaf spot	<i>Didymellina dianthi</i> Burt (anamorph: <i>Cladosporium echinulatum</i> (Berk.) de Vries)
12. Fusarium bud rot	<i>Fusarium tricinctum</i> (Cda.) Sacc.
13. Fusarium stem rot	<i>Fusarium graminearum</i> Schwabe (= <i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'graminearum') (teleomorph: <i>Gibberella zeae</i> (Schweinitz) Petch)
14. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>dianthi</i>
15. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia</i> <i>fuckeliana</i> (dBy.) Whetz.)
16. Greasy blotch	<i>Zygothiala jamaicensis</i> Mason (teleomorph: <i>Schizothyrium</i> <i>pomi</i> (Mont.: Fr.) von Arx)
17. Nematodes (parasitic):	
a. Cyst	<i>Heterodera trifolii</i> Goffart
b. Lance	<i>Hoplolaimus</i> spp.
c. Pin	<i>Paratylenchus hamatus</i> Thorne & Allen
d. Ring	<i>Criconemella</i> spp.
e. Root-knot*	<i>Meloidogyne</i> spp.
f. Root lesion*	<i>Pratylenchus</i> spp.
18. Phialophora wilt	<i>Phialophora cinerescens</i> (Wr.) van Beyma
19. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
20. Pythium root rot	<i>Pythium ultimum</i> Trow
21. Phytophthora wilt	<i>Phytophthora parasitica</i> Dast.
22. Rhizoctonia stem rot	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus</i> <i>cucumeris</i> (Frank) Donk)

23. Rust *Uromyces dianthi* (Pers.) Niessl
24. Sclerotinia flower rot *Sclerotinia sclerotiorum* (Lib.) dBy.
25. Southern blight *Sclerotium rolfsii* Sacc.
(teleomorph: *Athelia rolfsii*
(Curzi) Tu & Kimbrough)
26. Virus diseases:
- a. Etched ring Carnation etched ring virus
- b. Latent Carnation latent virus
- c. Mottle Carnation mottle virus
- d. Necrotic fleck Carnation necrotic fleck virus
- e. Ring spot Carnation ringspot virus
- f. Streak Carnation streak virus
- g. Vein mottle Carnation vein mottle virus

*Common names of the nematode diseases of carnation and of the nematodes themselves.

Celery (*Apium graveolens* L. var. *dulce* (Miller) Pers.)

Raymond W. Schneider, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria</i> sp.
2. Anthracnose	<i>Colletotrichum</i> sp.
3. Bacterial blight	<i>Pseudomonas cichorii</i> (Swingle) Stapp
4. Bacterial leaf spot	<i>Pseudomonas apii</i> Jagger
5. Bacterial soft rot	<i>Erwinia carotovora</i> subsp. <i>carotovora</i> (Jones) Bergey et al
6. Blackheart	Calcium deficiency
7. Cracked stem (pencil stripe)	Boron deficiency
8. Crater rot and damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus</i> <i>cucumeris</i> (Frank) Donk)
9. Early blight	<i>Cercospora apii</i> Fres.
10. Fusarium yellows (wilt)	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>apii</i>
11. Gray mold blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia</i> <i>fuckeliana</i> (dBy.) Whetz.)
12. Late blight	<i>Septoria apiicola</i> Speg.
13. Nematodes (parasitic):	
a. Awl	<i>Dolichodorus heterocephalus</i> Cobb <i>Dolichodorus</i> spp.
b. Cyst	<i>Heterodera</i> spp.
c. Dagger	<i>Xiphinema</i> spp.
d. Pin	<i>Paratylenchus hamatus</i> Thorne & Allen <i>Paratylenchus</i> spp.
e. Root-knot*	<i>Meloidogyne</i> spp.
f. Root lesion*	<i>Pratylenchus</i> spp.
g. Sting	<i>Belonolaimus</i> spp.
h. Stubby-root	<i>Paratrichodorus</i> spp.
14. Phoma root and crown rot	<i>Phoma apiicola</i> Kleb.
15. Pythium damping-off and root rot	<i>Pythium debaryanum</i> Hesse <i>Pythium</i> spp.
16. Red root	<i>Fusarium solani</i> (Mart.) Appel & Wr.
17. Sclerotinia pink rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.
18. Sclerotinia foot rot	<i>Sclerotinia minor</i> Jagger
19. Stemphylium leaf spot	<i>Stemphylium ramulosum</i> Sacc.
20. Virus and mycoplasmalike (MLO) diseases:	
a. Aster yellows	MLO
b. Calico	Alfalfa mosaic virus and other viruses
c. Celery mosaic	Celery mosaic virus
d. Curly top	Virus
e. Ring spot	Celery ringspot and hemlock ringspot viruses
f. Southern mosaic	Cucumber mosaic virus
g. Spotted wilt	Tomato spotted wilt virus

*Common names of the nematode diseases of celery and of the nematodes themselves.

(Common names continued on next page)

Cherry (*Prunus* spp.)

Common name	Pathogen or cause
1. Alternaria rot	<i>Alternaria</i> sp.
2. Bacterial canker	<i>Pseudomonas syringae</i> van Hall
3. Black knot	<i>Dibotryon morbosum</i> (Schw.) Theiss. & Syd.
4. Black mold rot	<i>Aspergillus niger</i> v. Tiegh.
5. Blue mold rot	<i>Penicillium expansum</i> Lk.
6. Brown rot blossom blight and fruit rot	<i>Monilinia laxa</i> (Aderh. & Ruhl.) Honey <i>M. fructicola</i> (Wint.) Honey
7. Cherry leaf spot	<i>Coccomyces hiemalis</i> Higgins
8. Cladosporium rot	<i>Cladosporium herbarum</i> Lk.: Fr.
9. Collar rot	<i>Phytophthora</i> spp.
10. Crinkle	Genetic
11. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
12. Cytospora canker	<i>Cytospora leucostoma</i> (Pers.) Sacc. (teleomorph: <i>Leucostoma persoonii</i> (Nits.) Hoehn.)
13. Dead bud	<i>Pseudomonas syringae</i> van Hall
14. Gray mold rot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
15. Leaf rust	<i>Tranzschelia discolor</i> (Fckl.) Tranz. & Litv. <i>T. pruni-spinosae</i> (Pers.) Diet.
16. Nematodes (parasitic):	
a. Cystoid	<i>Meloidodera</i> spp.
b. Dagger, American	<i>Xiphinema americanum</i> Cobb
c. Ring	<i>Criconemella</i> spp.
d. Root-knot*	<i>Meloidogyne hapla</i> Chitwood <i>Meloidogyne</i> spp.
e. Root lesion*	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>P. vulnus</i> Allen & Jensen <i>Pratylenchus</i> spp.
f. Spiral	<i>Helicotylenchus</i> spp.
17. Powdery mildew	<i>Podosphaera clandestina</i> (Wallr.: Fr.) Lév.
18. Rhizopus rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.
19. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)
20. Shothole (= <i>Coryneum</i> blight)	<i>Stigmina carpophila</i> (Lév.) Ell. (= <i>Coryneum beyerinckii</i> Oud.)
21. Silver leaf	<i>Stereum purpureum</i> (Pers.: Fr.) Fr.
22. Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berth. <i>V. dahliae</i> Kleb.
23. Virus, mycoplasmalike (MLO), and uncharacterized graft- transmissible pathogen (GTP) diseases:	
a. Black canker	GTP
b. Green ring mottle (of sour cherry)	GTP virus suspected
c. Little cherry	GTP
d. Mottle leaf	GTP
e. Necrotic rusty mottle	GTP
f. Pink fruit	GTP
g. Prunus ringspot	Prunus ringspot virus
h. Rasp leaf	Cherry rasp leaf virus
i. Rugose	Cherry rugose mosaic virus
j. Rusty mottle	GTP
k. Short stem	GTP
l. Sour cherry yellows (ringspot and tatterleaf on sweet cherry)	Prunus dwarf virus
m. Spur cherry	GTP
n. Stem pitting	Tomato ringspot virus
o. Twisted leaf	GTP
p. X-disease (cherry buckskin)	MLO (a spiriplasma)
24. Witches' broom	<i>Taphrina cerasi</i> (Fckl.) Sadeb.

*Common names of the nematode diseases of cherry and of the nematodes themselves.

Chrysanthemum (*Chrysanthemum morifolium* Ramat.)

Arthur H. McCain, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria</i> sp.
2. Ascochyta blight	<i>Mycosphaerella ligulicola</i> Baker et al (anamorph: <i>Ascochyta chrysanthemi</i> Stev.)
3. Aster yellows	Mycoplasmalike organism (MLO)
4. Bacterial blight	<i>Erwinia chrysanthemi</i> Burkholder, McFadden & Dimock
5. Bacterial leaf spot	<i>Pseudomonas cichorii</i> (Swingle) Stapp
6. Bipolaris leaf spot	<i>Bipolaris setariae</i> (Saw.) Shoemaker
7. Cercospora leaf spot	<i>Cercospora chrysanthemi</i> Heald & Wolf
8. Charcoal stem rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
9. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
10. Cyindrosporium leaf spot	<i>Cyindrosporium chrysanthemi</i> Ell. & Dearn.
11. Fasciation	<i>Rhodococcus rubropertinctus</i> (Hefferan) Goodfellow & Alderson (= <i>Corynebacterium fascians</i> (Tilford) Dowson)
12. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>chrysanthemi</i> <i>F. oxysporum</i> Schlecht. f. sp. <i>tracheiphilum</i> race 1
13. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
14. Itersonia petal blight	<i>Itersonia perplexans</i> Derx
15. Nematodes (parasitic):	
a. Bud and leaf	<i>Aphelenchoides ritzemabosi</i> (Schwartz) Steiner & Buhner
b. Root-knot*	<i>Meloidogyne</i> spp.
c. Root-lesion*	<i>Pratylenchus pratensis</i> (de Man) Filipjev
16. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
17. Powdery mildew	<i>Erysiphe cichoracearum</i> DC.
18. Pythium root rot	<i>Pythium ultimum</i> Trow <i>Pythium</i> spp.
19. Ray speck	<i>Stemphylium floridanum</i> Hannon & G. F. Weber
20. Rhizoctonia stem rot	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
21. Root rot	<i>Phoma chrysanthemicola</i> Hollos
22. Rust	<i>Puccinia chrysanthemi</i> Roze
23. Septoria leaf spot	<i>Septoria chrysanthemi</i> Allesch.
24. Sclerotinia rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.
25. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
26. Stem rot	<i>Fusarium solani</i> (Mart.) Appel & Wr.
27. Stem necrosis	<i>Pseudomonas cichorii</i> (Swingle) Stapp
28. Verticillium wilt	<i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.
29. Virus and viroid diseases:	
a. Aspermy	Tomato aspermy virus
b. Chlorotic mottle	Chrysanthemum chlorotic mottle viroid
c. Mosaic	Chrysanthemum mosaic virus
d. Spotted wilt	Tomato spotted wilt virus
e. Stunt	Chrysanthemum stunt viroid
30. White rust	<i>Puccinia horiana</i> P. Henn.

*Common names of the nematode diseases of chrysanthemum and of the nematodes themselves.

Citrus (*Citrus* spp.)

E. C. Calavan, Primary Collator

Common name	Pathogen or cause		
1. Albinism	<i>Aspergillus flavus</i> Lk.: Fr.	41. Lemon sieve-tube necrosis	Unknown, but hereditary
2. Algal spot	<i>Cephaleuros virescens</i> Kunze (= <i>C. mycoidea</i> Karst.)	42. Leprosis	Graft-transmissible agent, associated with <i>Brevipalpus</i> spp. mites
3. Alternaria leaf and fruit spot	<i>Alternaria citri</i> Ell. & Pierce	43. Lime anthracnose	<i>Gloeosporium limeticicola</i> Clausen
4. Alternaria stem-end rot	<i>Alternaria citri</i> Ell. & Pierce	44. Lime blotch (wood pocket)	Inherited chimeral agent
5. Anthracnose	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk (anamorph: <i>Colletotrichum gloeosporioides</i> (Penz.) Sacc.)	45. Mal secco	<i>Phoma tracheiphila</i> (Petri) Kentschaveli & Gikachvili (= <i>Deuterophoma tracheiphila</i> Petri)
6. Black pit (fruit)	<i>Pseudomonas syringae</i> van Hall	46. Melanose	<i>Diaporthe medusaea</i> Nits. (= <i>D. citri</i> Wolf) (anamorph: <i>Phomopsis citri</i> Fawc.)
7. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)	47. Membranous stain	Cold temperatures
8. Black rot	<i>Alternaria citri</i> Ell. & Pierce	48. Mesophyll collapse	Unknown
9. Black spot	<i>Guignardia citricarpa</i> Kiely	49. Nematodes (parasitic):	
10. Blast	<i>Pseudomonas syringae</i> van Hall	a. Burrowing	<i>Radopholus citrophilus</i> n. sp.
11. Blight (young tree decline, rough lemon decline)	Unknown	b. Citrus	<i>Tylenchulus semipenetrans</i> Cobb
12. Blind-pocket psorosis	Graft-transmissible pathogen	c. Dagger	<i>Xiphinema</i> spp.
13. Blue mold	<i>Penicillium italicum</i> Wehmer	d. Needle	<i>Longidorus</i> spp.
14. Botrytis blossom and twig blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)	e. Root-knot*	<i>Meloidogyne</i> spp.
15. Brown rot (fruit)	<i>Phytophthora citrophthora</i> (R. E. Sm. & E. H. Sm.) Leonian <i>P. hibernalis</i> Carne <i>P. parasitica</i> Dast. <i>P. syringae</i> (Kleb.) Kleb.	f. Root lesion*	<i>Pratylenchus</i> spp.
16. Bud union incompatibility	Genetic	g. Sheath	<i>Hemicycliophora arenaria</i> Raski <i>Hemicycliophora</i> spp. <i>Belonolaimus longicaudatus</i> Rau <i>Paratrichodoros</i> spp. <i>Tylenchorhynchus</i> spp.
17. Cachexia	Graft-transmissible pathogen	h. Sting	
18. Canker	<i>Xanthomonas campestris</i> pv. <i>citri</i> (Hasse) Dye	i. Stubby-root	
19. Cercospora leaf and fruit spot	<i>Cercospora angolensis</i> Carv. & Mendes <i>Cercospora</i> spp.	j. Stunt	
20. Citrus slump	<i>Pratylenchus coffeae</i> (Zimmerman) Filipjev & Schuurmans-Stekhoven	50. Oleocellosis	Physiological
21. Clitocybe root rot (mushroom root rot)	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.)	51. Phomopsis stem-end rot	<i>Diaporthe medusaea</i> Nits. (= <i>D. citri</i> Wolf)
22. Concave gum	Graft-transmissible pathogen	52. Phytophthora foot rot, gummosis, and root rot	<i>Phytophthora citrophthora</i> (R. E. Sm. & E. H. Sm.) Leonian <i>P. hibernalis</i> Carne <i>P. parasitica</i> Dast. <i>P. syringae</i> (Kleb.) Kleb.
23. Creasing	Physiological	53. Pink disease	<i>Corticium salmonicolor</i> Berk. & Br.
24. Cristacortis	Graft-transmissible pathogen	54. Postbloom fruit drop disease	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
25. Damping-off	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	55. Psorosis	Graft-transmissible pathogen
26. Diplodia gummosis and stem-end rot	<i>Phyalospora rhodina</i> (Berk. & Curt.) Cke. (anamorph: <i>Diplodia natalensis</i> Pole-Evans)	56. Rind breakdown	Physiological
27. Dodder	<i>Cuscuta</i> spp.	57. Rind staining	Physiological
28. Dothiorella gummosis	<i>Botryosphaeria dothidea</i> (Moug.: Fr.) Ces. & de Not. (anamorph: <i>Dothiorella gregaria</i> Sacc.)	58. Rind stipple of grapefruit	Environmental
29. Dry root rot complex	<i>Fusarium</i> sp. and other wound-incurring agents	59. Rio Grande gummosis	Unknown
30. Endoexerosis	Physiological	60. Robinson dieback	Unknown
31. Fusarium rot	<i>Fusarium</i> spp.	61. Rumble	Unknown
32. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht.	62. Scab	<i>Elsinoë fawcettii</i> Bitanc. & Jenkins
33. Granulation	Physiological	63. Sclerotinia twig blight, fruit rot, and root rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.
34. Gray mold (fruit)	<i>Botrytis cinerea</i> Pers.: Fr.	64. Septoria spot	<i>Septoria citri</i> Pass.
35. Greasy spot and greasy spot rind blotch	<i>Mycosphaerella citri</i> Whiteside (anamorph: <i>Cercospora citri grisea</i> Fisher)	65. Shell bark complex	Unknown
36. Greening	Fastidious walled prokaryote	66. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)
37. Green mold	<i>Penicillium digitatum</i> Sacc.	67. Slow decline	<i>Tylenchulus semipenetrans</i> Cobb
38. Heart rot	<i>Ganoderma sessile</i> Murrill <i>G. applanatum</i> (Pers.) Pat. and other basidiomycetes	68. Sooty blotch	<i>Gloeodes pomigena</i> (Schw.) Colby
39. Hendersonula branch wilt	<i>Hendersonula toruloidea</i> Nattrass	69. Sooty mold	<i>Capnodium citri</i> Berk. & Desm. <i>C. citricola</i> McAlp.
40. Impietratura	Graft-transmissible pathogen	70. Sour rot	<i>Geotrichum candidum</i> Lk. (= <i>Oospora lactis</i> (Fres.) Sacc.)
		71. Spreading decline	<i>Radopholus citrophilus</i> n. sp.
		72. Stem-end rind breakdown	Physiological
		73. Stubborn	<i>Spiroplasma citri</i> Saglio et al
		74. Styler-end rot	Physiological
		75. Sunburn	Excessive heat and light
		76. Sweet orange scab	<i>Elsinoë australis</i> Bitanc. & Jenkins
		77. Vein enation and woody gall	Graft-transmissible pathogen
		78. Virus and viroid diseases:	
		a. Bud-union crease	Virus for some combinations, otherwise unknown
		b. Citrus leaf rugose	Rugose virus (ilarvirus)
		c. Crinkly leaf	Crinkly leaf virus (ilarvirus)
		d. Exocortis	Exocortis viroid
		e. Infectious variegation	Infectious variegation virus (ilarvirus)

- f. Ringspot Citrus ringspot virus
 g. Satsuma dwarf Satsuma dwarf virus
 h. Tatter leaf and citrange stunt Tatterleaf virus
 i. Tristeza (decline and stem pitting) Tristeza virus (closterovirus)
79. Water spot Physiological
 80. Xyloporosis (cachexia) Graft-transmissible pathogen

*Common names of the nematode diseases of citrus and of the nematodes themselves.

Corn (*Zea mays* L.)

A. J. Ullstrup, Primary Collator

Common name	Pathogen or cause
1. Anthracnose leaf blight	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
2. Anthracnose stalk rot	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils.
3. Aspergillus ear and storage rot	<i>Aspergillus flavus</i> Lk.: Fr.
4. Aspergillus kernel rot	<i>Aspergillus niger</i> v. Tiegh.
5. Bacterial leaf blight and stalk rot	<i>Pseudomonas avenae</i> Manns
6. Bacterial stalk rot	<i>Erwinia dissolvens</i> (Rosen) Burkholder
7. Bacterial stalk and top rot	<i>Erwinia chrysanthemi</i> Burkholder, McFadden & Dimock
8. Bacterial stripe	<i>Pseudomonas andropogonis</i> (Smith) Stapp
9. Black bundle disease	<i>Acremonium strictum</i> W. Gams (= <i>Cephalosporium acremonium</i> Auct.)
10. Brown spot	<i>Physoderma maydis</i> Miyabe
11. Cephalosporium kernel rot	<i>Acremonium strictum</i> W. Gams
12. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
13. Chocolate spot	<i>Pseudomonas syringae</i> pv. <i>coronafaciens</i> (Elliott) Young et al
14. Cob rot	<i>Nigrospora oryzae</i> (Berk. & Br.) Petch (teleomorph: <i>Khuskia oryzae</i> Huds.)
15. Curvularia leaf spot	<i>Curvularia maculans</i> (Bancroft) Boedijn <i>C. lunata</i> (Wakker) Boedijn (teleomorph: <i>Pseudocochliobolus lunatus</i> (Nelson & Haasis) Tsuda et al) <i>Curvularia</i> spp.
16. Diplodia ear rot	<i>Diplodia maydis</i> (Berk.) Sacc. <i>D. macrospora</i> Earle
17. Diplodia stalk rot	<i>Diplodia maydis</i> (Berk.) Sacc. <i>D. macrospora</i> Earle <i>D. frumentii</i> Ell. & Ev.
18. Downy mildews:	
a. Brown stripe downy mildew*	<i>Sclerophthora rayssiae</i> Kenneth et al var. <i>zeae</i> Payak & Renfro
b. Crazy top downy mildew	<i>Sclerophthora macrospora</i> (Sacc.) Thirum. et al (= <i>Sclerospora macrospora</i> Sacc.)
c. Green ear downy mildew†	<i>Sclerospora graminicola</i> (Sacc.) Schroet.
d. Java downy mildew*	<i>Peronosclerospora maydis</i> (Racib.) C. G. Shaw (= <i>S. maydis</i> (Racib.) Butler)
e. Philippine downy mildew*	<i>Peronosclerospora philippinensis</i> (Weston) C. G. Shaw (= <i>S. philippinensis</i> Weston)
f. Sorghum downy mildew	<i>Peronosclerospora sorghi</i> (Weston & Uppal) C. G. Shaw (= <i>S. sorghi</i> Weston & Uppal)
g. Spontaneum downy mildew*	<i>Peronosclerospora spontanea</i> (Weston) C. G. Shaw (= <i>S. spontanea</i> Weston)
h. Sugarcane downy mildew*	<i>Peronosclerospora sacchari</i> (T. Miyake) Shirai & Hara (= <i>S. sacchari</i> T. Miyake)
19. Ergot*	<i>Claviceps gigantea</i> Fuentes et al
20. Eyespot	<i>Kabatiella zeae</i> Narita & Hiratsuka (= <i>Aureobasidium zeae</i> (Narita & Y. Hiratsuka) Dingley)
21. Fusarium kernel and stalk rot	<i>Fusarium moniliforme</i> Sheld. (teleomorph: <i>Gibberella fujikuroi</i> (Saw.) Wr.)
22. Gibberella ear and stalk rot	<i>Gibberella zeae</i> (Schweinitz) Petch (anamorph: <i>Fusarium graminearum</i> Schwabe, = <i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'graminearum')
23. Goss's bacterial wilt and blight (leaf freckles and wilt)	<i>Clavibacter michiganense</i> subsp. <i>nebraskense</i> (Schuster et al) Davis et al (= <i>Corynebacterium nebraskense</i> (Schuster et al) emend. Vidaver & Mandel)
24. Gray ear rot	<i>Physalospora zeae</i> Stout (= <i>Botryosphaeria zeae</i> (Stout) von Arx & Müller) (anamorph: <i>Macrophoma zeae</i> Tehon & Daniels)
25. Gray leaf spot	<i>Cercospora zeae-maydis</i> Tehon & Daniels <i>C. sorghi</i> var. <i>maydis</i> Ell. & Ev.
26. Helminthosporium ear rot	<i>Cochliobolus carbonum</i> Nelson (races 1, 2, and 3) (anamorph: <i>Bipolaris zeicola</i> (Stout) Shoemaker, = <i>Helminthosporium carbonum</i> Ullstrup)
27. Helminthosporium leaf spot	<i>Cochliobolus carbonum</i> Nelson (races 1, 2, and 3) (anamorph: <i>Bipolaris zeicola</i> (Stout) Shoemaker, = <i>Helminthosporium carbonum</i> Ullstrup)
28. Helminthosporium root rot	<i>Exserohilum pedicellatum</i> (Henry) Leonard & Suggs (= <i>Helminthosporium pedicellatum</i> Henry)
29. Holcus spot	<i>Pseudomonas syringae</i> van Hall
30. Hormodendrum ear rot	<i>Hormodendrum cladosporioides</i> (Fres.) Sacc. (= <i>Cladosporium cladosporioides</i> (Fres.) de Vries) <i>Cladosporium herbarum</i> Lk.: Fr.
31. Nematodes (parasitic):	
a. Awl, on sweet corn	<i>Dolichodorus heterocephalus</i> Cobb
b. Bulb and stem, in Europe	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
c. Cyst	<i>Heterodera avenae</i> Wollenweber <i>H. zeae</i> Koshy et al <i>Punctodera chalcoensis</i> Stone et al <i>Xiphinema americanum</i> Cobb
d. Dagger, American	<i>Nacobbus dorsalis</i> Thorne & Allen
e. False root-knot‡	<i>Hoplolaimus columbus</i> Sher
f. Lance, Columbia	<i>Hoplolaimus galeatus</i> (Cobb) Thorne
g. Lance	<i>Longidorus breviannulatus</i> Norton & Hoffman
h. Needle	<i>Criconebella ornata</i> (Raski) Luc & Raski
i. Ring	<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood <i>M. javanica</i> (Treub) Chitwood <i>M. chitwoodi</i> Golden et al <i>Meloidogyne</i> spp.
j. Root-knot‡	<i>Pratylenchus hexincisus</i> Taylor & Jenkins <i>P. brachyurus</i> (Godfrey) Filipjev & Schuurmans-Stekhoven <i>P. penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>P. zeae</i> Graham <i>Pratylenchus</i> spp.
k. Root lesion‡	<i>Belonolaimus longicaudatus</i> Rau <i>Paratrichodorus minor</i> (Colbran) Siddiqi <i>Paratrichodorus</i> spp. <i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.
l. Sting	
m. Stubby-root	
n. Stunt	

32. Northern corn leaf blight *Setosphaeria turcica* (Luttrell) Leonard & Suggs
(= *Trichometasphaeria turcica* Luttrell) (anamorph: *Exserohilum turcicum* (Pass.) Leonard & Suggs, = *Helminthosporium turcicum* Pass.)
33. Northern leaf spot *Cochliobolus carbonum* Nelson (races 2 and 3) (anamorph: *Bipolaris zeicola* (Stout) Shoemaker, = *Helminthosporium carbonum* Ullstrup)
34. Penicillium ear rot *Penicillium oxalicum* Currie & Thom
35. Physalospora ear rot *Physalospora zeicola* Ell. & Ev. (= *Botryosphaeria festucae* (Lib.) von Arx & Müller) (anamorph: *Diplodia frumenti* Ell. & Ev.)
36. Purple sheath spot Hemiparasitic bacteria and fungi
37. Pythium stalk rot *Pythium aphanidermatum* (Edson) Fitzp.
38. Pythium root rot *Pythium graminicola* Subram. *P. debaryanum* Hesse *P. arrhenomanes* Drechs. *Pythium* spp.
39. Rhizoctonia ear rot *Rhizoctonia zaeae* Voorhees
40. Rostratum leaf spot *Setosphaeria rostrata* Leonard (anamorph: *Exserohilum rostratum* (Drechs.) Leonard & Suggs emend. Leonard, = *Helminthosporium rostratum* Drechs.)
41. Rust, common corn *Puccinia sorghi* Schw.
42. Rust, southern corn *Puccinia polysora* Underw.
43. Rust, tropical corn* *Physopella zaeae* (Mains) Cummins & Ramachar
44. Seed rot-seedling blight *Diplodia maydis* (Berk.) Sacc. *Exserohilum turcicum* (Pass.) Leonard & Suggs (= *Helminthosporium turcicum* Pass.) *Fusarium moniliforme* Sheld. *Gibberella zaeae* (Schweinitz) Petch (anamorph: *Fusarium graminearum* Schwabe) *Penicillium* spp. *Pythium* spp.
45. Smut, common *Ustilago maydis* (DC.) Cda.
46. Smut, head *Sphacelotheca reiliana* (Kühn) Clint.
47. Southern corn leaf blight *Cochliobolus heterostrophus* (Drechs.) Drechs. (anamorph: *Bipolaris maydis* (Nisik.) Shoemaker, = *Helminthosporium maydis* Nisik.)
48. Southern leaf spot *Diplodia macrospora* Earle
49. Stewart's disease (bacterial wilt) *Erwinia stewartii* (Smith) Dye
50. Storage rots *Aspergillus* spp. *Penicillium* spp. and other fungi
51. Trichoderma ear rot *Trichoderma viride* Pers.: Fr.
52. Virus, spiroplasma, and mycoplasma-like (MLO) diseases:
a. Bromegrass mosaic Bromegrass mosaic virus
b. Corn lethal necrosis Virus complex (maize chlorotic mottle virus, maize dwarf mosaic virus, or wheat streak mosaic virus)
c. Corn stunt Corn stunt spiroplasma
d. Maize bushy stunt MLO
e. Maize chlorotic dwarf Maize chlorotic dwarf virus
f. Maize chlorotic mottle Maize chlorotic mottle virus
g. Maize dwarf mosaic Maize dwarf mosaic virus (six strains)
h. Maize rabdo Maize rabdo virus
i. Maize rough dwarf* Maize rough dwarf virus
j. Maize streak* Maize streak virus
k. Maize stripe Maize stripe virus
l. Sugarcane mosaic Sugarcane mosaic virus
m. Wallaby ear disease* Wallaby ear virus
n. Wheat streak mosaic Wheat streak mosaic virus
53. Witchweed disease *Striga asiatica* (L.) Kuntze (= *S. lutea* Lour.) *S. hermonthica* Benth.*

54. Yellow leaf blight *Phyllosticta maydis* Arny & Nelson (teleomorph: *Mycosphaerella zaeae-maydis* Mukunya & Boothroyd)
55. Zonate leaf spot *Gloeocercospora sorghi* D. Bain & Edg.

*Not known to occur naturally on corn in the United States of America at the time this list was prepared.

†Reported in the United States of America between 1925 and 1929 only; not reported since.

‡Common names of the nematode diseases of corn and of the nematodes themselves.

Cotton (*Gossypium* spp.)

G. M. Watkins, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Glomerella gossypii</i> Edg. (anamorph: <i>Colletotrichum gossypii</i> Southw.)
2. Areolate mildew	<i>Mycosphaerella areola</i> Ehrlich & Wolf (anamorph: <i>Septocylindrium gossypii</i> (Speg.) Subram., = <i>Cercospora gossypii</i> Speg.)
3. Ascochyta blight	<i>Ascochyta gossypii</i> Woron.
4. Bacterial blight	<i>Xanthomonas campestris</i> pv. <i>malvacearum</i> (Smith) Dye
5. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
6. Boll rots	Various microorganisms, mostly fungi
7. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) Goid.
8. Escobilla*	<i>Colletotrichum gossypii</i> Southw. var. <i>cephalosporioides</i> Costa in Viegas
9. Leaf spots	<i>Alternaria macrospora</i> Zimm. <i>A. alternata</i> (Fr.) Keissl. <i>Mycosphaerella gossypina</i> (Atk.) Earle; also other spp.
10. Nematodes (parasitic):	
a. Dagger, American	<i>Xiphinema americanum</i> Cobb
b. Lance, Columbia	<i>Hoplolaimus columbus</i> Sher
c. Lance	<i>Hoplolaimus galeatus</i> (Cobb) Thorne
d. Needle	<i>Longidorus africanus</i> Merny
e. Pin	<i>Paratylenchus hamatus</i> Thorne & Allen
f. Reniform	<i>Rotylenchulus reniformis</i> Linford & Oliveira
g. Ring	<i>Criconebella</i> spp.
h. Root-knot†	<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood
i. Root lesion†	<i>Pratylenchus</i> spp.
j. Spiral	<i>Helicotylenchus</i> spp. <i>Scutellonema</i> spp.
k. Sting	<i>Belonolaimus longicaudatus</i> Rau
l. Stubby-root	<i>Paratrichodorus</i> spp.
m. Stunt	<i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.
11. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
12. Powdery mildews*	<i>Leveillula taurica</i> (Lév.) Arn. (anamorph: <i>Oidiopsis taurica</i> Salmon) <i>Oidiopsis gossypii</i> (Wakef.) Raychaudhuri <i>Salmonia malachrae</i> (Seaver) Blumer & E. Müller
13. Seedling disease complex	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk) <i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. <i>Fusarium</i> spp. <i>Pythium</i> spp. <i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
14. Southern blight (Sclerotium stem and root rot)	<i>Puccinia cacabata</i> Arth. & Holw.
15. Southwestern cotton rust	<i>Puccinia cacabata</i> Arth. & Holw.
16. Tropical cotton rust*	<i>Phakopsora gossypii</i> (Arth.) Hirat.
17. Verticillium wilt	<i>Verticillium dahliae</i> Kleb.

18. Virus, mycoplasmalike (MLO), and uncharacterized graft-transmissible pathogen (GTP) diseases:
- a. Abutilon mosaic Abutilon mosaic virus
 - b. Anthocyanosis Cotton anthocyanosis virus
 - c. Blue disease* Virus
 - d. Leaf crumple GTP
 - e. Leaf curl Cotton leaf curl virus
 - f. Leaf mottle Cotton leaf mottle virus
 - g. Leaf roll Virus
 - h. Mosaic Virus
 - i. Phyllody* MLO
 - j. Psylosis* Virus
 - k. Small leaf MLO
 - l. Terminal stunt GTP

*Not known to occur naturally on cotton in the United States of America at the time this list was prepared.

†Common names of the nematode diseases of cotton and of the nematodes themselves.

Crucifers (*Brassica* and *Raphanus* spp.)

Paul H. Williams, Collator

Common name	Pathogen or cause
1. Alternaria diseases; black spot (leaf, stem, or pod spots)	<i>Alternaria</i> spp. (<i>A. brassicae</i> (Berk.) Sacc., <i>A. brassicicola</i> (Schw.) Wiltsh., <i>A. raphani</i> Groves & Skolko)
2. Anthracnose	<i>Colletotrichum higginsianum</i> Sacc.
3. Aster yellows	Mycoplasmalike organism (MLO)
4. Autogenic necrosis	Genetic disorder
5. Bacterial leaf spot	<i>Pseudomonas syringae</i> pv. <i>maculicola</i> (McCulloch) Young et al
6. Bacterial soft rot, Erwinia	<i>Erwinia carotovora</i> (Jones) Bergey et al
7. Bacterial soft rot, Pseudomonas	<i>Pseudomonas marginalis</i> pv. <i>marginalis</i> (Brown) Stevens
8. Black leg and Phoma root rot	<i>Leptosphaeria maculans</i> (Desm.) Ces. & de Not. (anamorph: <i>Phoma lingam</i> (Tode: Fr.) Desm.)
9. Black mold rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.
10. Black root (Aphanomyces)	<i>Aphanomyces raphani</i> Kendrick
11. Black rot	<i>Xanthomonas campestris</i> pv. <i>campestris</i> (Pammel) Dowson
12. Black speck	Physiological
13. Bottom rot, damping-off, headrot, seedling root rot, wire stem, and basal stem rot	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
14. Brown girdling root rot	Unidentified
15. Cercospora leaf spot	<i>Cercospora brassicicola</i> Henn.
16. Clubroot	<i>Plasmodiophora brassicae</i> Wor.
17. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
18. Damping-off, Fusarium	<i>Fusarium</i> spp.
19. Damping-off, Pythium	<i>Pythium</i> spp.
20. Downy mildew, staghead	<i>Peronospora parasitica</i> Pers.: Fr.
21. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Wetz.)
22. Light leaf spot	<i>Pyrenopeziza brassicae</i> Sut. & Rawl
23. Nematodes (parasitic):	
a. Awl	<i>Dolichodorus</i> spp.
b. Cyst	<i>Heterodera schachtii</i> Schmidt <i>H. cruciferae</i> Franklin <i>Paratylenchus</i> spp. <i>Meloidogyne</i> spp.
c. Pin	
d. Root-knot*	
e. Root lesion*	<i>Pratylenchus pratensis</i> (de Man) Filipjev <i>Pratylenchus</i> spp.

- f. Sting *Belonolaimus* spp.
- 24. Phymatotrichum root rot (cotton root rot) *Phymatotrichum omnivorum* (Shear) Dug.
- 25. Phytophthora root rot *Phytophthora megasperma* Drechs.
- 26. Powdery mildew *Erysiphe polygoni* DC.
- 27. Ring spot *Mycosphaerella brassicicola* (Duby) Lindau
- 28. Scab *Streptomyces scabies* (Thaxter) Waksman & Henrici
Streptomyces spp.
- 29. Sclerotinia stem rot and watery soft rot *Sclerotinia sclerotiorum* (Lib.) dBy.
- 30. Southern blight *Sclerotium rolfsii* Sacc. (teleomorph: *Athelia rolfsii* (Curzi) Tu & Kimbrough)
- 31. Verticillium wilt *Verticillium dahliae* Kleb.
V. albo-atrum Reinke & Berth.
- 32. Virus diseases:
 - a. Cauliflower mosaic Cauliflower mosaic virus
 - b. Radish mosaic Radish mosaic virus
 - c. Turnip mosaic Turnip mosaic virus
 - d. Yellows Beet western yellows virus
- 33. White rust and staghead *Albugo candida* (Gmelin) Kuntze (*Peronospora* sp. commonly present in the staghead phase)
- 34. White leaf spot and gray stem *Pseudocercospora capsellae* (Ell. & Ev.) Deighton
- 35. Xanthomonas leaf spot *Xanthomonas campestris* pv. *armoraciae* (McCulloch) Dye
- 36. Yellows *Fusarium oxysporum* Schlecht. f. sp. *conglutinans*

*Common names of the nematode diseases of crucifers and of the nematodes themselves.

Cucurbits (*Citrullus* spp., *Cucumis* spp., *Cucurbita* spp., and others)

C. W. Averre, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf blight	<i>Alternaria cucumerina</i> (Ell. & Ev.) J. A. Elliott
2. Angular leaf spot	<i>Pseudomonas syringae</i> pv. <i>lachrymans</i> (Smith & Bryan) Young et al
3. Anthracnose	<i>Colletotrichum orbiculare</i> (Berk. & Mont.) von Arx (= <i>C. lagenarium</i> (Pass.) Ell. & Halst.)
4. Aster yellows	Mycoplasmalike organism (MLO)
5. Bacterial leaf spot	<i>Xanthomonas campestris</i> pv. <i>cucurbitae</i> (Bryan) Dye
6. Bacterial rind necrosis	<i>Erwinia carnegieana</i> Standring
7. Bacterial soft rot	<i>Erwinia</i> spp.
8. Bacterial wilt	<i>Erwinia tracheiphila</i> (Smith) Bergey et al
9. Belly rot and damping-off	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
10. Bitter fruit	Sunburn injury
11. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
12. Blossom end rot	Physiological disorder, calcium deficiency, and moisture imbalance
13. Blue mold rot	<i>Penicillium</i> spp.
14. Cephalosporium root and hypocotyl rot	<i>Cephalosporium</i> spp.
15. Cercospora leaf spot	<i>Cercospora citrullina</i> Cke.
16. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
17. Choanephora fruit rot	<i>Choanephora cucurbitarum</i> (Berk. & Rav.) Thaxt.
18. Corynespora blight	<i>Corynespora melonis</i> (Cke.) Pénzes
19. Diplodia fruit rot	<i>Diplodia gossypina</i> Cke. (= <i>D. natalensis</i> Pole-Evans)

20. Downy mildew	<i>Pseudoperonospora cubensis</i> (Berk. & Curt.) Rostow.	3. Bacterial blight	<i>Xanthomonas ampelina</i> Panagopoulos
21. Fusarium rot (fruit)	<i>Fusarium</i> spp.	4. Bitter rot	<i>Melanconium fuligineum</i> (Scrib. & Viala) Cav.
22. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. (several form species)	5. Black measles	Presumably toxin(s) from wood-rotting fungi; see Wood rot (decay)
23. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)	6. Black rot	<i>Guignardia bidwelli</i> (Ell.) Viala & Ravaz (anamorph: <i>Phyllosticta ampelicida</i> (Engelman) van der Aa)
24. Gummy stem blight	<i>Didymella bryoniae</i> (Auersw.) Rehm (= <i>Mycosphaerella melonis</i> (Pass.) Chiu J. C. Walker)	7. Botryosphaeria rot and necrosis	<i>Botryosphaeria dothidea</i> (Moug.: Fr.) Ces. & de Not. (anamorph: <i>Dothiorella</i> sp.)
25. Heat stress	Physiological disorder	8. Botrytis bunch rot and cane blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
26. Measles	Physiological disorder	9. Cane-tip blight and summer bunch rot	<i>Diplodia natalensis</i> Pole-Evans
27. Nematodes (parasitic):		10. Chlorosis	Iron deficiency
a. Dagger, American	<i>Xiphinema americanum</i> Cobb	11. Corky bark	Undetermined, viruslike
b. Pin	<i>Paratylenchus</i> spp.	12. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
c. Reniform	<i>Rotylenchulus reniformis</i> Linford & Oliviera	13. Dematophora root rot (western white root rot)	<i>Rosellinia necatrix</i> Prill. (anamorph: <i>Dematophora necatrix</i> Hartig)
d. Ring	<i>Circonemella</i> spp.	14. Downy mildew	<i>Plasmopara viticola</i> (Berk. & Curt.) Berl. & de Toni
e. Root-knot*	<i>Meloidogyne</i> spp.	15. Eutypa dieback (part of dead arm complex which includes Phomopsis)	<i>Eutypa armeniacae</i> Hansf. & Carter (anamorph: <i>Cytosporina</i> sp.)
f. Root lesion*	<i>Pratylenchus</i> spp.	16. Fasciation	Genetic disorder
g. Spiral	<i>Helicotylenchus</i> spp.	17. Fleckence doree	Mycoplasmalike organism (MLO)
h. Sting	<i>Belanolaimus longicaudatus</i> Rau	18. Fleck (Marbure)	Undetermined, viruslike
i. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Steiner	19. Fruit rots and raisin molds	<i>Alternaria alternata</i> (Fr.) Keissl. <i>Aspergillus niger</i> v. Tiegh. <i>Aspergillus</i> spp. <i>Cladosporium herbarum</i> Lk.: Fr. <i>Helminthosporium</i> spp. <i>Rhizopus arrhizus</i> A. Fischer <i>Rhizopus</i> spp.
j. Stunt	<i>Tylenchorhynchus claytoni</i> (Steiner)	20. Grape peduncle necrosis	Undetermined, disorder
28. Net spot	<i>Leandria momordica</i> Rangel	21. Isariopsis blight	<i>Mycosphaerella personata</i> Higgins (anamorph: <i>Cercospora viticola</i> (Ces.) Winter & Demetrio = <i>Isariopsis clavisporea</i> (Berk. & Curt.) Sacc.)
29. Ozone injury	Physiological disorder	22. Leaf blotch	<i>Briosia ampelophaga</i> Cav.
30. Phoma (Ascochyta) blight	<i>Phoma exigua</i> Desm. (= <i>Ascochyta phaseolorum</i> Sacc.)	23. Leafroll	Undetermined, viruslike
31. Phyllosticta leaf spot	<i>Phyllosticta</i> spp.	24. Little leaf	Zinc deficiency
32. Phytophthora blight	<i>Phytophthora</i> spp.	25. Melanose complex	<i>Septoria ampelina</i> Berk. & Curt. and genetic disorder
33. Pink mold rot	<i>Cephalothecium roseum</i> Cda. (= <i>Trichothecium roseum</i> Lk.: Fr.)	26. Nematodes (parasitic):	
34. Powdery mildew	<i>Sphaerotheca fuliginea</i> (Schlecht.: Fr.) Poll.	a. Citrus	<i>Tylenchulus semipenetrans</i> Cobb
35. Pythium fruit rot (cottony leak), damping-off, and root rot	<i>Pythium</i> spp.	b. Dagger, American	<i>Xiphinema americanum</i> Cobb
36. Rhizopus soft rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.	c. Dagger	<i>Xiphinema index</i> Thorne & Allen <i>Xiphinema</i> spp. <i>Longidorus</i> spp. <i>Circonemella</i> spp.
37. Root rot	<i>Pythium</i> spp.	d. Needle	<i>Meloidogyne</i> spp.
38. Sandburn	Physiological disorder	e. Ring	<i>Pratylenchus vulnus</i> Allen et al
39. Scab	<i>Cladosporium cucumerinum</i> Ell. & Arth.	f. Root-knot*	<i>Pratylenchus</i> spp.
40. Sclerotinia stem rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.	g. Root lesion*	<i>Phomopsis viticola</i> (Sacc.) Sacc.
41. Southern blight (Sclerotium stem and fruit rot)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)	27. Oxidant stipple	
42. Stem streak and dieback	<i>Cephalosporium</i> spp.	28. Phomopsis cane blight and leaf spot (excoriose) (see Eutypa)	
43. Sunscald	Physiological disorder	29. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
44. Target spot	<i>Corynespora cassiicola</i> (Berk. & Curt.) Wei	30. Pierce's disease	Bacterium (gram-negative rod)
45. Verticillium wilt	<i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.	31. Powdery mildew	<i>Uncinula necator</i> (Schw.) Burr.
46. Virus diseases:		32. Ripe rot	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
a. Chlorotic leaf spot	Bean yellow mosaic virus	33. Root and collar rot	<i>Phytophthora cinnamomi</i> Rands <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.
b. Curly top	Beet curly top virus	34. Rotbrenner (red fire)	<i>Pseudopeziza tracheiphila</i> Müller-Thurgau
c. Mosaic	Cucumber mosaic virus	35. Rupestris stipple	Genetic
	Squash mosaic virus		
	Watermelon mosaic virus 1		
	Watermelon mosaic virus 2		
d. Muskmelon vein necrosis	Muskmelon vein necrosis virus		
e. Tobacco ringspot	Tobacco ringspot virus		
f. Tomato ringspot	Tomato ringspot virus		
47. Web blight	<i>Rhizoctonia solani</i> Kühn		
48. Windburn	Physiological disorder		

*Common names of the nematode diseases of cucurbits and of the nematodes themselves.

Grape (*Vitis* spp.)

Common name	Pathogen or cause
1. Angular leaf spot	<i>Mycosphaerella angulata</i> Jenkins
2. Anthracnose and bird's-eye rot	<i>Elsinoë ampelina</i> Shear

36. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl.: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)	b. Needle	Thorne & Allen <i>Longidorus</i> spp.
37. Stem pitting	Undetermined, viruslike	c. Root-knot*	<i>Meloidogyne</i> spp.
38. Target spot	<i>Cristulariella moricola</i> (Hino) Redhead (= <i>C. pyramidalis</i> Waterman & Marshall)	d. Root lesion*	<i>Pratylenchus</i> spp.
39. Verticillium wilt	<i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.	e. Spiral	<i>Rotylenchus robustus</i> (de Man) Filipjev
40. Water berry	Undetermined	f. Stunt	<i>Merlinius brevidens</i> (Allen) Siddiqi <i>Tylenchohynchus</i> spp.
41. White rot	<i>Coniella diplodiella</i> (Speg.) Petrak & H. Syd.	16. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
42. Wood rot (decay)	<i>Cephalosporium</i> spp. <i>Diplodia natalensis</i> P. Evans <i>Fomes ignarius</i> (L.: Fr.) Kickx <i>Stereum hirsutum</i> (Willd.: Fr.) S. F. Gray	17. Powdery mildew	<i>Erysiphe cichoracearum</i> DC.
43. Virus diseases:		18. Russet spotting	Physiological, excess ethylene
a. Alfalfa mosaic	Alfalfa mosaic virus	19. Rust	<i>Puccinia dioicae</i> P. Magn. (= <i>P. extensicola</i> Plowr. var. <i>hieraciata</i> (Schw.) Arthur)
b. Arabis mosaic	Arabis mosaic virus	20. Rusty brown discoloration	<i>P. hieracii</i> (Roehl.) Mart. Accentuated by lettuce mosaic virus
c. Artichoke Italian latent	Artichoke Italian latent virus	21. Septoria leaf spot	<i>Septoria lactucae</i> Pass.
d. Grapevine Bulgarian latent	Grapevine Bulgarian latent virus	22. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
e. Grapevine chrome mosaic	Grapevine chrome mosaic virus	23. Stemphylium leaf spot	<i>Stemphylium botryosum</i> Wallr. f. sp. <i>lactucae</i> (teleomorph: <i>Pleospora herbarum</i> (Fr.) Rabenh. f. sp. <i>lactucae</i>)
f. Infectious degeneration and decline	Grapevine fanleaf virus and other soilborne viruses	24. Tipburn	Physiological, Ca ⁺⁺ deficiency and high temperature
g. Grapevine Joannes-Seyve	Grapevine Joannes-Seyve virus	25. Varnish spot	<i>Pseudomonas cichorii</i> (Swingle) Stapp
h. Peach rosette mosaic	Peach rosette mosaic virus	26. Virus, mycoplasma-like (MLO), and uncharacterized agent diseases:	
i. Raspberry ringspot	Raspberry ringspot virus	a. Aster yellows	MLO
j. Sowbane mosaic	Sowbane mosaic virus	b. Big vein	Lettuce big vein agent
k. Strawberry latent ringspot	Strawberry latent ringspot virus	c. Calico	Tobacco ringspot virus Alfalfa mosaic virus Lettuce mosaic virus
l. Tobacco mosaic	Tobacco mosaic virus	d. Internal rib necrosis	
m. Tobacco necrotic	Tobacco necrotic virus	e. Mosaic	Lettuce mosaic virus Bidens mottle virus Turnip mosaic virus Cucumber mosaic virus
n. Tobacco ringspot	Tobacco ringspot virus	f. Necrotic yellows	Lettuce necrotic yellows virus
o. Tomato black ring	Tomato black ring virus	g. Speckles	Lettuce speckles virus and beet western yellows virus
p. Tomato bushy stunt	Tomato bushy stunt virus	h. Stunt	Beet yellow stunt virus
q. Tomato ringspot	Tomato ringspot virus, type strain	i. Wilt	Broad bean wilt virus Tomato spotted wilt virus
44. Yellow speckle	Undetermined, viruslike	j. Yellow spot	Tobacco rattle virus
		k. Yellows	Beet western yellows virus
		l. Other	Sowthistle yellow vein virus
		27. Wilt and leaf blight	<i>Pythium tracheiphilum</i> Matta

*Common names of the nematode diseases of grape and of the nematodes themselves.

Lettuce (*Lactuca sativa* L.)

R. N. Campbell, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria sonchi</i> J. J. Davis
2. Anthracnose	<i>Marssonina panattoniana</i> (Berl.) Magn.
3. Bacterial leaf spot and headrot	<i>Xanthomonas campestris</i> pv. <i>vitiens</i> (Brown) Dye
4. Bacterial soft rot	<i>Erwinia carotovora</i> (Jones) Bergey et al <i>Pseudomonas marginalis</i> (Brown) Stevens
5. Bottom rot	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
6. Broomrape	<i>Orobanche ramosa</i> L.
7. Brown stain	Physiological, excess CO ₂
8. Cercospora leaf spot	<i>Cercospora longissima</i> Sacc.
9. Corky root	Infectious, pathogen undetermined
10. Damping-off, Pythium	<i>Pythium ultimum</i> Trow <i>Pythium</i> spp.
11. Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn
12. Downy mildew	<i>Bremia lactucae</i> Reg.
13. Drop (Sclerotinia rot)	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy. <i>S. minor</i> Jagger
14. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
15. Nematodes (parasitic):	
a. False root-knot*	<i>Nacobbus aberrans</i> (Thorne)

*Common names of the nematode diseases of lettuce and of the nematodes themselves.

Oats (*Avena sativa* L.)

M. D. Simons, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
2. Bacterial blight (halo blight and bacterial stripe blight, respectively)	<i>Pseudomonas syringae</i> pv. <i>coronafaciens</i> (Elliott) Young et al <i>P. syringae</i> pv. <i>striaefaciens</i> (Elliott) Young et al
3. Black chaff and bacterial streak (stripe)	<i>Xanthomonas campestris</i> pv. <i>translucens</i> (Jones et al) Dye
4. Blast	Unfavorable environmental conditions and/or any of several pathogens
5. Downy mildew	<i>Sclerophthora macrospora</i> (Sacc.) Thirum. et al (= <i>Sclerospora macrospora</i> Sacc.)
6. Ergot	<i>Claviceps purpurea</i> (Fr.) Tul.
7. Fusarium foot rot	<i>Fusarium culmorum</i> (W. G. Sm.) Sacc.

	(= <i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'culmorum')	20. Smut, covered	<i>Ustilago kolleri</i> Wille
8. Gray speck	Manganese deficiency	21. Smut, loose	<i>Ustilago avenae</i> (Pers.) Rostr.
9. Head blight	<i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium sativum</i> Pam. et al) (teleomorph: <i>Cochliobolus sativus</i> (Ito & Kurib. in Kurib.) Drechs. ex Dast.) <i>Drechslera avenacea</i> (Curt. ex Cke.) Shoemaker (= <i>Helminthosporium avenae</i> Eidam) (teleomorph: <i>Pyrenophora avenae</i> Itao & Kurib.) <i>Fusarium graminearum</i> Schwabe (teleomorph: <i>Gibberella zeae</i> (Schweinitz) Petch) <i>Fusarium</i> spp. <i>Drechslera avenacea</i> (Curt. ex Cke.) Shoemaker (= <i>Helminthosporium avenae</i> Eidam)	22. Snow mold, pink (Fusarium patch)	<i>Fusarium nivale</i> Ces. ex Sacc. (= <i>Microdochium nivalis</i> (Fr.) Samuels & Hallett, = <i>Gerlachia nivalis</i> (Ces. ex Sacc.) W. Gams & E. Müller) (teleomorph: <i>Monographella nivalis</i> (Schaffnit) E. Müller)
10. Leaf blotch and crown rot (Helminthosporium leaf blotch)		23. Snow mold, speckled or gray (Typhula blight)	<i>Typhula incarnata</i> Lasch: Fr. <i>T. ishkariensis</i> Imai var. <i>canadensis</i> Smith & Arsvoll <i>T. ishkariensis</i> Imai var. <i>idahoensis</i> (Remsb.) Arsvoll & Smith <i>T. ishkariensis</i> Imai var. <i>ishkariensis</i>
11. Nematodes (parasitic):		24. Take-all (white head)	<i>Gaeumannomyces graminis</i> (Sacc.) von Arx & Olivier var. <i>avenae</i> (E. M. Turner) Dennis
a. Bulb and stem (in Europe)	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev	25. Victoria blight	<i>Bipolaris victoriae</i> (Meehan & Murphy) Shoemaker (= <i>Helminthosporium victoriae</i> Meehan & Murphy)
b. Cyst, oat	<i>Heterodera avenae</i> Wollenweber	26. Virus diseases:	
c. Cyst	<i>Heterodera hordecalis</i> Andersson <i>H. latipons</i> Franklin <i>Punctodera chalcoensis</i> Stone et al <i>Xiphinema americanum</i> Cobb	a. Barley yellow dwarf	Barley yellow dwarf virus
d. Dagger, American	<i>Pratylenchus</i> spp.	b. Blue dwarf	Oat blue dwarf virus
e. Pin	<i>Criconemella</i> spp.	c. Mosaic	Oat mosaic virus
f. Ring	<i>Nothocriconemella mutabilis</i> (Taylor) Ebsary and other spp.	d. Necrotic mottle	Oat necrotic mottle virus
g. Root-knot*	<i>Meloidogyne naasi</i> Franklin <i>M. chitwoodi</i> Golden et al <i>Meloidogyne</i> spp.		
h. Root lesion*	<i>Pratylenchus thornei</i> Sher & Allen <i>P. chitwoodi</i> Golden et al <i>Pratylenchus</i> spp. <i>Hemicycliophora</i> spp. <i>Helicotylenchus</i> spp.		
i. Sheath	<i>Belonolaimus longicaudatus</i> Rau		
j. Spiral	<i>Paratrichodorus minor</i> (Colbran) Siddiqi		
k. Sting	<i>Quinisulcius capitatus</i> (Allen) Siddiqi		
l. Stubby-root	<i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.		
m. Stunt	Genetic predisposition		
12. Physiological leaf spot	<i>Erysiphe graminis</i> DC.: Fr. f. sp. <i>avenae</i>		
13. Powdery mildew	<i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium sativum</i> Pam. et al) <i>Fusarium</i> spp. <i>Pythium debaryanum</i> Hesse <i>P. irregulare</i> Buis <i>P. ultimum</i> Trow <i>Pythium</i> spp. and other spp.		
14. Root rot	<i>Puccinia coronata</i> Cda. <i>Puccinia graminis</i> Pers. <i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium sativum</i> Pam. et al) <i>Drechslera avenacea</i> (Curt. ex Cke.) Shoemaker <i>Fusarium culmorum</i> (W. G. Sm.) Sacc. <i>Pythium</i> spp. <i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	9. Bloat	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
15. Rust, crown		10. Blue mold rot	<i>Penicillium</i> sp.
16. Rust, stem		11. Botrytis leaf blight	<i>Botrytis squamosa</i> J. C. Walker
17. Seedling blight		12. Botrytis leaf spot and brown stain	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.) <i>B. allii</i> Munn
		13. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
		14. Damping-off, Fusarium	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>cepae</i>
		15. Damping-off, Pythium	<i>Pythium ultimum</i> Trow <i>P. irregulare</i> Buisman
		16. Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
		17. Diplodia stain	<i>Diplodia natalensis</i> Pole-Evans
		18. Downy mildew	<i>Peronospora destructor</i> (Berk.) Casp. in Berk.
		19. Flower blight	<i>Botrytis squamosa</i> J. C. Walker <i>B. cinerea</i> Pers.: Fr. <i>B. allii</i> Munn
18. Septoria blight	<i>Septoria avenae</i> Frank (teleomorph: <i>Leptosphaeria avenaria</i> Weber)	20. Fusarium root rot	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>cepae</i>
19. Sharp eyespot and Rhizoctonia root rot	<i>Rhizoctonia cerealis</i> v. d. Hoeven in Boerema & Verhoeven (teleomorph: <i>Ceratobasidium</i> sp.) <i>R. solani</i> Kühn	21. Greening	Exposure to light, especially immature bulbs
		22. Gray mold neck rot	<i>Botrytis allii</i> Munn <i>B. byssoidea</i> J. C. Walker <i>B. squamosa</i> J. C. Walker

*Common names of the nematode diseases of oats and of the nematodes themselves.

Onion (*Allium cepa* L.)

Dennis H. Hall, Primary Collator

Common name	Pathogen or cause
1. Aster yellows	Mycoplasmalike organism (MLO)
2. Bacterial blight (Hawaii, Colorado)	<i>Xanthomonas</i> sp.
3. Bacterial leaf spot	<i>Pseudomonas syringae</i> van Hall
4. Bacterial rot	<i>Pseudomonas gladioli</i> Severini
5. Bacterial soft rot	<i>Erwinia carotovora</i> (Jones) Bergey et al
6. Basal rot	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>cepae</i>
7. Blackmold	<i>Aspergillus niger</i> v. Tiegh.
8. Blackstalk rot	<i>Stemphylium botryosum</i> Wallr. (teleomorph: <i>Pleospora herbarum</i> (Fr.) Rabenh.) (secondary on mildew lesions)
9. Bloat	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
10. Blue mold rot	<i>Penicillium</i> sp.
11. Botrytis leaf blight	<i>Botrytis squamosa</i> J. C. Walker
12. Botrytis leaf spot and brown stain	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.) <i>B. allii</i> Munn
13. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
14. Damping-off, Fusarium	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>cepae</i>
15. Damping-off, Pythium	<i>Pythium ultimum</i> Trow <i>P. irregulare</i> Buisman
16. Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
17. Diplodia stain	<i>Diplodia natalensis</i> Pole-Evans
18. Downy mildew	<i>Peronospora destructor</i> (Berk.) Casp. in Berk.
19. Flower blight	<i>Botrytis squamosa</i> J. C. Walker <i>B. cinerea</i> Pers.: Fr. <i>B. allii</i> Munn
20. Fusarium root rot	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>cepae</i>
21. Greening	Exposure to light, especially immature bulbs
22. Gray mold neck rot	<i>Botrytis allii</i> Munn <i>B. byssoidea</i> J. C. Walker <i>B. squamosa</i> J. C. Walker

23. Heterosporium blight	<i>Heterosporium allii</i> Ell. & G. Martin	e. Root lesion*	<i>Pratylenchus vulnus</i> Allen & Jensen
24. Internal brown rot (Australia)	<i>Pseudomonas aeruginosa</i> (Schroeter) Migula		<i>P. penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven
25. Mushy rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.	12. Peach tree short life	<i>Pratylenchus</i> spp. Complex of bacterial canker, Cytospora canker, and/or cold injury
26. Mycelial neck rot	<i>Botrytis byssoidea</i> J. C. Walker	13. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
27. Nematodes (parasitic):		14. Phytophthora root rot	<i>Phytophthora cactorum</i> (Leb. & Cohn) Schroet.
a. Bulb and stem	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev	15. Powdery mildew	<i>Sphaerotheca pannosa</i> (Wallr.: Fr.) Lévl.
b. Needle	<i>Longidorus</i> spp.		<i>Podosphaera clandestina</i> (Wallr.: Fr.) Lévl.
c. Root-knot*	<i>Meloidogyne</i> spp.	16. Rhizopus rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.
d. Root lesion*	<i>Pratylenchus</i> spp.		<i>Rhizopus</i> spp.
e. Sting	<i>Belonolaimus longicaudatus</i> Rau	17. Rust	<i>Tranzschelia discolor</i> (Fckl.) Tranz. & Litv.
f. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi	18. Scab	<i>Fusicladium carpophilum</i> (Thuem.) Oud. (= <i>Cladosporium carpophilum</i> Thuem.)
28. Phyllosticta leaf blight	<i>Phyllosticta allii</i> Tehon & Daniels	19. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)
29. Pink rot	<i>Pyrenochaeta terrestris</i> (Hansen) Gorenz et al	20. Shothole (= Coryneum blight)	<i>Stigmina carpophila</i> (Lévl.) Ell. (= <i>Coryneum beyerinckii</i> Oud.)
30. Powdery mildew (Israel)	<i>Oidiopsis taurica</i> Salmon (teleomorph: <i>Leveillula taurica</i> (Lévl.) Arn.)	21. Silver leaf	<i>Stereum purpureum</i> (Pers.: Fr.) Fr.
31. Purple blotch	<i>Alternaria porri</i> (Ell.) Cif.	22. Virus, mycoplasma-like (MLO), and uncharacterized graft-transmissible pathogen (GTP) diseases:	
32. Root rot	<i>Pythium ultimum</i> Trow	a. Little peach	MLO
33. Rust, asparagus	<i>Puccinia asparagi</i> DC.	b. Mosaic	GTP
34. Rust, onion	<i>Puccinia allii</i> Rud.	c. Phony peach	GTP
35. Sclerotinia rot (watery soft rot)	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.	d. Red suture	GTP
36. Sour skin or slippery skin	<i>Pseudomonas cepacia</i> Palleroni & Holmes	e. Ring spot	Prunus ringspot virus
37. Smudge	<i>Colletotrichum circinans</i> (Berk.) Vogl. (= <i>C. dematium</i> (Pers.: Fr.) Grove f. sp. <i>circinans</i> (Berk.) von Arx)	f. Rosette	MLO (a spiroplasma)
38. Smut	<i>Urocystis colchici</i> (Schlecht.) Rabenh.	g. Rosette mosaic	Peach rosette mosaic virus
39. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)	h. Stem pitting	Tomato ringspot virus
40. Sunscald	Exposure of bulbs to direct sunlight during high temperatures	i. Wart	GTP
41. Translucent scales	Unknown	j. X-disease	MLO (a spiroplasma)
42. White rot	<i>Sclerotium cepivorum</i> Berk.	k. Yellow leaf roll	MLO (a spiroplasma)
43. Yellow dwarf	Yellow dwarf virus	l. Yellows	MLO

*Common names of the nematode diseases of onion and of the nematodes themselves.

*Common names of the nematode diseases of peach and of the nematodes themselves.

Peach (*Prunus persica* (L.) Batsch)

Common name	Pathogen or cause
1. Anthracnose	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
2. Bacterial canker	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall
3. Bacterial spot	<i>Xanthomonas campestris</i> pv. <i>pruni</i> (Smith) Dye
4. Blossom blight, brown rot	<i>Monilinia laxa</i> (Aderh. & Ruhl.) Honey
5. Clitocybe root rot (mushroom root rot)	<i>M. fructicola</i> (Wint.) Honey
6. Crown gall	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr. Bres.)
7. Cytospora canker	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
8. Fusilcoccum canker	<i>Leucostoma persoonii</i> (Nits.) Hoehn. (anamorph: <i>Cytospora leucostoma</i> (Pers.) Sacc.)
9. Heart rot	<i>L. cinctum</i> (Fr.) Hoehn.
10. Leaf curl	<i>Fusicoccum amygdali</i> Del.
11. Nematodes (parasitic):	Basidiomycetous fungi
a. Dagger, American	<i>Taphrina deformans</i> (Berk.) Tul.
b. Dagger	<i>Xiphinema americanum</i> Cobb
c. Ring	<i>Xiphinema</i> spp.
	<i>Criconebella xenoplax</i> (Raski) Luc & Raski
	<i>Criconebella</i> spp.
	<i>Nothocriconebella</i> spp.
d. Root-knot*	<i>Meloidogyne</i> spp.

Pear (*Pyrus communis* L.)

R. A. Spotts, Primary Collator

Common name	Pathogen or cause
1. Alfalfa greening (green stain)	Unknown
2. Alternaria fruit rot	<i>Alternaria</i> spp.
3. Anthracnose, bull's-eye rot, and perennial canker	<i>Neofabraea malicorticis</i> Jacks (= <i>Pezizula malicorticis</i> (Jacks) Nannf.) (anamorph: <i>Cryptosporiopsis curvispora</i> (Pk.) Gremmen)
4. Bitter rot	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
5. Black end	Water imbalance
6. Black rot, leaf spot, and canker	<i>Physalospora obtusa</i> (Schw.) Cke. (anamorph: <i>Sphaeropsis malorum</i> (Berk.) Berk.)
7. Blister disease*	<i>Coniothecium chromatosporum</i> Cda.
8. Blossom blast	Boron deficiency
9. Blue mold rot	<i>Penicillium expansum</i> Lk.
10. Botrytis spur and blossom blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
11. Brown core	High CO ₂
12. Brown rot	<i>Monilinia fructicola</i> (Wint.) Honey
	<i>M. laxa</i> (Aderh. & Ruhl.) Honey
13. Cladosporium fruit rot	<i>Cladosporium herbarum</i> Lk.: Fr.

14. Clitocybe root rot (mushroom root rot)	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.)	b. Flemish beauty corky pit	Virus suspected
15. Coprinus rot	<i>Coprinus</i> spp.	c. Freckle pit	Virus suspected
16. Core breakdown (Bartlett)	Senescence	d. Quince bark necrosis	Virus suspected
17. Cork spot	Associated with calcium deficiency	e. Quince sooty ring spot	Virus suspected
18. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn	f. Quince stunt	Virus suspected
19. Cytospora canker and dieback	<i>Cytospora</i> spp.	g. Quince yellow blotch	Virus suspected
20. Decline	Mycoplasmalike organism (MLO)	h. Red mottle	Virus suspected
21. Dematophora root rot (western white root rot)	<i>Rosellinia necatrix</i> Prill. (anamorph: <i>Dematophora necatrix</i> Hartig)	i. Ring pattern mosaic	Virus suspected
22. Elsinoë leaf and fruit spot	<i>Elsinoë piri</i> (Wor.) Jenkins (anamorph: <i>Sphaceloma pirinum</i> Jenkins)	j. Rough bark	Virus suspected
23. European canker	<i>Nectria galligena</i> Bres.	k. Stony pit	Virus suspected
24. Fabraea leaf and fruit spot	<i>Fabraea maculata</i> Atk. (anamorph: <i>Entomosporium maculatum</i> Lév.)	l. Vein yellows	Virus suspected
25. Fire blight	<i>Erwinia amylovora</i> (Burrill) Winslow et al	56. Wood rot	<i>Trametes versicolor</i> (L.: Fr.) Pilat and various basidiomycetes
26. Fly speck	<i>Schizothyrium pomi</i> (Mont.: Fr.) von Arx (anamorph: <i>Zygophiala jamaicensis</i> Mason)	57. Xylaria root rot	<i>Xylaria</i> spp.
27. Gibberella canker	<i>Gibberella baccata</i> (Wallr.) Sacc.	*Not known to occur naturally on pear in the United States of America at the time this list was prepared.	
28. Gray mold rot	<i>Botrytis cinerea</i> Pers.: Fr.	†Common names of the nematode diseases of pear and of the nematodes themselves.	
29. Green stain	Unknown	Potato (<i>Solanum tuberosum</i> L.)	
30. Internal bark necrosis	Unknown	William J. Hooker, Primary Collator	
31. Late leaf spot	<i>Cercospora minima</i> Tracy & Earle	Common name	Pathogen or cause
32. Mealy core (d'Anjou)	Senescence	1. Air pollution injury	Photochemical oxidants (primarily ozone), sulfur oxides
33. Mucor fruit rot	<i>Mucor</i> spp.	2. Aster yellows	Mycoplasmalike organism (MLO)
34. Mycosphaerella leaf spot (ashy leaf spot and fruit spot)	<i>Mycosphaerella pyri</i> (Auersw.) Boerema (= <i>M. sentina</i> (Fr.) Schroet.) (anamorph: <i>Septoria pyricola</i> (Desm.) Desm.)	3. Black dot	<i>Colletotrichum atramentarium</i> (Berk. & Br.) Taub. (= <i>C. coccodes</i> (Wallr.) Hughes)
35. Nectria canker (coral spot)	<i>Nectria cinnabarina</i> (Tode: Fr.) Fr.	4. Black heart	Oxygen deficiency of internal tuber tissue, Bergey et al
36. Nematodes (parasitic):		5. Black leg and bacterial soft rot	<i>Erwinia carotovora</i> subsp. <i>atroseptica</i> (van Hall) Dye <i>E. carotovora</i> subsp. <i>carotovora</i> (Jones) Bergey et al <i>E. chrysanthemi</i> Burkholder, McFadden & Dimock
a. Dagger, American	<i>Xiphinema americanum</i> Cobb	6. Blackspot	Bruising, pressure contact
b. Dagger	<i>Xiphinema</i> spp.	7. Brown rot	<i>Pseudomonas solanacearum</i> (Smith) Smith
c. Pin	<i>Paratylenchus</i> spp.	8. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid (= <i>M. phaseoli</i> (Maubl.) Ashby)
d. Root-knot†	<i>Meloidogyne</i> spp.	9. Early blight	<i>Alternaria solani</i> (Ell. & G. Martin) Sorauer
e. Root lesion†	<i>Pratylenchus</i> spp.	10. Fusarium dry rot	<i>Fusarium</i> spp.
37. Phyllosticta leaf spot	<i>Phyllosticta</i> sp.	11. Fusarium wilt	<i>Fusarium</i> spp.
38. Phytophthora crown and root rot	<i>Phytophthora cactorum</i> (Leb. & Cohn) Schroet.	12. Gangrene	<i>Phoma exigua</i> Desm.
39. Pink end (Bartlett)	Preharvest low temperature	13. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
40. Pink mold rot	<i>Cephalothecium roseum</i> Cda. (= <i>Trichothecium roseum</i> Lk.: Fr.)	14. Hollow heart	Excessively rapid tuber enlargement
41. Powdery mildew	<i>Podospaera leucotricha</i> (Ell. & Ev.) Salm.	15. Internal heat necrosis (of tuber)	Oxygen deficiency accompanying high soil temperatures
42. Pseudomonas blossom blast	<i>Pseudomonas syringae</i> van Hall	16. Jelly end rot	Carbohydrate translocation due to second growth
43. Pythium dieback	<i>Pythium</i> spp.	17. Late blight	<i>Phytophthora infestans</i> (Mont.) dBy.
44. Rhizopus rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.	18. Leak	<i>Pythium ultimum</i> Trow <i>P. debaryanum</i> Hesse <i>Pythium</i> spp.
45. Rosette	Unknown	19. Leaf blotch	<i>Cercospora concors</i> (Casp.) Sacc. (= <i>Mycovellosiella concors</i> (Casp.) Deighton)
46. Rust, pear	<i>Gymnosporangium libocedri</i> (P. Henn.) Kern <i>Gymnosporangium</i> spp.	20. Nematodes (parasitic):	
47. Rust, pear trellis	<i>Gymnosporangium fuscum</i> Hedw. f. in DC.	a. Cyst, golden	<i>Globodera rostochiensis</i> (Wollenweber) Mulvey & Stone <i>G. pallida</i> (Stone) Mulvey & Stone <i>Xiphinema americanum</i> Cobb <i>Nacobbus aberrans</i> (Thorne) Thorne & Allen
48. Scab	<i>Venturia pirina</i> Aderh. (anamorph: <i>Fusicladium pyrinum</i> (Lib.) Fckl.)	b. Dagger, American	
49. Scald	Senescence	c. False root-knot*	
50. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)	d. Pin	<i>Paratylenchus</i> spp.
51. Side rot	<i>Phialophora malorum</i> (Kidd & Beaum.) McColloch	e. Potato rot	<i>Ditylenchus destructor</i> Thorne
52. Silver leaf	<i>Stereum purpureum</i> (Pers.: Fr.) Fr.		
53. Sooty blotch	<i>Gloeodes pomigena</i> (Schw.) Colby		
54. Sprinkler rot	<i>Phytophthora cactorum</i> (Leb. & Cohn) Schroet.		
55. Virus diseases:			
a. Blister canker	Virus suspected		

f. Reniform	<i>Rotylenchulus reniformis</i> Linford & Oliviera		
g. Root-knot*	<i>Meloidogyne</i> spp.	4. Black root rot	& Elliott <i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
h. Root lesion*	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven	5. Common leaf spot	<i>Pseudopeziza trifolii</i> (Biv.-Bern.) Fckl.
i. Spiral	<i>Pratylenchus</i> spp. <i>Helicotylenchus</i> spp. <i>Rotylenchus</i> spp.	6. Curvularia leaf blight	<i>Curvularia trifolii</i> (Kauff.) Boedijn
j. Stubby-root	<i>Paratrichodoros</i> spp. <i>Trichodoros</i> spp.	7. Cyindrocarpon root rot	<i>Cylindrocarpon ehrenbergi</i> Wr. (teleomorph: <i>Neonectria caespitosa</i> (Fckl.) Wr.)
k. Stunt	<i>Tylenchorhynchus claytoni</i> Steiner <i>Tylenchorhynchus</i> spp.	8. Downy mildew	<i>Peronospora trifoliorum</i> dBy.
21. Physiological leaf roll	Response to adverse environment	9. Fusarium root rot	<i>Fusarium oxysporum</i> Schlecht. <i>F. solani</i> (Mart.) Appel & Wr. <i>Fusarium</i> spp.
22. Pink eye	<i>Pseudomonas fluorescens</i> Migula	10. Leaf gall	<i>Physoderma trifolii</i> (Pass.) Karling (= <i>Urophlyctis trifolii</i> (Pass.) Magn.)
23. Pink rot	<i>Phytophthora erythroseptica</i> Pethyb. <i>P. parasitica</i> Dast. <i>P. cryptogea</i> Pethyb. & Laff. <i>Phytophthora</i> spp.	11. Leptodiscus crown and root rot	<i>Mycocleptodiscus terrestris</i> (Gerd.) Ostazeski (anamorph: <i>Leptodiscus terrestris</i> Gerd.)
24. Powdery mildew	<i>Erysiphe cichoracearum</i> DC.	12. Mid-vein spot	<i>Mycosphaerella carinthiaca</i> Jaap
25. Powdery scab	<i>Spongospora subterranea</i> (Wallr.) Lagerh.	13. Nematodes (parasitic):	
26. Rhizoctonia canker (black scurf)	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	a. Bulb and stem	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
27. Rhizopus soft rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill. <i>Rhizopus</i> spp.	b. Cyst (clover)	<i>Heterodera trifolii</i> (Goffart) Oostenbk.
28. Ring rot	<i>Clavibacter michiganense</i> subsp. <i>sepedonicum</i> (Spieckermann & Kotthoff) Davis et al (= <i>Corynebacterium sepedonicum</i> (Spieckermann & Kotthoff) Skaptason & Burkholder)	c. Dagger, American	<i>Xiphinema americanum</i> Cobb
29. Scab	<i>Streptomyces scabies</i> (Thaxter) Waksman & Henrici <i>Streptomyces</i> spp.	d. Lance	<i>Hoplolaimus</i> spp.
30. Second growth	Resumption of tuber growth due to improved growing conditions	e. Pin	<i>Pratylenchus</i> spp.
31. Silver scurf	<i>Helminthosporium solani</i> Dur. & Mont. (= <i>Spondylocladium atrovirens</i> Harz)	f. Ring	<i>Criconemella</i> spp.
32. Southern blight (Sclerotium stem rot)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)	g. Root-knot*	<i>Meloidogyne</i> spp.
33. Stem-end browning	Exact cause(s) unknown, chemical injury, PLRV or other viruses	h. Root lesion*	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>Pratylenchus</i> spp.
34. Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berth. <i>V. dahliae</i> Kleb.	i. Spiral	<i>Helicotylenchus</i> spp.
35. Virus, viroid, and mycoplasma-like (MLO) diseases:		14. Northern anthracnose	<i>Kabatiella caulivora</i> (Kirchn.) Karak.
a. Calico	Alfalfa mosaic virus and other viruses	15. Powdery mildew	<i>Erysiphe polygoni</i> DC.
b. Leafroll	Potato leafroll virus (PLRV)	16. Rust	<i>Uromyces trifolii</i> (Hedw. f. ex DC.) Lév. var. <i>fallens</i> (Desm.) Arth.
c. Mild mosaic	Potato virus A	17. Sclerotinia crown and root rot	<i>Sclerotinia trifoliorum</i> Erikss.
d. Rugose mosaic	Potato virus Y	18. Seed mold	<i>Alternaria alternata</i> (Fr.) Keissl.
e. Spindle tuber	Potato spindle tuber viroid	19. Seed rots and damping-off	<i>Pythium debaryanum</i> Hesse
f. Spotted wilt	Tomato spotted wilt virus	20. Spring black stem	<i>Phoma trifolii</i> E. M. Johnson & Valteau
g. Stem mottle (spraing)	Tobacco rattle virus	21. Sooty blotch	<i>Cymadothea trifolii</i> (Pers.: Fr.) Wolf
h. Virus M	Potato virus M	22. Southern anthracnose	<i>Colletotrichum trifolii</i> Bain
i. Virus S	Potato virus S	23. Stagonospora leaf spot and root rot	<i>Stagonospora recedens</i> (Massal.) Jones & Weimer
j. Virus X	Potato virus X	24. Summer black stem	<i>Cercospora zebrina</i> Pass.
k. Witches' broom	MLO	25. Target spot (ring spot)	<i>Stemphylium sarciniforme</i> (Cav.) Wiltsh. <i>S. botryosum</i> Wallr. (teleomorph: <i>Pleospora herbarum</i> (Fr.) Rabenh.)
36. Wart	<i>Synchytrium endobioticum</i> (Schilb.) Perc.	26. Violet root rot	<i>Helicobasidium purpureum</i> Pat. (anamorph: <i>Rhizoctonia crocorum</i> (Pers.: Fr.) DC.)
37. White mold (Sclerotinia rot)	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy. <i>Sclerotinia</i> spp.	27. Virus diseases:	

*Common names of the nematode diseases of potato and of the nematodes themselves.

Red Clover (*Trifolium pratense* L.)

E. W. Hanson, Primary Collator

Common name	Pathogen or cause
1. Anther mold	<i>Botrytis anthophila</i> Bond.
2. Bacterial leaf spot	<i>Pseudomonas syringae</i> van Hall
3. Blackpatch	<i>Rhizoctonia leguminicola</i> Gough

*Common names of the nematode diseases of red clover and of the nematodes themselves.

Rhododendron (*Rhododendron* sp.)

D. M. Benson, Primary Collator

Common name	Pathogen or cause
1. Botryosphaeria dieback	<i>Botryosphaeria dothidea</i> (Moug.: Fr.) Ces & de Not. (anamorph: <i>Dothiorella gregaria</i> Sacc.)
2. Botrytis leaf and petal blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
3. Bud and twig blight	<i>Briosis azaleae</i> (Pk.) Dearn.
4. Cercospora leaf spot	<i>Cercospora handelii</i> Bub.
5. Chrysomyxa leaf rust	<i>Chrysomyxa ledi</i> dBy. var. <i>rhododendri</i> (dBy.) Savile <i>C. roanensis</i> (Arth.) Arth. <i>C. piperiana</i> Sacc. & Trott. ex Cumm.
6. Clitocybe root rot (mushroom root rot)	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al (= <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.)
7. Coryneum leaf spot	<i>Coryneum rhododendri</i> Schw.
8. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
9. Cryptostictis leaf spot	<i>Cryptostictis mariae</i> (G. W. Clint. ex Pk.) Sacc.
10. Cylandrocarpon canker and wilt	<i>Cylandrocarpon radicola</i> (McAlp.) Wr.
11. Damping-off, Pythium	<i>Pythium</i> spp.
12. Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
13. Dodder	<i>Cuscuta gronovii</i> Willd.
14. Exobasidium leaf spot	<i>Exobasidium burtii</i> Zeller
15. Glomerella canker and dieback	<i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk
16. Gray blight	<i>Pestalotia sydowiana</i> Bres.
17. Leaf and flower gall	<i>Exobasidium azaleae</i> Peck (= <i>E. vaccinii</i> Wor.)
18. Lophodermium leaf spot	<i>Lophodermium schweinitzii</i> M. Wils. & Robertson
19. Nematodes (parasitic):	
a. Dagger, American	<i>Xiphinema americanum</i> Cobb
b. Lance	<i>Hoplolaimus galeatus</i> (Cobb) Thorne
c. Sheath	<i>Hemicycliophora</i> spp.
d. Spiral	<i>Helicotylenchus erythinae</i> Sher
e. Stubby-root	<i>Paratrichodorus</i> spp.
f. Stunt	<i>Tylenchorhynchus claytoni</i> Steiner
20. Ovulinia petal blight	<i>Ovulinia azaleae</i> Weiss
21. Pestalosphaeria leaf spot	<i>Pestalosphaeria concentrica</i> Barr
22. Pestalotia leaf spot	<i>Pestalotia rhododendri</i> Guba
23. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
24. Phytophthora dieback	<i>Phytophthora nicotianae</i> B. de Haan var. <i>parasitica</i> (Dast.) Waterh. <i>P. cinnamomi</i> Rands <i>P. citricola</i> Saw. <i>P. citrophthora</i> (R. E. Sm. & E. H. Sm.) Leonian <i>P. heveae</i> Thompson <i>P. lateralis</i> Tucker & Milb. <i>P. cactorum</i> (Leb. & Cohn) Schroet.
25. Powdery mildew	<i>Microsphaera penicillata</i> (Wallr.: Fr.) Lév.
26. Pucciniastrum leaf rust	<i>Pucciniastrum vaccinii</i> (Wint.) Joerst.
27. Phytophthora root rot	<i>Phytophthora cactorum</i> (Leb. & Cohn) Schroet. <i>P. cinnamomi</i> Rands <i>P. citricola</i> Saw.
28. Septoria leaf spot	<i>Septoria rhododendri</i> Cke.
29. Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) Kummer (= <i>Armillariella mellea</i> (Vahl: Fr.) Karst.)
30. Spot anthracnose	<i>Sphaceloma</i> sp.
31. Stem canker	<i>Cylandrocladium theae</i> (Petch) Subram.
32. Virus disease:	
a. Necrotic ringspot	Potato virus X group
33. Witches' broom	<i>Exobasidium vaccinii-uliginosi</i> Boud.

Rose (*Rosa* spp.)

D. L. Gill, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria brassicicola</i> (Schw.) Wiltsh. <i>A. brassicae</i> (Berk.) Sacc. f. <i>microspora</i> Brun. <i>A. alternata</i> (Fr.) Keissl.
2. Anthracnose (or spot anthracnose)	<i>Elsinoë rosarum</i> Jenkins & Bitanc. (anamorph: <i>Sphaceloma rosarum</i> (Pass.) Jenkins)
3. Bacterial leaf spot	<i>Pseudomonas syringae</i> van Hall
4. Black mold	<i>Chalara thielaviodes</i> (Peyr.) Nag Raj & Kendrick (= <i>Chalaropsis thielaviodes</i> Peyr.)
5. Black spot	<i>Diplocarpon rosae</i> Wolf (anamorph: <i>Actinonema rosae</i> (Lib.) Fr.) = <i>Marssonina rosae</i> (Lib.) Lind
6. Botrytis bud and twig blight	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
7. Brand canker	<i>Coniothyrium wernsdorffiae</i> Laub.
8. Brown canker	<i>Cryptosporella umbrina</i> (Jenkins) Jenkins & Wehm.
9. Cane blight canker	<i>Botryosphaeria dothidea</i> (Moug.: Fr.) Ces. & de Not. (= <i>B. ribis</i> Gross. & Dug.) (anamorph: <i>Dothiorella gregaria</i> Sacc.) <i>B. ribis</i> Gross. & Dug. var. <i>chromogena</i> Shear et al <i>Clathridium corticola</i> (Fckl.) Shoemaker & Müller (anamorph: <i>Semimatosporium lichenicola</i> (Cda.) Shoemaker & Müller)
10. Cercospora leaf spot	<i>Cercospora puderi</i> B. H. Davis
11. Common stem canker	<i>Leptosphaeria coniothyrium</i> (Fckl.) Sacc. (anamorph: <i>Coniothyrium fuckelii</i> Sacc.)
12. Crown canker	<i>Cylandrocladium scoparium</i> Morg.
13. Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
14. Downy mildew	<i>Peronospora sparsa</i> Berk.
15. Fungal canker	<i>Cryptosporium minimum</i> Laub. <i>Nectria cinnabarina</i> (Tode: Fr.) Fr. <i>Diaporthe eres</i> Nits. (anamorph: <i>Phomopsis</i> sp.) <i>Cytospora</i> spp., <i>Diplodia</i> spp. <i>Coniothyrium rosarum</i> Cke. & Harkn.
16. Graft canker	<i>Agrobacterium rhizogenes</i> (Riker et al) Conn
17. Hairy root	<i>Mycosphaerella rosicola</i> B. H. Davis ex Dayton (anamorph: <i>Cercospora rosicola</i> Pass.)
18. Mycosphaerella leaf spot	
19. Nematodes (parasitic):	
a. Dagger, American	<i>Xiphinema americanum</i> Cobb
b. Dagger	<i>Xiphinema</i> spp.
c. Needle	<i>Longidorus macrosoma</i> Hopper
d. Ring	<i>Criconemella</i> spp.
e. Root-knot*	<i>Meloidogyne</i> spp.
f. Root lesion*	<i>Pratylenchus</i> spp.
g. Spiral	<i>Helicotylenchus</i> spp. <i>Rotylenchus</i> spp. <i>Belonolaimus</i> spp.
h. Sting	<i>Paratrichodorus minor</i> (Colbran) Siddiqi
i. Stubby-root	<i>Tylenchorhynchus</i> spp. <i>Merlinius brevidens</i> (Allen) Siddiqi
j. Stunt	<i>Sphaerotheca pannosa</i> (Wallr.: Fr.) Lév. var. <i>rosae</i> Wor.
20. Powdery mildew	<i>Phragmidium mucronatum</i> (Pers.) Schlecht. <i>P. tuberculatum</i> Müll. and seven other <i>Phragmidium</i> spp.
21. Rust	<i>Septoria rosae</i> Desm. <i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.
22. Septoria leaf spot	
23. Verticillium wilt	
24. Virus and uncharacterized graft-transmissible pathogen (GTP) diseases:	
a. Leaf curl	GTP, virus suspected

- b. Mosaic Prunus necrotic ringspot virus
- c. Ring pattern GTP, virus suspected
- mosaic
- d. Rosette GTP, also mite-transmitted,
virus suspected
- e. Spring dwarf GTP
- f. Streak GTP, virus suspected

*Common names of the nematode diseases of rose and of the nematodes themselves.

Sorghum (*Sorghum bicolor* (L.) Moench)

C. Wendell Horne, Primary Collator

Common name	Pathogen or cause
1. Acremonium wilt	<i>Acremonium strictum</i> W. Gams (= <i>Cephalosporium acremonium</i> Auct.)
2. Anthracnose	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
3. Bacterial leaf spot	<i>Pseudomonas syringae</i> van Hall
4. Bacterial leaf streak	<i>Xanthomonas campestris</i> pv. <i>holcicola</i> (Elliott) Dye
5. Bacterial leaf stripe	<i>Pseudomonas andropogonis</i> (Smith) Stapp
6. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
7. Colletotrichum stalk rot	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils
8. Crazy top downy mildew	<i>Sclerophthora macrospora</i> (Sacc.) Thurum, et al (= <i>Sclerospora macrospora</i> Sacc.)
9. Damping-off and seed rot	<i>Aspergillus</i> spp., <i>Exserohilium</i> spp., <i>Fusarium</i> spp., <i>Penicillium</i> spp., <i>Rhizoctonia</i> spp., <i>Rhizopus</i> spp., and other spp.
10. Downy mildew	<i>Peronosclerospora sorghi</i> (Weston & Uppal) C. G. Shaw (= <i>Sclerospora sorghi</i> Weston & Uppal)
11. Fusarium head blight	<i>Fusarium moniliforme</i> Sheld. (teleomorph: <i>Gibberella fujikuroi</i> (Saw.) Wr.)
12. Grain storage mold	<i>Alternaria</i> spp., <i>Aspergillus</i> spp., <i>Penicillium</i> spp., and other spp.
13. Gray leaf spot	<i>Cercospora sorghi</i> Ell. & Ev.
14. Leaf blight	<i>Exserohilium turcicum</i> (Pass.) Leonard & Suggs (= <i>Helminthosporium turcicum</i> Pass.) (teleomorph: <i>Setosphaeria turcica</i> (Luttrell) Leonard & Suggs (= <i>Trichometasphaeria turcica</i> Luttrell)
15. Nematodes (parasitic):	
a. Awl	<i>Dolichodorus</i> spp.
b. Dagger, American	<i>Xiphinema americanum</i> Cobb
c. Needle	<i>Longidorus africanus</i> Merny and other spp.
d. Pin	<i>Paratylenchus</i> spp.
e. Reniform	<i>Rotylenchulus</i> spp.
f. Ring	<i>Criconebella</i> spp.
g. Root-knot*	<i>Meloidogyne</i> spp.
h. Root lesion*	<i>Pratylenchus</i> spp.
i. Spiral	<i>Helicotylenchus</i> spp.
j. Sting	<i>Belonolaimus longicaudatus</i> Rau
k. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi <i>Paratrichodorus</i> spp. <i>Tylenchorhynchus</i> spp.
l. Stunt	<i>Melinius brevidens</i> (Allen) Siddiqui
16. Periconia root rot	<i>Periconia circinata</i> (Mangin) Sacc.
17. Pythium root rot	<i>Pythium graminicola</i> Subram. <i>Pythium</i> spp.
18. Rough leaf spot	<i>Ascochyta sorghina</i> Sacc.
19. Rust	<i>Puccinia purpurea</i> Cke.
20. Seedling blight and seed rot	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. <i>Exserohilium turcicum</i> (Pass.) Leonard & Suggs

- (= *Helminthosporium turcicum* Pass.)
- Fusarium moniliforme* Sheld.
- Pythium aphanidermatum* (Edson)
Fitzp. (= *Pythium butleri* Subram.)
- Pythium* spp.
- 21. Smut, covered kernel *Sphacelotheca sorghi* (Lk.) Clint.
- 22. Smut, head *Sporosorium reilianum* (Kühn)
Langdon & Fullerton
- 23. Smut, loose kernel *Sporosorium cruenta* (Kühn)
Langdon & Fullerton
- 24. Sooty stripe *Ramulispora sorghi* (Ell. & Ev.)
L. S. Olive & Lefebvre
- 25. Target leaf spot *Bipolaris cookei* (Sacc.) Shoemaker
(= *Helminthosporium sorghicola*
Lefebvre & Sherwin)
- 26. Virus and mycoplasma-like (MLO) diseases:
 - a. Maize chlorotic dwarf Maize chlorotic dwarf virus
 - b. Maize dwarf mosaic Maize dwarf mosaic virus
 - c. Yellow sorghum stunt Yellow sorghum stunt MLO
- 27. Zonate leaf spot *Gloeocercospora sorghi* D. Bain & Edg.

*Common names of the nematode diseases of sorghum and of the nematodes themselves.

Soybean (*Glycine max* (L.) Merrill)

D. W. Chamberlain, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot	<i>Alternaria</i> spp.
2. Anthracnose	<i>Colletotrichum dematium</i> (Pers.: Fr.) Grove f. <i>truncata</i> (Schw.) von Arx <i>Glomerella glycines</i> Lehman & Wolf
3. Bacterial blight	<i>Pseudomonas syringae</i> pv. <i>glycinea</i> (Coerper) Young et al
4. Bacterial crinkle-leaf	<i>Pseudomonas syringae</i> van Hall (possibly)
5. Bacterial pustule	<i>Xanthomonas campestris</i> pv. <i>glycines</i> (Nakano) Dye
6. Bacterial wilt	<i>Curtobacterium flaccumfaciens</i> pv. <i>flaccumfaciens</i> (Hedges) Collins & Jones (= <i>Corynebacterium flaccumfaciens</i> (Hedges) Dowson) <i>Pseudomonas solanacearum</i> (Smith) Smith
7. Black root rot	<i>Calonectria crotalariae</i> (Loos) Bell & Sobers (anamorph: <i>Cylindrocladium crotalariae</i> (Loos) Bell & Sobers)
8. Brazilian bud blight	Tobacco streak virus
9. Brown spot	<i>Septoria glycines</i> Hemmi
10. Brown stem rot	<i>Phialophora gregata</i> (Allington & Chamberlain) Gams (= <i>Cephalosporium gregatum</i> Allington & Chamberlain)
11. Bud blight	Tobacco ringspot virus
12. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) Goid.
13. Dactuliophora leaf spot*	<i>Dactuliophora glycines</i> Leaky
14. Downy mildew	<i>Peronospora manshurica</i> (Naum.) Syd. ex Gaeumann
15. Drechslera blight*	<i>Drechslera glycines</i> Narayanasamy & Durairaj
16. Frogeye leaf spot	<i>Cercospora sojina</i> Hara
17. Fusarium root rot	<i>Fusarium</i> spp.
18. Fusarium blight (wilt)	<i>Fusarium oxysporum</i> Schlecht. (several f. sp.: <i>vasinfectum</i> , <i>tracheiphilum</i> , and <i>glycines</i>)
19. Leptosphaerulina leaf spot*	<i>Leptosphaerulina trifolii</i> (Rostr.) Petr.
20. Mycoleptodiscus root rot	<i>Mycleptodiscus terrestris</i> (Gerd.) Ostazeski
21. Nematodes (parasitic):	
a. Cyst, soybean	<i>Heterodera glycines</i> Ichinohe

- b. Lance, Columbia *Hoplolaimus columbus* Sher
c. Lance *Hoplolaimus galeatus* (Cobb) Thorne
d. Reniform *Rotylenchulus reniformis*
Linford & Oliveira
e. Ring *Criconemella ornata* (Raski)
Luc & Raski
f. Root-knot† *Meloidogyne incognita* (Kofoid
& White) Chitwood
M. hapla Chitwood
M. arenaria (Neal) Chitwood
M. javanica (Treub) Chitwood
Pratylenchus spp.
g. Root lesion† *Hemicycliophora* spp.
h. Sheath *Helicotylenchus* spp.
i. Spiral *Belonolaimus longicaudatus* Rau
j. Sting *B. gracilis* Steiner
Paratrichodorus minor (Colbran)
Siddiqi
Paratrichodorus spp.
l. Stunt *Tylenchorhynchus* spp.
Merlinius spp.
22. Neocosmospora stem rot *Neocosmospora vasinfecta* E. F. Sm.
23. Phomopsis seed rot *Phomopsis* spp.
24. Phytophthora root and stem rot *Phytophthora megasperma* (Drechs.)
var. *sojae* A. A. Hildebrand
25. Phyllosticta leaf spot *Phyllosticta sojicola* Massal.
26. Phymatotrichum root rot (cotton rot rot) *Phymatotrichum omnivorum*
(Shear) Dug.
27. Pod and stem rot *Diaporthe phaseolorum* (Cke. & Ell.)
Sacc. var. *sojae* (Lehman) Wehm.
(anamorph: *Phomopsis sojae*
Lehman)
28. Powdery mildew *Microsphaera diffusa* Cke. & Pk.
29. Purple stain *Cercospora kikuchii* (Matsumoto
& Tomoyasu) Gardner
30. Pyrenochaeta leaf spot* *Pyrenochaeta glycines* Stewart
31. Pythium damping-off and rot *Pythium aphanidermatum* (Edson) Fitzp.
P. debaryanum Hesse
P. irregulare Buis.
P. myriotylum Drechs.
P. ultimum Trow
32. Red crown rot *Calonectria crotalariae* (Loos)
Bell & Sobers (anamorph:
Cylindrocladium crotalariae
(Loos) Bell & Sobers)
33. Rhizoctonia aerial blight *Rhizoctonia solani* Kühn
(teleomorph: *Thanatephorus*
cucumeris (Frank) Donk)
34. Rhizoctonia damping-off, root and stem rot *Rhizoctonia solani* Kühn
35. Rust* *Phakopsora pachyrhizi* Syd.
36. Scab* *Sphaceloma glycines* Kurata
& Kuribayashi
37. Sclerotinia stem rot *Sclerotinia sclerotiorum*
(Lib.) dBy.
38. Southern blight (damping-off and stem rot) *Sclerotium rolfsii* Sacc.
(teleomorph: *Athelia rolfsii*
(Curzi) Tu & Kimbrough)
39. Stem canker *Diaporthe phaseolorum* (Cke. & Ell.)
Sacc. var. *caulivora* Athow
& Caldwell
40. Stemphylium leaf blight* *Stemphylium botryosum* Wallr.
(teleomorph: *Pleospora herbarum*
(Fr.) Rabenh.)
41. Target spot *Corynespora cassiicola* (Berk.
& Curt.) Wei
42. Thielaviopsis root rot *Thielaviopsis basicola* (Berk. & Br.)
Ferr. (synanamorph: *Chalara*
elegans Nag Raj & Kendrick)
43. Virus diseases:
a. Alfalfa mosaic Alfalfa mosaic virus
b. Bean pod mottle Bean pod mottle virus
c. Brazilian bud blight Tobacco streak virus
d. Bud blight Tobacco ringspot virus
e. Cowpea chlorotic mottle Cowpea chlorotic mottle virus

- f. Peanut stunt Peanut stunt virus
g. Mosaic Soybean mosaic virus
h. Yellow mosaic Soybean yellow mosaic virus
44. Wildfire *Pseudomonas syringae* pv. *tabaci*
(Wolf & Foster) Young et al
45. Yeast spot *Nematosporea coryli* Pegl.

*Not known to occur naturally on soybean in the United States of America at the time this list was prepared.

†Common names of the nematode diseases of soybean and of the nematodes themselves.

Strawberry (*Fragaria* × *ananassa* Duch.)

Stephen Wilhelm, Primary Collator

Common name	Pathogen or cause
1. Angular leaf spot	<i>Xanthomonas fragariae</i> Kennedy & King
2. Anther and pistil blight	<i>Rhizoctonia fragariae</i> Husain & McKeen (teleomorph: <i>Ceratobasidium</i> sp.)
3. Anthracnose and anthracnose fruit rot	<i>Colletotrichum fragariae</i> A. N. Brooks <i>C. dematium</i> (Pers.: Fr.) Grove <i>C. acutatum</i> Simmonds <i>C. gloeosporioides</i> (Penz.) Sacc. (teleomorph: <i>Glomerella cingulata</i> (Ston.) Spauld. & Schrenk) <i>Gloeosporium</i> spp.
4. Alternaria fruit rot	<i>Alternaria tenuissima</i> (Fr.) Wiltsh.
5. Black leaf spot	<i>Alternaria alternata</i> (Fr.) Keissl. f. sp. <i>fragariae</i> (in Korea and New Zealand) <i>Colletotrichum fragariae</i> A. N. Brooks
6. Black rot (disease complex)	<i>Rhizoctonia fragariae</i> Husain & McKeen <i>Coniothyrium fuckelii</i> Sacc. (teleomorph: <i>Leptosphaeria coniothyrium</i> (Fckl.) Sacc.) <i>Idriella lunata</i> Nelson & Wilhelm <i>Pyrenochaeta</i> sp. <i>Pythium ultimum</i> Trow <i>Pythium</i> spp.
7. Cauliflower disease (complex)	<i>Rhodococcus rubropertinctus</i> (Hefferan) Goodfellow & Alderson (= <i>Corynebacterium fascians</i> (Tilford) Dowson) and <i>Aphelenchoides fragariae</i> (Ritzema-Bos) Christie
8. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid. (= <i>Botryodiplodia phaseoli</i> (Maubl.) Thirum.)
9. Common leaf spot and black seed disease	<i>Mycrosphaera fragariae</i> (Tul.) Lindau (anamorph: <i>Ramularia tulasnei</i> Sacc.)
10. Dematophora crown and root rot (western white root rot)	<i>Rosellinia necatrix</i> Prill. (anamorph: <i>Dematophora necatrix</i> Hartig)
11. Fruit rots (in addition to those appearing elsewhere in this listing)	<i>Aspergillus niger</i> v. Tiegh. <i>Cladosporium</i> spp. <i>Mucor mucedo</i> L.: Fr. <i>M. piriformis</i> Fischer <i>M. hiemalis</i> Wehmer f. sp. <i>hiemalis</i> <i>M. hiemalis</i> Wehmer f. sp. <i>sylvaticus</i> <i>Penicillium frequentans</i> Westling <i>P. cyclopium</i> Westling <i>P. expansum</i> Link <i>P. purpurogenum</i> Stoll <i>Peronospora potentillae</i> dBy. <i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
12. Gray mold	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
13. Hard brown rot	<i>Gnomonia comari</i> Karst. (anamorph: <i>Zythia fragariae</i> Laibach) <i>G. fragariae</i> Kleb.
14. Leaf blotch	<i>Diplocarpon earliana</i> (Ell. & Ev.) Wolf (anamorph: <i>Marssonina potentillae</i> (Desm.) P. Magnus)
15. Leaf scorch (red spot)	

- var. *fragariae* (Sacc.) P. Magnus
= *M. fragariae* (Lib.) Kleb.)
16. Leather rot *Phytophthora cactorum* (Leb. & Cohn) Schroet.
P. citrophthora (R. E. Sm. & E. H. Sm.) Leonian
17. Nematodes (parasitic):
a. Bulb and stem *Ditylenchus dipsaci* (Kühn) Filipjev
b. Bud and leaf (crimp, spring) *Aphelenchoides fragariae* (Ritzema-Bos) Christie
A. ritzemlabosi (Schwartz) Steiner & Buhrer
Aphelenchoides besseyi Christie
c. Bud and leaf (crimp, summer)
d. Dagger, American
e. Dagger
f. Root-knot* *Xiphinema americanum* Cobb.
Xiphinema spp.
Meloidogyne hapla Chitwood
Meloidogyne spp.
g. Root lesion* *Pratylenchus penetrans* (Cobb) Filipjev & Schuurmans-Stekhoven
P. pratensis (de Man) Filipjev
P. scribneri Steiner
P. coffeae (Zimmerman) Filipjev & Schuurmans-Stekhoven
h. Sting *Belonolaimus longicaudatus* Rau
B. gracilis Steiner
18. Phomopsis leaf blight and soft rot *Phomopsis obscurans* (Ell. & Ev.) Sutton (= *Dendrophoma obscurans* Ell. & Ev.) H. W. Anderson)
19. Powdery mildew (including fruit rot) *Sphaerotheca macularis* (Wallr.: Fr.) Magnus f. *fragariae* Jacz. (= *S. humuli* (DC.) Burr.)
20. Red stele *Phytophthora fragariae* Hickm.
21. Rhizoctonia bud and crown rot, leaf blight, and root rot *Rhizoctonia solani* Kühn
22. Rhizopus rot (leak) *Rhizopus stolonifer* (Ehr.: Fr.) Vuill.
23. Sclerotinia crown and fruit rot *Sclerotinia sclerotiorum* (Lib.) dBy.
24. Septoria hard rot and leaf spot *Septoria fragariae* (Lib.) Desm.
25. Shoestring root rot (oak root fungus) *Armillaria mellea* (Vahl: Fr.) Kummer (= *Armillariella mellea* (Vahl: Fr.) Karst.)
26. Southern blight (Sclerotium rot) *Sclerotium rolfsii* Sacc. (teleomorph: *Ahelia rolfsii* Curzi) Tu & Kimbrough)
27. Spring dwarf *Aphelenchoides fragariae* (Ritzema-Bos) Christie
A. ritzemlabosi (Schwartz) Steiner & Buhrer
Gnomonia comari Karst.
28. Stem-end rot *Aphelenchoides besseyi* Christie
29. Summer dwarf *Pezizella oenotherae* (Cke. & Ell.) Sacc. (= *Discohainesia oenotherae* (Cke. & Ell.) Nannf.) (anamorph: *Hainesia lythri* (Desm.) Hoehn.)
30. Tan-brown rot (of fruit) *Verticillium albo-atrum* Reinke & Berth.
V. dahliae Kleb.
31. Verticillium wilt
32. Virus and mycoplasma-like (MLO) diseases:
a. Aster yellows MLO
b. Crinkle Strawberry crinkle virus (aphid-borne)
c. Green petal (clover phyllody) MLO (leafhopper-borne)
d. Latent C Strawberry latent C virus
e. Mild yellow edge Strawberry mild yellow edge virus (aphid-borne)
f. Mottle Strawberry mottle virus (aphid-borne)
g. Necrotic shock Virus
h. Pallidosis Viruslike
i. Tomato ringspot Tomato ringspot virus
j. Vein banding Strawberry vein banding virus (aphid-borne)
k. Xanthosis Virus

*Common names of the nematode diseases of strawberry and of the nematodes themselves.

W. J. Martin, Primary Collator

Common name	Pathogen or cause
1. Alternaria leaf spot and storage rot	<i>Alternaria</i> spp.
2. Bacterial soft rot	<i>Erwinia carotovora</i> (Jones) Bergey et al
3. Bacterial wilt and root rot	<i>Erwinia chrysanthemi</i> Burkholder, McFadden & Dimock
4. Black rot	<i>Ceratocystis fimbriata</i> Ell. & Halst.
5. Blue mold rot	<i>Penicillium</i> spp.
6. Botrytis storage rot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
7. Brown ring of roots	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
8. Cercospora leaf spot	<i>Cercospora</i> sp.
9. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
10. Dry rot	<i>Diaporthe batatatis</i> Harter & Field
11. End rot	<i>Fusarium solani</i> (Mart.) Sacc. emend. Snyder & Hans. <i>Fusarium</i> spp.
12. False broomrape	Unknown
13. Foot rot	<i>Plenodomus destruens</i> Harter
14. Fusarium stem rot	<i>Fusarium oxysporum</i> Schlecht. f. <i>batatas</i> (Wr.) Snyder & Hans.
15. Gray mold rot	<i>Botrytis cinerea</i> Pers.: Fr.
16. Java black rot	<i>Diplodia tubericola</i> (Ell. & Ev.) Taub. (= <i>D. theobromae</i> (Pat.) Nowell) (teleomorph: <i>Physalospora rhodina</i> (Berk. & Curt.) Cke.)
17. Leaf blight	<i>Phyllosticta batatas</i> (Thuem.) Cke.
18. Leaf mold	<i>Choanephora cucurbitarum</i> (Berk. & Rav.) Thaxt.
19. Mottle necrosis	<i>Pythium</i> spp. <i>Phytophthora</i> spp.
20. Nematodes (parasitic):	
a. Bulb and stem	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
b. Burrowing	<i>Radopholus similis</i> (Cobb) Thorne
c. Dagger, American	<i>Xiphinema americanum</i> Cobb
d. Dagger	<i>Xiphinema</i> spp.
e. Pin	<i>Pratylenchus</i> spp.
f. Reniform	<i>Rotylenchulus reniformis</i> Linford & Oliveira
g. Root-knot*	<i>Meloidogyne</i> spp.
h. Spiral	<i>Helicotylenchus</i> spp.
i. Sting	<i>Belonolaimus longicaudatus</i> Rau
j. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi <i>Paratrichodorus</i> spp.
k. Stunt	<i>Tylenchorhynchus</i> spp.
21. Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichum omnivorum</i> (Shear) Dug.
22. Proliferation disease	Mycoplasma-like organism (MLO)
23. Punky rot	<i>Trichoderma</i> spp.
24. Pink root	<i>Pyrenochaeta terrestris</i> (Hans.) Gorenz et al
25. Rhizoctonia rootlet rot, sprout rot, and stem canker	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
26. Rootlet rot	<i>Pythium</i> spp. <i>Streptomyces ipomoea</i> (Person & W. J. Martin) Waksman & Henrici
27. Rust	<i>Coleosporium ipomoeae</i> (Schw.) Burr.
28. Sclerotinia sprout rot	<i>Sclerotinia minor</i> Jagger
29. Scurf	<i>Monilochaetes infuscans</i> Ell. & Halst. ex Harter
30. Septoria leaf spot	<i>Septoria bataticola</i> Taub.
31. Soft rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill. <i>Rhizopus</i> spp.
32. Soil rot (pox, pit)	<i>Streptomyces ipomoea</i> (Person & W. J. Martin) Waksman & Henrici

33. Southern blight and circular spot *Sclerotium rolfsii* Sacc.
(teleomorph: *Athelia rolfsii* (Curzi) Tu & Kimbrough) Goodfellow & Alderson (= *Corynebacterium fascians* (Tilford) Dowson)
34. Spot anthracnose *Elsinoë batatas* Viegas & Jenkins
35. Storage rot *Sclerotinia* sp.
Epicoccum sp.
Mucor racemosus Fres.
Fusarium solani (Mart.) Sacc. emend. Snyder & Hans.
36. Surface rot *Fusarium oxysporum* Schlecht.
F. solani (Mart.) Sacc. emend. Snyder & Hans.
37. Tip rot Unknown
38. Violet root rot *Helicobasidium purpureum* Pat.
(anamorph: *Rhizoctonia crocorum* (Pers.: Fr.) DC.)
39. Virus diseases:
a. Curly top Beet curly top virus
b. Feathery mottle (chlorotic leaf spot, ringspot) Sweet potato feathery mottle virus
c. Internal cork Virus or viruslike
d. Mild mottle Sweet potato mild mottle virus (white-fly transmitted)
e. Mosaic Tobacco mosaic virus
f. Russet crack Sweet potato feathery mottle virus
g. Vein mosaic Sweet potato vein mosaic virus
h. Yellow dwarf Virus or viruses suspected
40. White rust *Albugo ipomoeae-panduranae* (Schw.) Swing.
24. Nematodes (parasitic):
a. Bulb and stem (in Europe) *Ditylenchus dipsaci* (Kühn) Filipjev
(stem break)
b. Cyst *Globodera solanacearum* (Miller & Gray) Mulvey & Stone
G. tabacum (Lownsbey & Lownsbey) Mulvey & Stone
c. Dagger, American *Xiphinema americanum* Cobb
d. Foliar *Aphelenchoides ritzemabosi* (Schwartz) Steiner
e. Root-knot* *Meloidogyne incognita* (Kofoid & White) Chitwood
M. hapla Chitwood
Meloidogyne spp.
f. Root lesion* *Pratylenchus brachyurus* (Godfrey) Filipjev & Schuurmans-Stekhoven
(brown root rot) *P. penetrans* (Cobb) Filipjev & Schuurmans-Stekhoven
Pratylenchus spp.
g. Spiral *Helicotylenchus* spp.
h. Stubby-root *Paratrichodorus* spp.
Trichodorus spp.
i. Stunt *Tylenchorhynchus* spp.
Merlinius spp.
25. Olpidium seedling blight *Olpidium brassicae* (Wor.) Dang.
26. Phyllosticta leaf spot *Phyllosticta nicotiana* Ell. & Ev.
27. Powdery mildew *Erysiphe cichoracearum* DC.
28. Ragged leaf spot *Ascochyta phaseolorum* Sacc.
29. Scab *Fusarium affine* Fautr. & Lamb.
30. Sore shin and damping-off *Rhizoctonia solani* Kühn
(teleomorph: *Thanatephorus cucumeris* (Frank) Donk)
31. Southern blight *Sclerotium rolfsii* Sacc.
(teleomorph: *Athelia rolfsii* (Curzi) Tu & Kimbrough)
32. Stem break (in Europe) *Ditylenchus dipsaci* (Kühn) Filipjev
33. Stem rot of transplants *Pythium ultimum* Trow
34. Sunburn UV light
35. Verticillium wilt *Verticillium albo-atrum* Reinke & Berth.
V. dahliae Kleb.
36. Virus and mycoplasma-like (MLO) diseases:
a. Alfalfa mosaic Alfalfa mosaic virus
b. Aster yellows MLO
c. Beet curly top Beet curly top virus
d. Bushy top (Malawi and Zimbabwe only) Tobacco vein distorting virus and tobacco bushy top virus in combination
e. Cucumber mosaic Cucumber mosaic virus
f. Etch Tobacco etch virus
g. Leaf curl Tobacco leaf curl virus
h. Mosaic Tobacco mosaic virus
i. Necrosis Tobacco necrosis virus
j. Peanut stunt Peanut stunt virus
k. Rattle Tobacco rattle virus
l. Ring spot Tobacco ringspot virus
m. Rosette disease (Malawi and Zimbabwe only) Tobacco vein distorting virus and tobacco mottle virus in combination
n. Stolbus (Europe only) MLO
o. Streak Tobacco streak virus
p. Stunt (Japan only) Tobacco stunt virus
q. Tomato spotted wilt Tomato spotted wilt virus
r. Vein banding Potato virus Y
s. Vein mottle Tobacco vein mottle virus
t. Wound tumor Wound tumor virus

*Common name of a nematode disease of sweet potato and of the nematode itself.

Tobacco (*Nicotiana tabacum* L.)

C. J. Nusbaum, Primary Collator

Common name	Pathogen or cause
1. Angular leaf spot	<i>Pseudomonas angulata</i> (Fromme & Murray) Holland
2. Anthracnose	<i>Colletotrichum destructivum</i> O'Gara
3. Barn spot	<i>Cercospora nicotianae</i> Ell. & Ev.
4. Barn rot	Several fungi
5. Black root rot	<i>Thielaviopsis basicola</i> (Berk. & Br.) Ferr. (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
6. Black shank	<i>Phytophthora parasitica</i> Dast. var. <i>nicotianae</i> (B. de Haan) Tucker
7. Blue mold (downy mildew)	<i>Peronospora tabacina</i> Adam
8. Broomrape	<i>Orobanche ramosa</i> L. <i>O. ludoviciana</i> Nutt.
9. Brown root rot	<i>Pratylenchus</i> spp.
10. Brown spot	<i>Alternaria alternata</i> (Fr.) Keissl.
11. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
12. Collar rot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
13. Damping-off, Pythium	<i>Pythium ultimum</i> Trow <i>P. aphanidermatum</i> (Edson) Fitzp. <i>P. debaryanum</i> Hesse
14. Dodder	<i>Cuscuta</i> spp.
15. Drought spot	Drought
16. False broomrape	Unknown
17. Frenching	Metabolite of <i>Bacillus cereus</i> Frankland & Frankland
18. Frog-eye leaf spot	<i>Cercospora nicotianae</i> Ell. & Ev.
19. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. (several f. spp.)
20. Granville wilt	<i>Pseudomonas solanacearum</i> (Smith) Smith
21. Gray mold	<i>Botrytis cinerea</i> Pers.: Fr.
22. Hollow stalk	<i>Erwinia carotovora</i> (Jones) Bergey et al <i>E. carotovora</i> subsp. <i>atroseptica</i> (van Hall) Dye
23. Leaf gall	<i>Rhodococcus rubropertinctus</i> (Hefferan)
24. Nematodes (parasitic):	
a. Bulb and stem (in Europe)	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev (stem break)
b. Cyst	<i>Globodera solanacearum</i> (Miller & Gray) Mulvey & Stone <i>G. tabacum</i> (Lownsbey & Lownsbey) Mulvey & Stone
c. Dagger, American	<i>Xiphinema americanum</i> Cobb
d. Foliar	<i>Aphelenchoides ritzemabosi</i> (Schwartz) Steiner
e. Root-knot*	<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood <i>M. hapla</i> Chitwood <i>Meloidogyne</i> spp.
f. Root lesion* (brown root rot)	<i>Pratylenchus brachyurus</i> (Godfrey) Filipjev & Schuurmans-Stekhoven <i>P. penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>Pratylenchus</i> spp.
g. Spiral	<i>Helicotylenchus</i> spp.
h. Stubby-root	<i>Paratrichodorus</i> spp. <i>Trichodorus</i> spp.
i. Stunt	<i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.
25. Olpidium seedling blight	<i>Olpidium brassicae</i> (Wor.) Dang.
26. Phyllosticta leaf spot	<i>Phyllosticta nicotiana</i> Ell. & Ev.
27. Powdery mildew	<i>Erysiphe cichoracearum</i> DC.
28. Ragged leaf spot	<i>Ascochyta phaseolorum</i> Sacc.
29. Scab	<i>Fusarium affine</i> Fautr. & Lamb.
30. Sore shin and damping-off	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
31. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
32. Stem break (in Europe)	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
33. Stem rot of transplants	<i>Pythium ultimum</i> Trow
34. Sunburn	UV light
35. Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berth. <i>V. dahliae</i> Kleb.
36. Virus and mycoplasma-like (MLO) diseases:	
a. Alfalfa mosaic	Alfalfa mosaic virus
b. Aster yellows	MLO
c. Beet curly top	Beet curly top virus
d. Bushy top (Malawi and Zimbabwe only)	Tobacco vein distorting virus and tobacco bushy top virus in combination
e. Cucumber mosaic	Cucumber mosaic virus
f. Etch	Tobacco etch virus
g. Leaf curl	Tobacco leaf curl virus
h. Mosaic	Tobacco mosaic virus
i. Necrosis	Tobacco necrosis virus
j. Peanut stunt	Peanut stunt virus
k. Rattle	Tobacco rattle virus
l. Ring spot	Tobacco ringspot virus
m. Rosette disease (Malawi and Zimbabwe only)	Tobacco vein distorting virus and tobacco mottle virus in combination
n. Stolbus (Europe only)	MLO
o. Streak	Tobacco streak virus
p. Stunt (Japan only)	Tobacco stunt virus
q. Tomato spotted wilt	Tomato spotted wilt virus
r. Vein banding	Potato virus Y
s. Vein mottle	Tobacco vein mottle virus
t. Wound tumor	Wound tumor virus
37. Weather fleck	Ozone
38. Wildfire	<i>Pseudomonas syringae</i> pv. <i>tabaci</i> (Wolf & Foster) Young et al
39. Witchweed	<i>Striga gesnerioides</i> (Willd.) Vatke

*Common names of the nematode diseases of tobacco and of the nematodes themselves.

Tomato (*Lycopersicon esculentum* Mill.)

John Paul Jones, Primary Collator

Common name	Pathogen or cause
1. Anthracnose	<i>Colletotrichum phomoides</i> (Sacc.) Chester <i>Colletotrichum</i> spp.
2. Bacterial blight	<i>Pseudomonas viridiflava</i> (Burkholder) Dowson
3. Bacterial canker	<i>Clavibacter michiganense</i> subsp. <i>michiganense</i> (Smith) Davis et al (= <i>Corynebacterium michiganense</i> (Smith) Jensen)
4. Bacterial soft rot and stem rot	<i>Erwinia carotovora</i> subsp. <i>carotovora</i> (Jones) Bergey et al
5. Bacterial speck	<i>Pseudomonas syringae</i> pv. <i>tomato</i> (Okabe) Young et al
6. Bacterial spot	<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i> (Doidge) Dye
7. Bacterial wilt	<i>Pseudomonas solanacearum</i> (Smith) Smith
8. Black dot root rot	<i>Colletotrichum atramentarium</i> (Berk. & Br.) Taub. (= <i>C. coccoedes</i> (Wallr.) Hughes)
9. Black mold rot	<i>Alternaria alternata</i> (Fr.) Keissl. <i>Pleospora herbarum</i> (Fr.) Rabenh. (anamorph: <i>Stemphylium botryosum</i> Wallr.)
10. Black shoulder	<i>Alternaria alternata</i> (Fr.) Keissl.
11. Black spot	<i>Phoma destructiva</i> Plowr.
12. Buckeye rot	<i>Phytophthora nicotianae</i> B. de Haan var. <i>parasitica</i> (Dast.) Waterh.
13. Corky root	<i>Pyrenochaeta lycopersici</i> Schneider & Gerlach
14. Cercospora leaf spot	<i>Cercospora canescens</i> Ell. & G. Martin
15. Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) G. Goid.
16. Crown rot	<i>Fusarium oxysporum</i> Schlecht. <i>F. oxysporum</i> Schlecht. f. sp. <i>lycopersici</i>
17. Early blight	<i>Alternaria solani</i> Auct.
18. Frenching	Probably exopathogenic soilborne microorganisms
19. Fusarium fruit rot	<i>Fusarium</i> spp.
20. Fusarium wilt	<i>Fusarium oxysporum</i> Schlecht. f. sp. <i>lycopersici</i>
21. Gray leaf spot	<i>Stemphylium solani</i> Weber <i>S. floridanum</i> Hannon & Weber
22. Gray mold and ghost spot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (dBy.) Whetz.)
23. Gray wall/internal browning	Physiological and influenced by tobacco mosaic virus; <i>Erwinia herbicola</i> (Lohnis) Dye frequently involved
24. Late blight	<i>Phytophthora infestans</i> (Mont.) dBy.
25. Leaf mold	<i>Cladosporium fulvum</i> Cke.
26. Nailhead spot	<i>Alternaria tomato</i> (Cke.) Brinkman
27. Nematodes (parasitic):	
a. Cyst	<i>Globodera</i> spp.
b. Dagger, American	<i>Xiphinema americanum</i> Cobb
c. False root-knot*	<i>Nacobbus</i> spp.
d. Root-knot*	<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood <i>M. chitwoodi</i> Golden et al <i>M. microtyla</i> Mulvey <i>Meloidogyne</i> spp.
e. Root lesion*	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven <i>Pratylenchus</i> spp.
f. Spiral	<i>Helicotylenchus</i> spp.
g. Sting	<i>Belonolaimus longicaudatus</i> Rau
h. Stubby-root	<i>Paratrichodorus minor</i> (Colbran) Siddiqi
i. Stunt	<i>Tylenchorhynchus claytoni</i> Steiner <i>Tylenchorhynchus</i> spp. <i>Merlinius</i> spp.
28. Phytophthora damping-off	<i>Phytophthora nicotianae</i> B. de Haan var. <i>parasitica</i> (Dast.) Waterh.

29. Phytophthora root rot	<i>Phytophthora parasitica</i> Dast. <i>P. capsici</i> Leonian
30. Pith necrosis	<i>Pseudomonas corrugata</i> Roberts & Scarlett
31. Pleospora rot	<i>Pleospora lycopersici</i> El. Marchal & Em. Marchal
32. Powdery mildew	<i>Leveillula taurica</i> (Lév.) Arn. (anamorph: <i>Oidiopsis taurica</i> Salmon)
33. Pythium damping-off and root rot	<i>Pythium</i> spp.
34. Rhizoctonia damping-off, stem canker, and soil rot	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)
35. Ring rot	<i>Myrothecium roridum</i> Tode: Fr.
36. Ripe rot	<i>Rhizopus stolonifer</i> (Ehr.: Fr.) Vuill.
37. Sclerotinia fruit and stem rot	<i>Sclerotinia sclerotiorum</i> (Lib.) dBy.
38. Septoria leaf spot	<i>Septoria lycopersici</i> Speg.
39. Sour rot	<i>Geotrichum candidum</i> Lk. (= <i>Oospora lactis</i> (Fres.) Sacc.)
40. Southern blight	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
41. Stem canker	<i>Alternaria alternata</i> (Fr.) Keissl. f. sp. <i>lycopersici</i>
42. Syringae leaf spot	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall
43. Target spot	<i>Corynespora cassiicola</i> (Berk. & Curt.) Wei
44. Verticillium wilt	<i>Verticillium dahliae</i> Kleb. <i>V. albo-atrum</i> Reinke & Berth.
45. Virus and mycoplasma-like (MLO) diseases:	
a. Alfalfa mosaic	Alfalfa mosaic virus
b. Aspermy	Tomato aspermy virus
c. Big bud	MLO
d. Bushy stunt	Tomato bushy stunt virus
e. Cucumber mosaic	Cucumber mosaic virus
f. Curly top	Beet curly top virus
g. Double virus streak	Tobacco mosaic virus plus potato virus X
h. Mosaic	Tobacco mosaic virus
i. Pseudocurly top	Pseudocurly top virus
j. Ring spot	Tomato ringspot virus
k. Spotted wilt	Tomato spotted wilt virus
l. Tobacco etch	Tobacco etch virus
m. Virus Y	Potato virus Y
n. Yellow top	Tomato yellow top virus
46. Water mold	<i>Pythium ultimum</i> Trow

*Common names of the nematode diseases of tomato and of the nematodes themselves.

Turfgrass (several cultivated spp.)

Houston B. Couch, Primary Collator

Abbreviations of names of turfgrass cultivars for the turfgrass suscept (TS) column are: an-blu, annual bluegrass (*Poa annua* L.); k-blu, Kentucky bluegrass (*P. pratensis* L.); cl-bnt, colonial bentgrass (*Agrostis tenuis* Sibth.); cr-bnt, creeping bentgrass (*A. palustris* Huds.); TC15-bnt, Toronto C-15 bentgrass (*A. palustris* Huds. cv. *toronto*); vl-bnt, velvet bentgrass (*A. canina* L.); brmu, bermudagrass (*Cynodon dactylon* (L.) Pers.); cntp, centipedegrass (*Eremochloa ophiuroides* (Munro) Hack.); ch-fs, chewing fescue (*Festuca rubra* subsp. *commutata* Gaud.); r-fs, red fescue (*F. rubra* subsp. *rubra* L.); an-ry, annual ryegrass (*Lolium multiflorum* Lam.); pn-ry, perennial ryegrass (*L. perenne* L.); st-aug, St. Augustinegrass (*Stenotaphrum secundatum* (Walt.) Kuntze); t-fs, tall fescue (*Festuca arundinacea* Schreb.); zoy, zoysiagrass (*Zoysia* spp., including *Z. japonica* Steud., *Z. matrella* (L.) Merr., and *Z. tenuifolia* Willd. ex Trin.); and all trfgr, all cultivated turfgrasses.

Common name	TS	Pathogen or cause
1. Anthracnose	an-blu cr-bnt brmu	<i>Colletotrichum graminicola</i> (Ces.) Wils. (teleomorph: <i>Glomerella</i>

	k-blu cntp r-fs t-fs pn-ry	<i>graminicola</i> Politis) <i>Microdochium bolleyi</i> (Sprague) de Hoog & Hemanides-Nijhof (anamorph: <i>Gloeosporium</i> <i>bolleyi</i> Sprague)	12. Drechslera leaf blight and crown rot	cr-bnt	<i>Drechslera catenaria</i> (Drechs.) Ito (= <i>Helminthosporium</i> <i>catenarium</i> Drechs.)
2. Ascochyta leaf spot	vl-bnt k-blu r-fs t-fs an-ry pn-ry	<i>Ascochyta desmazieri</i> Cav. <i>A. sorghi</i> Sacc.	14. Frost scorch	k-blu	<i>Sclerotium rhizodes</i> Auersw.
3. Bacterial wilt	TC15-bnt	<i>Xanthomonas Dowsestris</i> (Pammel) Dawson	15. Fusarium blight	an-blu cl-bnt cr-bnt cntp k-blu r-fs	<i>Fusarium crookwellense</i> Burgess et al <i>F. culmorum</i> (W. G. Sm.) Sacc. (= <i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'culmorum')
4. Brown blight	an-ry pn-ry t-fs	<i>Drechslera siccans</i> (Drechs.) Shoemaker (= <i>Helminthosporium</i> <i>siccans</i> Drechs.) (teleomorph: <i>Pyrenophora</i> <i>lolii</i> Dovaston) <i>D. dictyoides</i> (Drechs.) Shoemaker (= <i>Helminthosporium</i> <i>dictyoides</i> Drechs.) (teleomorph: <i>Pyrenophora</i> <i>dictyoides</i> Paul & Parbery)	16. Fusarium patch (pink snow mold)	an-blu cl-bnt cr-bnt vl-bnt brmu k-blu r-fs an-ry pn-ry t-fs	<i>Fusarium nivale</i> Ces. ex Sacc. (= <i>Microdochium</i> <i>nivale</i> (Fr.) Samuel & Hallett, = <i>Gerlachia</i> <i>nivale</i> (Ces. ex Sacc.) W. Gams & E. Müller) (teleomorph: <i>Monographella nivalis</i> (Schaffnit) E. Müller)
5. Brown stripe	cl-bnt cr-bnt k-blu r-fs an-ry pn-ry t-fs	<i>Scolecotrichum graminis</i> Fckl. (= <i>Cercosporidium</i> <i>graminis</i> (Fckl.) Deighton)	17. Gray leaf spot	brmu st-aug	<i>Pyricularia grisea</i> (Cke.) Sacc.
6. Cercospora leaf spot	t-fs st-aug	<i>Cercospora festucae</i> Hardison <i>C. fusimaculans</i> Atk.	18. Helminthosporium blight	k-blu r-fs an-ry pn-ry t-fs	<i>Drechslera dictyoides</i> (Drechs.) Shoemaker (= <i>Helminthosporium</i> <i>dictyoides</i> Drechs.) (teleomorph: <i>Pyrenophora</i> <i>dictyoides</i> Paul & Parbery)
7. Copper spot	cl-bnt cr-bnt vl-bnt	<i>Gloeocercospora sorghi</i> D. Bain & Edg.	19. Helminthosporium zoy crown and root rot		<i>Bipolaris tetramera</i> (McKinney) Shoemaker (= <i>Helminthosporium</i> <i>tetramera</i> McKinney)
8. Coprinus snow mold (winter crown rot)	cr-bnt k-blu r-fs t-fs	<i>Coprinus psychromorbidus</i> Redhead & Traquair	20. Helminthosporium crown and stem necrosis	brmu	<i>Bipolaris spicifera</i> (Bain) Subram. (= <i>Helminthosporium</i> <i>spiciferum</i> (Bain) Nicot.) (teleomorph: <i>Cochliobolus spicifer</i> Nelson)
9. Curvularia blight (fading out)	an-blu cr-bnt cl-bnt k-blu pn-ry	<i>Curvularia geniculata</i> (Tracy & Earle) Boedijn (teleomorph: <i>Pseudocochliobolus</i> <i>geniculatus</i> (Nelson) Tsuda et al) <i>C. inaequalis</i> (Shear) Boedijn <i>C. intermedia</i> Boedijn (teleomorph: <i>Cochliobolus intermedius</i> Nelson) <i>Curvularia lunata</i> (Wakker) Boedijn (teleomorph: <i>Pseudocochliobolus</i> <i>lunatus</i> (Nelson & Haasis) Tsuda et al)	21. Helminthosporium leaf blotch	brmu	<i>Bipolaris cynodontis</i> (Marig.) Shoemaker (= <i>Helminthosporium</i> <i>cynodontis</i> Marig.) (teleomorph: <i>Cochliobolus</i> <i>cynodontis</i> Nelson)
10. Dollar spot	an-blu cl-bnt cr-bnt vl-bnt brmu cntp k-blu r-fs an-ry pn-ry st-aug zoy	<i>Lanzia</i> spp. and <i>Moellerodiscus</i> spp. (= <i>Sclerotinia</i> <i>homoeocarpa</i> F. T. Bennett)	22. Helminthosporium leaf spot	an-blu cr-bnt k-blu r-fs pn-ry t-fs	<i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium</i> <i>sativum</i> Pam. et al) (teleomorph: <i>Cochliobolus sativus</i> (Ito & Kurib. in Kurib.) Drechs. ex Dast.)
11. Downy mildew (see also yellow tuft)	cr-bnt k-blu pn-ry st-aug t-fs	<i>Sclerophthora macrospora</i> (Sacc.) Thirum. et al (= <i>Sclerospora</i> <i>macrospora</i> Sacc.) <i>Sclerospora graminicola</i> (Sacc.) Schroet.	23. Melting-out	an-blu k-blu an-ry pn-ry t-fs	<i>Drechslera poae</i> (Baudys) Shoemaker (= <i>Helminthosporium</i> <i>vagans</i> Drechs.)
			24. Necrotic ring spot	k-blu r-fs ch-fs	<i>Leptosphaeria korrae</i> Walker & Smith
			25. Nematodes; several species of endoparasitic and ectoparasitic root- colonizing nematodes, including one or more of the following: all trfgr		<i>Dolichodorus</i> spp. <i>Heterodera</i> spp. <i>Xiphinema</i> spp. <i>Hoplolaimus</i> spp. <i>Longidorus</i> spp.

f. Pin		<i>Paratylenchus</i> spp.	an-ry	var. <i>coronata</i>
g. Ring		<i>Criconebella</i> sp.	pn-ry	<i>P. recondita</i> Rob. ex Desm.
h. Root-knot*		<i>Meloidogyne</i> spp.	bnt	<i>P. brachypodii</i> Otth
i. Root lesion*		<i>Pratylenchus</i> spp.	fs	var. <i>poae-nemoralis</i> (Otth) Cumm. & H. C. Greene
j. Spiral		<i>Helicotylenchus</i> spp.		<i>P. brachypodii</i> Otth
k. Sting		<i>Belonolaimus</i> sp.	an-blu	var. <i>arrhenatheri</i> (Kleb.) Cumm. & H. C. Greene
l. Stubby-root		<i>Paratrichodorus</i> spp.	k-blu	<i>P. graminis</i> Pers. subsp. <i>graminicola</i> Urban
m. Stunt		<i>Tylenchorhynchus</i> spp.	fs	
		<i>Merlinius</i> spp.		
26. Nigrospora blight	k-blu r-fs pn-ry st-aug	<i>Nigrospora sphaerica</i> (Sacc.) Mason	39. Rust, stem	blu bnt fs ry blu bnt fs ry
27. Phleospora leaf spot	t-fs	<i>Phleospora graminearum</i> Sprague & Hardison	40. Rust, stripe	blu bnt fs ry
28. Pink patch	r-fs pn-ry	<i>Limonomyces roseipellis</i> Stalpers & Loerakker <i>L. culmigenus</i> (Webster & Reid) Stalpers & Loerakker	41. Rusts	an-blu cl-bnt cr-bnt vl-bnt brmu k-blu r-fs an-ry pn-ry zoy st-aug t-fs st-aug
29. Polymyxa root rot	cr-bnt brmu	<i>Polymyxa graminis</i> Ledingham		Several species of <i>Puccinia</i> , <i>Physopella</i> , <i>Uromyces</i> , and <i>Uredo</i> †
30. Powdery mildew	brmu k-blu r-fs	<i>Erysiphe graminis</i> DC.: Fr.		
31. Pyrenochaeta root rot	cr-bnt brmu k-blu r-fs	<i>Pyrenochaeta terrestris</i> (Hans.) Gorenz et al		
32. Pythium blight	cl-bnt cr-bnt vl-bnt brmu k-blu r-fs an-ry pn-ry t-fs	<i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. graminicola</i> Subram. <i>P. myriotylum</i> Drechs. <i>P. torulosum</i> Coker & Patterson <i>P. ultimum</i> Trow <i>P. vanterpoolii</i> V. Kooyeas & H. Kooyeas <i>Pythium</i> spp.	42. St. Augustine decline	Panicum mosaic virus
33. Pythium root rot	cl-bnt cr-bnt vl-bnt brmu k-blu r-fs an-ry pn-ry t-fs	<i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. graminicola</i> Subram. <i>P. myriotylum</i> Drechs. <i>Pythium</i> spp.	43. Scald	<i>Rhynchosporium secalis</i> (Oud.) J. J. Davis
34. Red leaf spot	cl-bnt cr-bnt vl-bnt	<i>Drechslera erythrospila</i> (Drechs.) Shoemaker (= <i>Helminthosporium erythrospilum</i> Drechs.) (teleomorph: <i>Pyrenophora erythrospila</i> Paul)	44. Sclerotium blight (southern blight)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
35. Red thread	cl-bnt cr-bnt brmu k-blu r-fs pn-ry	<i>Laetisaria fuciformis</i> (McAlp.) Burdsall (= <i>Corticium fuciforme</i> Wakef.)	45. Seedling diseases (damping-off and seed rot)	<i>Fusarium</i> spp. (see <i>Fusarium</i> blight) <i>Pythium</i> spp. (see <i>Pythium</i> blight) <i>Rhizoctonia</i> spp. (see <i>Rhizoctonia</i> blight) <i>Bipolaris</i> spp., <i>Drechslera</i> spp., <i>Colletotrichum</i> sp., and other pathogens
36. Rhizoctonia blight (brown patch)	an-blu cl-bnt cr-bnt vl-bnt brmu k-blu r-fs an-ry pn-ry st-aug t-fs zoy	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	46. Selenophoma leaf spot	<i>Selenophoma obtusa</i> Sprague & A. G. Johnson
37. Rhizoctonia leaf and sheath spot	cr-bnt brmu cntp k-blu pn-ry t-fs	<i>Rhizoctonia zeae</i> Voorhees	47. Septoria leaf spot	<i>Septoria macropoda</i> Pass. var. <i>grandis</i> Sprague <i>S. macropoda</i> Pass. var. <i>septulata</i> (Gons. & Frag.) Sprague <i>S. nodorum</i> (Berk.) Berk. (teleomorph: <i>Leptosphaeria nodorum</i> Müller) <i>S. oudemansii</i> Sacc. <i>S. avenae</i> Frank (teleomorph: <i>Leptosphaeria avenaria</i> Weber) <i>S. tenella</i> Cke. & Ell. <i>Fuligo</i> spp. <i>Mucilago</i> spp. <i>Physarum</i> spp. and other Myxomycetes spp.
38. Rust, leaf	blu	<i>Puccinia coronata</i> Cda.	48. Slime molds	
			49. Smuts, floral	
			a. Covered	cl-bnt cr-bnt vl-bnt brmu k-blu st-aug
			b. Loose	brmu k-blu st-aug
			c. Blister	an-blu k-blu
			d. Flag	cl-bnt

Wheat (*Triticum* spp. L.)
Earl D. Hansing, Primary Collator

	cr-bnt	Schröet.
	k-blu	
	r-fs	
e. Spot	k-blu	<i>Entyloma spragueanum</i> Zundel
f. Stripe	an-blu	<i>Ustilago striiformis</i>
	cl-bnt	(Westend.) Niessl
	cr-bnt	
	k-blu	
	pn-ry	
	t-fs	
50. Snow scald (Sclerotinia snow mold)	k-blu	<i>Myriosclerotinia borealis</i>
	r-fs	(Bub. & Vleug.)
	pn-ry	Kohn (= <i>Sclerotinia</i> <i>borealis</i> Bub. & Vleug.)
51. Spermospora blast	ch-fs	<i>Spermospora ciliata</i>
	k-blu	(Sprague) Deighton
	r-fs	<i>S. subulata</i> (Sprague)
	pn-ry	Sprague
		<i>S. lolii</i> MacGarvie & O'Rourke
		<i>S. poagensis</i> (Sprague)
		MacGarvie & O'Rourke (= <i>Cercospora poagensis</i> Sprague)
52. Spring dead spot	brmu	<i>Leptosphaeria korrae</i> Walker & Smith in certain areas; etiology unknown in other areas
53. Summer patch	k-blu	<i>Phialophora graminicola</i>
	an-blu	(Deacon) Walker
54. Take-all patch (Ophiobolus patch)	cl-bnt	<i>Gaeumannomyces graminis</i>
	vl-bnt	(Sacc.) von Arx
	k-blu	& Olivier var. <i>avenae</i>
	r-fs	(E. M. Turner) Dennis
	an-ry	(= <i>Ophiobolus graminis</i> Sacc.)
	pn-ry	
	t-fs	
55. Tar spot	cl-bnt	<i>Phyllachora graminis</i>
	t-fs	(Pers.: Fr.) Fckl.
		<i>P. sylvatica</i> Sacc. & Speg.
56. Typhula blight (gray or speckled snow mold)	an-blu	<i>Typhula incarnata</i> Lasch: Fr.
	cl-bnt	<i>T. ishikariensis</i> Imai
	cr-bnt	var. <i>canadensis</i> Smith & Arsvoll
	vl-bnt	
	ky-blu	<i>T. ishikariensis</i> Imai
	r-fs	var. <i>idahoensis</i> (Remsb.) Arsvoll & Smith
	pn-ry	
	t-fs	<i>T. ishikariensis</i> Imai var. <i>ishikariensis</i>
57. Virus diseases: Several viruses are known to infect and replicate in turfgrass species. The impact of these (except Panicum mosaic virus inciting St. Augustine decline) on the longevity and productivity of turfgrass has not been clearly established.		
58. White leaf	brmu	An unidentified coryneform bacterium
59. White patch	t-fs	<i>Melanotus phillipsii</i>
		(Berk. & Br.) Singer
60. Yellow patch (cool season brown patch)	cr-bnt	<i>Rhizoctonia cerealis</i>
	brmu	v. d. Hoen in Boerema & Verhoeven (teleomorph: <i>Ceratobasidium</i> sp.)
	k-blu	
	t-fs	
	zoy	
61. Yellow ring	k-blu	<i>Trechispora alnicola</i>
		(Bourd. & Galz.) Liberta
62. Yellow tuft	cr-bnt	<i>Sclerophthora macrospora</i>
		(Sacc.) Thirum. et al
63. Yellows	an-blu	Aster yellows mycoplasma (MLO)
	pn-ry	
	an-ry	
64. Zonate eyespot	cr-bnt	<i>Drechslera gigantea</i>
	vl-bnt	(Heald & Wolf) Ito
	brmu	(= <i>Helminthosporium</i> <i>giganteum</i> Heald & Wolf)
	k-blu	

Common name	Pathogen or cause
1. Alternaria leaf blight	<i>Alternaria trititica</i> Pras. & Prab.
2. Anthracnose	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
3. Ascochyta leaf spot	<i>Ascochyta tritici</i> Hori & Enjoji
4. Aster yellows	Mycoplasmalike organism (MLO)
5. Aureobasidium decay	<i>Aureobasidium bolleyi</i> (Sprague) von Arx
6. Bacterial leaf blight	<i>Pseudomonas syringae</i> pv. <i>syringae</i> van Hall
7. Bacterial mosaic	<i>Corynebacterium</i> sp.
8. Basal glume rot	<i>Pseudomonas syringae</i> pv. <i>atrofaciens</i> (McCulloch) Young et al
9. Black chaff and bacterial streak	<i>Xanthomonas campestris</i> pv. <i>translucens</i> (Jones et al) Dye
10. Black point (kernel blight)	<i>Alternaria</i> , <i>Bipolaris</i> , and <i>Fusarium</i> spp.
11. Black head molds	<i>Alternaria</i> sp. <i>Cladosporium herbarum</i> Lk.: Fr. <i>Epicoccum</i> , <i>Sporobolomyces</i> , and <i>Stemphylium</i> spp.
12. Cephalosporium stripe	<i>Cephalosporium gramineum</i> Nisik. & Ikata
13. Common bunt	<i>Tilletia foetida</i> (Wallr.) Liro
14. Common root rot	<i>Fusarium</i> spp. <i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker (= <i>Helminthosporium sativum</i> Pam. et al) (teleomorph: <i>Cochliobolus</i> <i>sativus</i> (Ito & Kurib. in Kurib.) Drechs. ex Dast.)
15. Crown rot	<i>Gibberella zeae</i> (Schweinitz) Petch (anamorph: <i>Fusarium graminearum</i> Schwabe)
16. Dilophospora leaf spot and twist	<i>Dilophospora alopecuri</i> (Fr.) Fr.
17. Downy mildew	<i>Sclerophthora macrospora</i> (Sacc.) Thirum. et al (= <i>Sclerospira macrospora</i> Sacc.)
18. Dwarf bunt	<i>Tilletia controversa</i> Kühn
19. Ergot	<i>Claviceps purpurea</i> (Fr.) Tul.
20. Eyespot and foot rot (strawbreaker)	<i>Pseudocercospora herpotrichoides</i> (Fron) Deighton
21. False eyespot	<i>Gibellina cerealis</i> Pass.
22. Flag smut	<i>Urocystis agropyri</i> (Preuss) Schroet.
23. Foot rot	<i>Fusarium culmorum</i> (W. G. Sm.) Sacc.
24. Glume blotch (Septoria nodorum spot)	<i>Septoria nodorum</i> (Berk.) Berk. (teleomorph: <i>Leptosphaeria</i> <i>nodorum</i> Müller)
25. Halo spot	<i>Selenophoma donacis</i> (Pass.) Sprague & A. G. Johnson
26. Herpotrichoides leaf spot	<i>Leptosphaeria herpotrichoides</i> de Not. (= <i>Phaeosphaeria</i> <i>herpotrichoides</i> (de Not.) Holm)
27. Karnal bunt	<i>Neovossia indica</i> (Mittra) Mundk.
28. Leaf rust	<i>Puccinia recondata</i> Rob. ex Desm. f. sp. <i>tritici</i>
29. Loose smut	<i>Ustilago tritici</i> (Pers.) Rostr.
30. Microscopic leaf spot	<i>Leptosphaeria microscopica</i> Karst. (anamorph: <i>Phaeoseptoria</i> <i>urvilleana</i> (Speg.) Sprague)
31. Nematodes (parasitic):	
a. Cyst (cereal)	<i>Heterodera avenae</i> Wollenweber <i>H. hordecalis</i> Andersson <i>H. latipons</i> Franklin
b. Cyst (grass)	<i>Punctodera punctata</i> Thorne
c. Cyst	<i>Heterodera</i> spp.
d. Dagger, American	<i>Xiphinema americanum</i> Cobb
e. Grass-root gall	<i>Subanguina radiciola</i> (Greeff) Paramonov
f. Ring	<i>Criconemella</i> spp.
g. Root-knot*	<i>Meloidogyne naasi</i> Franklin <i>M. chitwoodi</i> Golden et al <i>Meloidogyne</i> spp.
h. Root lesion*	<i>Pratylenchus minyus</i> Sher. & Allen <i>P. thornei</i> Sher. & Allen

*Common names of the nematode diseases of turfgrasses and of the nematodes themselves.

†For descriptions of and keys to the species of rust fungi on grasses, refer to *The Rust Fungi of Cereals, Grasses and Bamboos* by G. M. Cummins (1971) and *British Rust Fungi* by M. Wilson and D. M. Henderson (1966).

	<i>Pratylenchus</i> spp.	Turner) Dennis (= <i>Ophiobolus graminis</i> Sacc.)
i. Seed gall (wheat)	<i>Anguina tritici</i> (Steinbuch) Chitwood	
j. Spiral	<i>Helicotylenchus</i> spp.	
k. Stubby-root	<i>Paratrichodorus</i> spp.	50. Tan spot (yellow leaf spot) and pink grain
l. Stunt	<i>Merlinius brevidens</i> (Allen) Siddiqi	
32. Phoma spot	<i>Phoma glomerata</i> (Cda.) Wr. & Hochapf. <i>P. insidiosa</i> Tassi <i>Phoma</i> spp.	51. Tar spot
33. Pink seed	<i>Erwinia rhapontica</i> (Millard) Burkholder	52. Virus diseases:
34. Pink snow mold (Fusarium patch)	<i>Fusarium nivale</i> Ces. ex Sacc. (= <i>Microdochium nivalis</i> (Fr.) Samuels & Hallett, = <i>Gerlachia nivalis</i> (Ces. ex Sacc.) W. Gams & E. Müller) (teleomorph: <i>Monographella nivalis</i> (Schaffnit) E. Müller)	a. Agropyron mosaic
35. Platyspora leaf spot	<i>Platyspora pentamera</i> (Karst.) Wehm.	b. Barley stripe mosaic
36. Powdery mildew	<i>Erysiphe graminis</i> DC.: Fr. f. sp. <i>tritici</i>	c. Barley yellow dwarf
37. Pythium root rot	<i>Pythium arrhenomanes</i> Drechs. <i>P. aphanidermatum</i> (Edson) Fitzp. <i>P. graminicola</i> Subram. <i>P. volutum</i> Vant. & Tru. <i>P. myriotylum</i> Drechs. and other <i>Pythium</i> spp.	d. Barley yellow striate mosaic (Italy)†
38. Scab (head blight)	<i>Fusarium avenaceum</i> (Fr.) Sacc. (teleomorph: <i>Gibberella avenaceae</i> Cook) <i>F. culmorum</i> (W. G. Sm.) Sacc. (<i>F. roseum</i> Lk.: Fr. f. sp. <i>cerealis</i> 'culmorum') <i>F. graminearum</i> Schwabe <i>F. nivale</i> Ces. ex Sacc.	e. Barley yellow stripe (Turkey)†
39. Sharp eyespot and Rhizoctonia root rot	<i>Rhizoctonia cerealis</i> v. d. Hoeven in Boerema & Verhoeven (teleomorph: <i>Ceratobasidium</i> sp.) <i>R. solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	f. Brome mosaic
40. Snow scald (Sclerotinia snow mold)	<i>Myriosclerotinia borealis</i> (Bub. & Vleug.) Kohn (= <i>Sclerotinia borealis</i> Bub. & Vleug.)	g. Cardamom mosaic streak (India)†
41. Southern blight (Sclerotium base rot)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)	h. Cereal mosaic, northern (Japan)†
42. Speckled leaf blotch (Septoria avenae spot, Septoria tritici spot)	<i>Septoria avenae</i> Frank f. sp. <i>triticea</i> (teleomorph: <i>Leptosphaeria avenaria</i> Weber f. sp. <i>triticea</i>) <i>S. tritici</i> Rob. in Desm. (teleomorph: <i>Mycosphaerella graminicola</i> (Fckl.) Sand)	i. Cereal streak, African†
43. Speckled snow mold (Typhula blight)	<i>Typhula ishkariensis</i> Imai var. <i>ishkariensis</i> <i>T. ishkariensis</i> Imai var. <i>idahoensis</i> (Remsb.) Arsvoll & Smith <i>T. incarnata</i> Lasch: Fr. <i>T. ishkariensis</i> Imai var. <i>canadensis</i> Smith & Arsvoll	j. Cereal tillering (Sweden, Italy)†
44. Spike blight	<i>Clavibacter tritici</i> (Carlson & Vidaver) Davis et al (= <i>Corynebacterium michiganense</i> pv. <i>tritici</i> (Hutchison) Dye & Kemp)	k. Cocksfoot mottle (Great Britain)†
45. Spot blotch	<i>Bipolaris sorokiniana</i> (Sacc. in Sorok.) Shoemaker	l. Eneismo (Colombia, Ecuador)†
46. Stem rust	<i>Puccinia graminis</i> Pers. f. sp. <i>tritici</i>	m. Maize dwarf mosaic
47. Storage molds	<i>Aspergillus</i> spp., <i>Penicillium</i> spp., and others	n. Maize streak
48. Stripe rust	<i>Puccinia striiformis</i> Westend.	o. Oat sterile dwarf (Sweden, Czechoslovakia)†
49. Take-all (Ophiobolus patch)	<i>Gaeumannomyces graminis</i> (Sacc.) Walker <i>G. graminis</i> (Sacc.) von Arx & Olivier var. <i>graminis</i> <i>G. graminis</i> (Sacc.) von Arx & Olivier var. <i>avenae</i> (E. M.	p. Rice black-streaked dwarf virus (Japan)†
		q. Rice hoja blanca
		r. Tobacco mosaic
		s. Wheat chlorotic streak (France)†
		t. Wheat dwarf (Europe)†
		u. Wheat soilborne mosaic
		v. Wheat spindle streak mosaic
		w. Wheat spot mosaic
		x. Wheat streak mosaic
		y. Wheat striate mosaic, American
		z. Wheat striate, Australian†
		aa. Wheat striate, eastern (India)†
		bb. Wheat striate, European†
		cc. Wheat yellow leaf (Japan)†
		dd. Wheat yellow mosaic (Japan)†
		ee. Winter wheat mosaic (Russia)†
		53. White blotch
		54. Winter crown rot (Coprinus snow mold)
		55. Witchweed
		<i>Bacillus megaterium</i> de Bary <i>cerealis</i> Hosford
		<i>Coprinus psychromorbidus</i> Redhead & Traquair
		<i>Striga asiatica</i> L. (Kuntze) <i>S. hermonthica</i> Benth.†

*Common names of the nematode diseases of wheat and of the nematodes themselves.

†Not known to occur naturally on wheat in the United States of America at the time this list was prepared.

‡*Polymyxa graminis* Ledingham, a fungal vector of wheat soilborne mosaic virus and wheat spindle streak mosaic virus.