

Common Names for Plant Diseases

In 1978 the American Phytopathological Society established a committee to develop listings of APS approved names for plant pathogens and the diseases they incite. These names are then considered the preferred names for use in APS journals and other publications. The Committee on Standardization of Common Names for Plant Diseases published lists of preferred names for 35 commodities in 1985 (Plant Disease 69:649-676) and eight in 1988 (Plant Disease 72:567-574).

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Avocado (*Persea americana* Miller)

Howard D. Ohr, Michael D. Coffey,
and Robert T. McMillan, Jr., Primary Collators

Common name	Pathogen or cause
Algal spot	<i>Cephaleuros virescens</i> Kunze
Anthraxnose	<i>Colletotrichum gloeosporioides</i> (Penz.) Penz. & Sacc. in Penz. (teleomorph: <i>Glomerella cingulata</i> (Stoneman) Spauld. & Schrenk)
Bacterial canker	<i>Pseudomonas syringae</i> van Hall
Black mildew	<i>Asteridiella perseae</i> (F. Stevens) Hansf. = <i>Irene perseae</i> (F. Stevens) Toro
Blackstreak	Unknown cause
Blast	<i>Pseudomonas syringae</i> van Hall
Branch canker	<i>Botryosphaeria disrupta</i> (Berk. & M. A. Curtis) Arx & E. Mueller <i>B. obtusa</i> (Schwein.) Shoemaker = <i>Physalospora obtusa</i> (Schwein.) Cooke <i>B. quercuum</i> (Schwein.) Sacc. = <i>P. glandicola</i> (Schwein.) N. Stevens <i>B. rhodina</i> (Cooke) Arx = <i>P. rhodina</i> Cooke <i>P. abdita</i> (Berk. & M. A. Curtis) N. Stevens in Voorhees = <i>P. fusca</i> N. Stevens
Butt rot	<i>Ganoderma sulcatum</i> Murrill
Cercospora spot (blotch)	<i>Pseudocercospora purpurea</i> (Cooke) Deighton
Clitocybe root rot	<i>Armillaria tabescens</i> (Scop.: Fr.) Dennis et al. = <i>Clitocybe tabescens</i> (Scop.: Fr.) Bres.
Collar rot	<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary
Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
Dematophora root rot	<i>Dematophora necatrix</i> Hartig (teleomorph: <i>Rosellina necatrix</i> Prill.)
Dieback	Copper deficiency <i>Diplodia cacaoicola</i> Henn. <i>Phomopsis</i> sp.
Edema	Physiological
Fruit rots (includes stem end rot, fungal fruit spots and rots)	<i>Botryodiplodia</i> sp. <i>Botryosphaeria obtusa</i> (Schwein.) Shoemaker <i>B. quercuum</i> (Schwein.) Sacc. <i>B. rhodina</i> (Cooke) Arx <i>Botrytis vulgaris</i> Fr. <i>Colletotrichum gloeosporioides</i> (Penz.) Penz. & Sacc. in Penz. <i>Cylindrocladium scoparium</i> Morg. (teleomorph: <i>Calonectria kyotensis</i> Terashita) <i>Dothiorella aromatica</i> (Sacc.) Petr. & Syd. <i>D. gregaria</i> Sacc. <i>Fusarium decemcellulare</i> Brick

(continued)

The following nine lists are presented for reference. They were previously edited by committee members and taxonomists and published for comment in *Phytopathology News*. To achieve long-term uniformity in nomenclatural standards, the committee has adopted the taxonomic system published in *Fungi on Plants and Plant Products in the United States*, by Farr et al, APS Press, 1989. It is expected that the lists will not be revised for at least five years so that stability in use of common names will be achieved.

The committee thanks the collators of each list and those who have been involved in many days of editorial process.

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

Avocado (continued)

Common name	Pathogen or cause
	(teleomorph: <i>Nectria rigidiuscula</i> Berk. & Broome) <i>Lasiodiplodia theobromae</i> (Pat.) Griffon & Maubl. = <i>Diplodia natalensis</i> Pole-Evans <i>N. pseudotrachia</i> Berk. & M. A. Curtis (anamorph: <i>Tubercularia lateritia</i> (Berk.) Seifert) <i>Pestalotia</i> sp. <i>Pestalotia versicolor</i> Speg. <i>Phomopsis perseae</i> Zerova <i>Phytophthora citricola</i> Sawada <i>Rhizopus stolonifer</i> (Ehrenb.: Fr.) Vuill. <i>Sclerotinia sclerotiorum</i> (Lib.) de Bary = <i>S. libertiana</i> Fuckel
Fruit spot, bacterial	<i>Pseudomonas syringae</i> van Hall
Heart rot	<i>Oxyporus latemarginatus</i> (Durieu & Mont.) Donk = <i>Poria latemarginata</i> (Durieu & Mont.) Cooke
Leaf spots	<i>Bipolaris sorokiniana</i> (Sacc. in Sorokin) Shoemaker (teleomorph: <i>Cochliobolus sativa</i> (Ito & Kuribayashi) Drechs. ex Dastur) <i>Pestalotia</i> sp. <i>Pestalotia adusta</i> Ellis & Everh. <i>Phyllachora gratissima</i> Rehm <i>Phyllosticta micropuncta</i> Cooke = <i>P. perseae</i> Ellis & G. Martin
Littleleaf rosette	Zinc deficiency
Phomopsis spot	<i>Phomopsis</i> sp.
Physalospora canker	<i>Physalospora perseae</i> Doidge
Phytophthora trunk canker	<i>Phytophthora cinnamomi</i> Rands <i>P. citricola</i> Sawada <i>P. heveae</i> Thompson <i>Phytophthora citricola</i> Sawada <i>P. cinnamomi</i> Rands
Phytophthora crown rot	<i>Phytophthora cinnamomi</i> Rands
Phytophthora root rot	<i>Trichothecium roseum</i> Lk.: Fr. = <i>Cephalothecium roseum</i> Corda
Pink rot	<i>Oidium</i> sp.
Powery mildew	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (A. B. Frank) Donk)
Rhizoctonia seed and root rot	<i>Fusarium</i> sp. <i>Pythium</i> sp.
Root and bark rot	<i>Rosellinia bunodes</i> (Berkeley & Broome) Sacc.
Root rot	<i>Colletotrichum gloeosporioides</i> (Penz.) Penz. & Sacc. in Penz. = <i>C. nigrum</i> Ellis & Halsted
Rosellinia root rot	
Rusty blight	
Scab (fruit and leaf)	<i>Sphaceloma perseae</i> Jenk.
Seedling blight	<i>Phytophthora palmivora</i> (E. J. Butler) E. J. Butler

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Avocado (continued)

Common name	Pathogen or cause
	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl: Fr.) P. Kumm. (anamorph: <i>Rhizomorpha subcorticalis</i> Pers.)
Smudgy spot	<i>Helminthosporium</i> sp.
Sooty blotch	<i>Akaropeltopsis</i> sp.
Sunblotch	Avocado sunblotch viroid
Tar spot	<i>Phyllachora gratissima</i> Rehm
Tipburn	Excess mineral salts
Trunk pitting	Graft transmissible agent
Verticillium wilt	<i>Verticillium dahliae</i> Kleb.
Wood rots	<i>Fomitella supina</i> (Sw.: Fr.) Murrill = <i>Polyporus supinus</i> (Sw.: Fr.) Fr. <i>Laetiporus sulphureus</i> (Bull.: Fr.) Murrill = <i>Polyporus sulphureus</i> (Bull.: Fr.) Fr. (anamorph: <i>Sporotrichum versisporum</i> (Lloyd) Stalpers) <i>Rigidoporus ulmarius</i> (Sowerby: Fr.) Imazeki in Ito = <i>Fomes geotropus</i> (Cooke) Cooke <i>Trames hirsuta</i> (Wulfen: Fr.) Quel. = <i>Polyporus hirsutus</i> Wulfen: Fr.

Diseases of *Cannabis sativa* L.

J. M. McPartland, Primary Collator

Common name	Pathogen or cause
Alfalfa mosaic	Alfalfa mosaic virus
Anthraxnose	<i>Colletotrichum coccodes</i> (Wallr.) S. J. Hughes = <i>C. atramentarium</i> (Berk. & Broome) Tauberhaus <i>C. dematium</i> (Pers.: Fr.) Grove
Arabis mosaic	Arabis mosaic virus
Bacterial blight	<i>Pseudomonas syringae</i> pv. <i>cannabina</i> (Sutic & Dowson) Young et al
Black dot disease	<i>Epicoccum nigrum</i> Link (= <i>Epicoccum</i> <i>purpurascens</i> Ehrenb.)
Broomrape	<i>Orobanche ramosa</i> L.
Brown blight	<i>Alternaria alternata</i> (Fr.: Fr.) Keissl. = <i>A. tenuis</i> Nees
Brown leaf spot and stem canker	<i>Ascochyta</i> spp. <i>A. prasadii</i> Shukla & Pathak <i>Phyllosticta</i> spp.
Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) Goidanich
Cladosporium stem canker	<i>Cladosporium cladosporioides</i> (Fresen.) de Vries. <i>C. herbarum</i> (Pers.: Fr.) Link (teleomorph: <i>Mycosphaerella tassiana</i> (De Not.) Johan.)
Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
Cucumber mosaic	Cucumber mosaic virus
Curvularia leaf spot	<i>Curvularia lunata</i> (Wakker) Boedijn (teleomorph: <i>Cochliobolus lunatus</i> R. R. Nelson & Haasis)
Cylindrosporium blight	<i>Cylindrosporium cannabinum</i> Ibrahimov <i>Cylindrosporium</i> ssp.
Cyst nematode	<i>Heterodera humuli</i> Filipjev <i>H. schachtii</i> Schmidt
Damping-off	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (de Bary) Whetzel) <i>Fusarium oxysporum</i> Schlechtend.: Fr. <i>F. solani</i> (Mart.) Sacc. (teleomorph: <i>Nectria haematococca</i> Berk. & Broome) <i>Macrophomina phaseolina</i> (Tassi) Goidanich <i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. debaryanum</i> auct. non R. Hesse <i>P. ultimum</i> Trow <i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (A. B. Frank)

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Diseases of *Cannabis sativa* L. (continued)

Common name	Pathogen or cause
	Donk = <i>Pellicularia filamentosa</i> (Pat.) D. P. Rogers)
Dodder	<i>Cuscuta europaea</i> L. <i>C. pentagona</i> Eng.
Downy mildew	<i>Pseudoperonospora cannabina</i> (Oth) Curzi <i>P. humuli</i> (Miyabe & Takah.) G. W. Wils. Cause undetermined
Fasciation	
Fusarium foot rot and root rot	<i>Fusarium solani</i> (Mart.) Sacc. <i>Fusarium sulphureum</i> Schlechtend. (teleomorph: <i>Gibberella cyanogena</i> (Desmaz.) Sacc. = <i>G. saubinetti</i> (Mont.) Sacc.)
Fusarium stem canker	<i>Fusarium oxysporum</i> Schlechtend.: Fr. f. sp. <i>cannabis</i> <i>F. oxysporum</i> Schlechtend.: Fr. f. sp. <i>vasinfectum</i>
Fusarium wilt	<i>Botrytis cinerea</i> Pers.: Fr. Magnesium deficiency <i>Sclerotinia sclerotiorum</i> (Lib.) de Bary
Gray mold	Hemp mosaic virus
Grey fleck	Hemp streak virus
Hemp canker	<i>Leptosphaeria acuta</i> (Fuckel) P. Karst. <i>L. cannabina</i> Ferraris & Massa <i>L. woroninii</i> Docea & Negru
Hemp mosaic	Lucerne mosaic virus
Hemp streak	<i>Paralongidorus maximus</i> (Butschli) Siddiqi = <i>Longidorus maximus</i> (Butschli) Th. & Swang.
Leptosphaeria blight	Olive leaf spot
Lucerne mosaic	<i>Cercospora cannabis</i> K. Hara & Fukui <i>Pseudocercospora cannabina</i> (Wakef.) Deighton
Needle nematode	<i>Ophiobolus anguillidus</i> (Cooke in Cooke & Ellis) Sacc. <i>O. cannabinus</i> Pass. <i>Phoma exigua</i> Desmaz. <i>P. herbarum</i> Westendorp <i>Phomopsis</i> spp. <i>P. cannabina</i> Curzi <i>Phymatotrichopsis omnivora</i> (Duggar) Hennebert (= <i>Phymatotrichum</i> <i>omnivorum</i> Duggar)
Olive leaf spot	<i>Trichothecium roseum</i> (Pers.: Fr.) Link = <i>Cephalothecium roseum</i> Corda <i>Leveillula taurica</i> (Lév.) G. Arnaud. (anamorph: <i>Oidiopsis sicula</i> Scalia)
Ophiobolus stem canker	<i>Sphaerotheca macularis</i> (Wallroth: Fr.) Lind = <i>S. humuli</i> (DC.) Burrill (anamorph: <i>Oidium</i> sp.)
Phoma stem canker	Red boot
Phomopsis stem canker	<i>Melanospora cannabis</i> Behrens (secondary on hemp canker)
Phymatotrichum root rot (cotton root rot)	Rhizoctonia soreshin and root rot
Pink rot	Root-knot
Powdery mildew	<i>Rhizoctonia solani</i> Kühn <i>Meloidogyne incognita</i> (Kofoid & White) Chitwood <i>M. javanica</i> (Treb) Chitwood <i>Aecidium cannabis</i> Szemmel <i>Uredo kriegeiana</i> Syd. & P. Syd. <i>Uromyces inconspicuus</i> Oth <i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
Red boot	Rust
Rhizoctonia soreshin and root rot	Southern blight (<i>Sclerotium</i> root and stem rot)
Root-knot	Stem nematode
Rust	Stemphylium leaf and stem spot
Southern blight (<i>Sclerotium</i> root and stem rot)	Striatura ulcerosa
Stem nematode	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev <i>Stemphylium botryosum</i> Wallroth (teleomorph: <i>Pleospora tarda</i> E. Simmons) <i>S. cannabinum</i> (Bachtin & Gutner) Dobrozhakova et al. <i>Pseudomonas syringae</i> pv. <i>mori</i> (Boyer & Lambert) Young et al. <i>Phyllachora cannabidis</i> P. Henn.
Stemphylium leaf and stem spot	Tar spot
Striatura ulcerosa	Tipburn and
Tar spot	
Tipburn and	

(continued)

Diseases of *Cannabis sativa* L. (continued)

Common name	Pathogen or cause
leaf margin necrosis	Potassium deficiency
Tropical rot	<i>Lasiodiplodia theobromae</i> (Pat.) Griffon & Maubl. = <i>Botryodiplodia theobromae</i> Pat.
Twig blight	<i>Dendrophoma marconii</i> Cav. (teleomorph: <i>Botryosphaeria marconii</i> V. Charles & Jenkins)
Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berthier V. dahliae Kleb.
Witches' broom	Mycoplasmalike organism
White leaf spot	<i>Phomopsis ganjae</i> McPartland
Xanthomonas leaf spot	<i>Xanthomonas campestris</i> pv. <i>cannabis</i> Severin
Yellow leaf spot	<i>Septoria cannabis</i> (Lasch) Sacc. <i>S. cannabina</i> Peck

Cassava (*Manihot esculenta* Crantz)

J. C. Lozano and B. Nolt, Primary Collators

Common name	Pathogen or cause
African cassava mosaic	African cassava mosaic virus
Antholysis	Mycoplasmalike organism
Anthraxnose	<i>Colletotrichum gloeosporioides</i> (Penz.) Penz. & Sacc. in Penz. = <i>C. gloeosporioides</i> f. sp. <i>manihotis</i> (teleomorph: <i>Glomerella cingulata</i> (Stoneman) Spauld. & Schrenk) <i>C. graminicola</i> (Ces.) G. W. Wilson <i>Xanthomonas campestris</i> pv. <i>manihotis</i> (Berthet & Bondar) Dye
Bacterial blight	<i>Xanthomonas campestris</i> pv. <i>manihotis</i> (Berthet & Bondar) Dye
Bacterial angular leaf spot	<i>Xanthomonas campestris</i> pv. <i>cassavae</i> (Wiehe & Dowson) Maraite & Weyns
Bacterial stem gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn Biovar 1
Bacterial stem rot	<i>Erwinia carotovora</i> subsp. <i>carotovora</i> (Jones) Bergey et al.
Bacterial wilt	<i>Enterobacter agglomerans</i> (Beijerinck) Ewing & Fife <i>Erwinia herbicola</i> (Löhnis) Dye
Blight leaf spot	<i>Cercospora vicosae</i> A. S. Mueller & Chupp
Brown leaf spot	<i>Cercosporidium henningsii</i> (Allesch.) Deighton (teleomorph: <i>Mycosphaerella henningsii</i> Sivanesan)
Caribbean cassava mosaic	Virus (uncharacterized)
Cassava ash	<i>Oidium manihotis</i> Henn.
Cassava brown streak	Virus (uncharacterized)
Cassava common mosaic	Cassava common mosaic virus
Cassava frogskin	Virus (uncharacterized)
Cassava green mottle	Cassava green mottle virus
Cassava symptomless infections	Cassava X virus Cassava Columbian symptomless virus
Cassava vein mosaic	Cassava vein mosaic virus
Concentric ring leaf spot	<i>Phyllosticta manihobae</i> Viegas <i>P. manihotica</i> Syd.
Dematophora root rot	<i>Dematophora necatrix</i> R. Hartig (teleomorph: <i>Rosellina necatrix</i> Prill.)
Diplodia root and stem rot	<i>Diplodia manihotis</i> Sacc.
Fusarium root rot	<i>Fusarium oxysporum</i> Schlechtend.:Fr. <i>F. solani</i> (H. Mart.) Sacc. (teleomorph: <i>Nectria haematococca</i> Berk. & Broome)
Indian cassava mosaic	Indian cassava mosaic virus
Phytophthora	

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Cassava (continued)

Common name	Pathogen or cause
root rot	<i>Phytophthora drechsleri</i> Tucker
Postharvest root rot	Physiologic and pathogenic deteriorations
Pythium root rot	<i>Pythium</i> spp.
Rigidoporus root rot	<i>Rigidoporus microporus</i> (Sw.:Fr.) Overeem = <i>R. lignosus</i> (Klotzsch) Imazeki
Root smallpox disease	Microbial rotting after feeding by <i>Cyrtomenus bergi</i> Froeschner
Rust	<i>Uromyces</i> spp.
Sclerotium root rot (southern blight)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
Shoestring root rot (oak root fungus)	<i>Armillaria mellea</i> (Vahl:Fr.) P. Kumm. (anamorph: <i>Rhizomorpha subcorticalis</i> Pers.)
Superelongation	<i>Sphaceloma manihotica</i> Bitancourt & Jenk. (teleomorph: <i>Elsinoë brasiliensis</i> Bitancourt & Jenk.)
White leaf spot	<i>Phaeroramularia manihotis</i> (F. Stevens & Solheim) M. B. Ellis
Witches' broom	Mycoplasmalike organism

Date Palm (*Phoenix dactylifera* L.)

John B. Carpenter, Primary Collator

Common name	Pathogen or cause
Al-Wijam*	Unknown cause
Barhee disorder	Unknown cause
Bayoud* (Fusariose)	<i>Fusarium oxysporum</i> Schlechtend.: Fr. f. sp. <i>albedinis</i>
Belâat*	<i>Phytophthora</i> sp.
Bending head* (Le coeur qui penche)	<i>Ceratocystis paradoxa</i> (Dade) C. Moreau (anamorph: <i>Chalara paradoxa</i> (De Seyn.) Sacc. = Thielaviopsis paradoxa (De Seyn.) Höhn.)
Black leaf spot*	<i>Lasiodiplodia theobromae</i> (Pat.) Griffon & Maubl. = <i>Botryodiplodia theobromae</i> Pat.
Blacknose	<i>Chaetosphaeropsis</i> sp.
Black scald	Physiological disorder
Black scorch* (Medjnoon)	Physical disorder <i>Ceratocystis paradoxa</i> (Dade) C. Moreau
Crosscut	Anatomical defect, fruitstock
Diplodia disease	<i>Diplodia phoenicum</i> (Sacc.) H. Fawc. & Klotz <i>Lasiodiplodia theobromae</i> (Pat.) Griffon & Maubl. = <i>D. natalensis</i> Pole-Evans
Faroun	Unknown cause
Fruit rots	<i>Alternaria</i> spp., <i>Aspergillus</i> spp., <i>Fusarium</i> spp., <i>Penicillium</i> spp., etc.
Graphiola leaf spot	<i>Graphiola phoenicis</i> (Moug.) Poit.
Inflorescence rot	<i>Diplodia</i> spp., <i>Fusarium</i> spp., and <i>Thielaviopsis</i> spp.
Internal browning	Unknown cause
Khamedj*	<i>Mauginiella scaettae</i> Cavara
Lethal yellowing	Mycoplasmalike organism
Omphalia root rot	<i>Omphalia pigmentata</i> Bliss <i>O. tralucida</i> Bliss
Pestalotia leaf spot*	<i>Pestalotiopsis palmarum</i> (Cooke) Steyaert = <i>Pestalotia palmarum</i> Cooke
Rapid decline	Unknown cause
Root knot	<i>Meloidogyne arenaria</i> (Neal) Chitwood* <i>M. hapla</i> Chitwood* <i>M. incognita</i> (Kofoid & White) Chitwood <i>M. javanica</i> (Treub) Chitwood
Root lesion	<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans-Stekhoven*
Taches brunes* (brown leaf spot)	<i>Mycosphaerella tassiana</i> (De Not.) Johan. (anamorph: <i>Cladosporium</i>

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Date Palm (continued)

Common name	Pathogen or cause
Terminal bud rot*	<i>herbarum</i> (Pers. Fr.) Link <i>Ceratocystis paradoxa</i> (Dade) C. Moreau

*These diseases, not known to exist in the United States, are classed as exotic.

Flax (*Linum usitatissimum* L. and other *Linum* spp.)**John A. Hoes, Primary Collator**

Common name	Pathogen or cause
Anthraxnose	<i>Colletotrichum lini</i> (Westerdijk) Tochinai
Aster yellows	Mycoplasmalike organism
Basal stem blight	<i>Phoma exigua</i> Desmaz. var. <i>linicola</i> (Naumov & Vass.) Maas and other <i>Phoma</i> spp.
Boll blight	Extreme high temperatures
Brown stem blight	<i>Alternaria linicola</i> Groves & Skolko
Browning and stem break	<i>Aureobasidium lini</i> (Lafferty) Hermanides-Nijhof (teleomorph: <i>Guignardia fulvida</i> F. R. Sanderson)
Chlorosis	Alkaline and very wet soils, mineral deficiencies, herbicide damage
Crinkle	Oat blue dwarf virus
Damping-off, root rot, and seedling blight	<i>Alternaria</i> spp. <i>Colletotrichum lini</i> (Westerdijk) Tochinai <i>Fusarium</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (A. B. Frank) Donk) <i>Thielaviopsis basicola</i> (Berk. & Broome) Ferraris (synanamorph: <i>Chalara elegans</i> Nag Raj & Kendrick)
Dieback	<i>Selenophoma linicola</i> Vanterpool
Heat and frost canker	Extreme high or low temperatures cause cankers at soil level
Pasmo	<i>Septoria linicola</i> (Speg.) Garassini (teleomorph: <i>Mycosphaerella linicola</i> Naumov)
Rust	<i>Melampsora lini</i> (Ehrenb.) Desmaz.
Stem mold and rot	<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary
Stem twisting and bending	Herbicide damage and soil and temperature conditions
Wilt	<i>Fusarium oxysporum</i> Schlechtend.: Fr. f. sp. <i>lini</i>

Rye (*Secale cereale* L.)**Barry M. Cunfer, Primary Collator**

Common name	Pathogen or cause
Anthraxnose	<i>Colletotrichum graminicola</i> (Ces.) G. W. Wils. (teleomorph: <i>Glomerella graminicola</i> Politis)
Bacterial streak (black chaff)	<i>Xanthomonas campestris</i> pv. <i>translucens</i> (Jones et al) Dye <i>X. campestris</i> pv. <i>undulosa</i> (Smith et al) Dye
Barley yellow dwarf	Barley yellow dwarf virus
Black head molds	<i>Alternaria</i> , <i>Epicoccum</i> , <i>Sporobolomyces</i> , and <i>Stemphylium</i> spp. <i>Cladosporium herbarum</i> (Pers.: Fr.) Link (teleomorph: <i>Mycosphaerella tassiana</i> (De Not.) Johans.)
Black point	<i>Bipolaris sorokiniana</i> (Sacc. in Sorokin) Shoemaker (teleomorph: <i>Cochliobolus sativus</i> (Ito & Kuribayashi) Drechs. ex Dastur) <i>Fusarium</i> spp.

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Rye (continued)

Common name	Pathogen or cause
Bunt (stinking smut)	<i>Tilletia caries</i> (DC.) Tul. & C. Tul. = <i>T. tritica</i> (Bjerk.) G. Wint. in Rabenh. <i>T. laevis</i> Kühn in Rabenh. = <i>T. foetida</i> (Wallr.) Liro
Cephalosporium stripe	<i>Hymenula cerealis</i> Ellis & Everh. = <i>Cephalosporium gramineum</i> Nisikado & Ikata in Nisikado et al <i>Heterodera avenae</i> Wollenweber
Cereal cyst nematode	
Common root rot and seedling blight	<i>Bipolaris sorokiniana</i> (Sacc. in Sorokin) Shoemaker = <i>Helminthosporium sativum</i> Pammel et al
Coprinus snow mold (winter crown rot)	<i>Coprinus psychromorbidus</i> Redhead & J. A. Traquair
Dilophospora leaf spot (twist)	<i>Dilophospora alopecuri</i> (Fr.: Fr.) Fr.
Dwarf bunt	<i>Tilletia controversa</i> Kühn in Rabenh.
Ergot	<i>Claviceps purpurea</i> (Fr.: Fr.) Tul. (anamorph: <i>Sphacelia segetum</i> Lév.) <i>Fusarium culmorum</i> (Wm. G. Sm.) Sacc.
Fusarium root rot	
Gray snow mold or speckled snow mold (Typhula blight)	<i>Typhula incarnata</i> Fr. <i>T. ishikariensis</i> Imai var. <i>canadensis</i> J. D. Smith & Arsvoll in Arsvoll & J. D. Smith <i>T. idahoensis</i> Remsberg <i>T. ishikariensis</i> Imai
Halo blight	<i>Pseudomonas syringae</i> pv. <i>coronafaciens</i> (Elliott) Young et al
Halo spot	<i>Pseudo-septoria donacis</i> (Pass.) Sutton = <i>Selenophoma donacis</i> (Pass.) R. Sprague & A. G. Johnson
Karnal bunt (partial bunt)	<i>Tilletia indica</i> Mitra = <i>Neovossia indica</i> (Mitra) Mundkur
Leaf and stem nematode	<i>Ditylenchus dipsaci</i> (Kühn) Filipjev
Leaf rust (brown rust)	<i>Puccinia recondita</i> Roberge ex Desmaz. f. sp. <i>secalis</i>
Leaf streak	<i>Cercosporidium graminis</i> (Fuckel) Deighton = <i>Scolicotrichum graminis</i> Fuckel <i>Phaeosphaeria herpotrichoides</i> (De Not.) L. Holm = <i>Leptosphaeria herpotrichoides</i> De Not
Leptosphaeria leaf spot	<i>Leptosphaeria herpotrichoides</i> De Not
Loose smut	<i>Ustilago tritici</i> (Pers.) Rostr.
Pink snow mold	<i>Microdochium nivale</i> (Fr.) Samuels & I. C. Hallett = <i>Fusarium nivale</i> (Fr.) Sorauer (teleomorph: <i>Monographella nivalis</i> (Schaffnit) E. Müller)
Powdery mildew	<i>Erysiphe graminis</i> DC. f. sp. <i>secalis</i>
Pythium root rot	<i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. arrhenomanes</i> Drechs. <i>P. debaryanum</i> Auct. non R. Hesse <i>P. graminicola</i> Subramanian <i>P. ultimum</i> Trow <i>Subanguina radicola</i> (Greeff) Paramonov <i>Meloidogyne</i> spp. <i>Gibberella zea</i> (Schwein.) Petch (anamorph: <i>Fusarium graminearum</i> Schwabe) <i>Rhynchosporium secalis</i> (Oudem.) J. J. Davis
Root gall	<i>Anguina tritici</i> (Steinbuch) Chitwood
Root knot	<i>Stagonospora nodorum</i> (Berk.) Castellani & E. G. Germano = <i>Septoria nodorum</i> (Berk.) Berk. in Berk. & Broome (teleomorph: <i>Phaeosphaeria nodorum</i> (E. Müller) Hedjaroude = <i>Leptosphaeria nodorum</i> E. Müller)
Scab	<i>Septoria secalis</i> Prill. & Delacr.
Scald	<i>Septoria tritici</i> Roberge in Desmaz. (teleomorph: <i>Mycosphaerella graminicola</i> (Fuckel) J. Schröt. in Cohn)
Seed gall	
Septoria nodorum blotch (glume blotch)	
Septoria leaf blotch	
Septoria tritici blotch (speckled leaf blotch)	

(continued)

Rye (continued)

Common name	Pathogen or cause
Sharp eyespot and Rhizoctonia root rot	<i>Rhizoctonia cerealis</i> Van der Hoeven (teleomorph: <i>Ceratobasidium cereale</i> D. Murray & L. L. Burpee)
Soilborne mosaic	Soilborne wheat mosaic virus
Snow scald (Sclerotinia snow mold)	<i>Myriosclerotinia borealis</i> (Bubák & Vleugel) L. M. Kohn = <i>Sclerotinia borealis</i> Bubák & Vleugel
Spot blotch	<i>Bipolaris sorokiniana</i> (Sacc. in Sorokin) Shoemaker
Stem rust	<i>Puccinia graminis</i> Pers.: Pers. = <i>P. graminis</i> Pers.: Pers. f. sp. <i>secalis</i>
Stalk smut (stripe smut)	<i>Urocystis occulta</i> (Wallr.) Rabenh. ex Fuckel
Storage molds	<i>Alternaria</i> , <i>Aspergillus</i> , <i>Epicoccum</i> , <i>Nigrospora</i> , <i>Rhizopus</i> , and <i>Penicillium</i> spp.
Strawbreaker (eyespot or foot rot)	<i>Pseudocercospora herpotrichoides</i> (Fron) Deighton
Stripe rust (yellow rust)	<i>Puccinia striiformis</i> Westend. (anamorph: <i>Uredo glumarum</i> J. C. Schmidt)
Take-all	<i>Gaeumannomyces graminis</i> (Sacc.) Arx & D. Olivier var. <i>tritici</i> J. Walker
Tan spot (yellow leaf spot)	<i>Pyrenophora tritici-repentis</i> (Died.) Drechs. (anamorph: <i>Drechslera tritici-repentis</i> (Died.) Shoemaker = <i>Helminthosporium tritici-repentis</i> Died.)
Wheat streak mosaic	Wheat streak mosaic virus

Safflower (*Carthamus tinctorius* L.)

John M. Klisiewicz, Collator

Common name	Pathogen or cause
Alfalfa mosaic	Alfalfa mosaic virus
Alternaria leaf spot	<i>Alternaria carthami</i> Chowdhury
Bacterial leaf spot and stem blight	<i>Pseudomonas syringae</i> van Hall
Boron toxicity	Excess boron levels
Botrytis hard rot	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (de Bary) Whetzel)
Cercospora leaf spot	<i>Cercospora</i> spp.
Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) Goidanich
Cucumber mosaic	Cucumber mosaic virus
Damping-off	<i>Phytophthora</i> spp. <i>Pythium</i> spp.
Dodder	<i>Cuscuta</i> spp.
Fusarium wilt	<i>Fusarium oxysporum</i> Schlechtend.: Fr. f. sp. <i>carthami</i>
Lettuce mosaic and necrosis	Lettuce mosaic virus
Phyllody	Mycoplasmalike organism
Phytophthora root and stem rot	<i>Phytophthora</i> spp. <i>P. cactorum</i> (Lebert & Cohn) J. Schröt. <i>P. cryptogea</i> Pethybr. & Lafferty <i>P. drechsleri</i> Tucker <i>P. nicotianae</i> Breda de Haan var. <i>parasitica</i> (Dastur) G. M. Waterhouse = <i>P. parasitica</i> Dastur
Pythium root rot	<i>Pythium</i> spp.
Powdery mildew	<i>Erysiphe cichoracearum</i> DC. (anamorph: <i>Oidium asteris-puniceae</i> Peck)
Ramularia leaf spot	<i>Ramularia</i> spp.
Rhizoctonia blight,	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i>

(continued)

Safflower (continued)

Common name	Pathogen or cause
stem canker	(A. B. Frank) Donk
Root knot	<i>Meloidogyne</i> spp.
Rust (foliage and hypocotyl)	<i>Puccinia calcitralpae</i> DC. var. <i>centaureae</i> (DC.) Cummins = <i>P. carthami</i> Corda <i>P. verruca</i> Thuem.
Sclerotinia stem rot and head blight	<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary
Septoria leaf spot	<i>Septoria</i> spp.
Turnip mosaic and necrosis	Turnip mosaic virus
Verticillium wilt	<i>Verticillium dahliae</i> Kleb.

Spinach (*Spinacia oleracea* L.)

Donald R. Sumner, Primary Collator

Common name	Pathogen or cause
Anthracnose	<i>Colletotrichum dematium</i> (Pers.) Grove = <i>C. spinaciae</i> Ellis & Halst.
Aphanomyces root rot	<i>Aphanomyces cochlioides</i> Drechs.
Aster yellows	Mycoplasmalike organism
Bacterial soft rot	<i>Erwinia carotovora</i> (Jones) Bergey et al
Beet cyst nematode	<i>Heterodera schachtii</i> Schmidt
Cercospora leaf spot	<i>Cercospora beticola</i> Sacc.
Clover cyst nematode	<i>Heterodera trifolii</i> Goffart
Curly top	Beet curly top virus
Damping-off, Pythium	<i>Pythium aphanidermatum</i> (Edson) Fitzp. <i>P. irregulare</i> Buisman <i>P. ultimum</i> Trow
Damping-off, Rhizoctonia	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (A. B. Frank) Donk)
Downy mildew (blue mold)	<i>Peronospora effusa</i> (Grev.) Tul. = <i>P. farinosa</i> (Fr.: Fr.) Fr.
Fusarium wilt	<i>Fusarium oxysporum</i> Schlechtend.: Fr. f. sp. <i>spinaciae</i>
Heart-leaf disorder	Low light, wide diurnal air temperature fluctuations, low soil temperatures
Leaf necrosis and scorch	Ozone and other air pollutants
Leaf spots	<i>Alternaria</i> spp. <i>Ascochyta spinaciae</i> Bondartzeva-Montevende <i>Cerospora</i> spp. <i>Cladosporium</i> spp. <i>Phyllosticta</i> spp. <i>Ramularia spinaciae</i> Nypels Other fungi
Phytophthora root rot	<i>Phytophthora megasperma</i> Drechs. <i>P. cryptogea</i> Pethybr. et Lafferty
Pythium root rot	<i>Pythium aphanidermatum</i> (Edson) Fitzp.
Root knot	<i>Meloidogyne</i> spp.
Root lesion	<i>Pratylenchus</i> spp.
Rust, red	<i>Puccinia aristidae</i> Tracy (anamorph: <i>Aecidium capsicum</i> Jacz.)
Seed mold	<i>Alternaria</i> spp. <i>Curvularia</i> spp. Other fungi
Smut, white	<i>Entyloma ellisii</i> Halst.
Speckles	Beet western yellows virus Lettuce speckles mottle virus
Spinach blight	Broad bean wilt virus Cucumber mosaic virus Other viruses
Spinach mosaic	Spinach mosaic virus Tobacco mosaic virus Other viruses

(continued)

Spinach (continued)

Common name	Pathogen or cause
Tip burn	Unknown
White rust	<i>Albugo occidentalis</i> G. W. Wils.
Yellow dwarf	Spinach yellow dwarf virus
Yellows	Beet western yellows virus Cucumber mosaic virus Tomato spotted wilt virus Other viruses Over watering Nutritional disorders

**Sunflower (*Helianthus annuus* L.)
and Jerusalem Artichoke (*H. tuberosus* L.)**

T. J. Gulya and S. Masirevic, Primary Collators

Common name	Pathogen or cause
Alternaria leaf leaf blight, and head rot	<i>Alternaria alternata</i> (Fr.: Fr.) Keissl. = <i>A. tenuis</i> Nees <i>A. helianthi</i> (Hansf.) Tubaki & Nishihara = <i>Helminthosporium helianthi</i> Hansf. <i>A. helianthicola</i> G. N. Rao & Rajagopalan <i>A. leucanthemi</i> E. S. Nelen <i>A. tenuissima</i> (Kunze: Fr.) Wiltshire <i>A. zinniae</i> M. B. Ellis <i>Embellisia helianthi</i>
Apical chlorosis	<i>Pseudomonas syringae</i> pv. <i>tagetis</i> (Hellmers) Young et al
Aster yellows	Aster yellows mycoplasma-like organism
Bacterial leaf spot	<i>Pseudomonas cichorii</i> (Swingle) Stapp <i>P. syringae</i> pv. <i>aptata</i> (Brown & Jamieson) Young et al <i>P. syringae</i> pv. <i>helianthi</i> (Kawamura) Young et al <i>P. syringae</i> pv. <i>mellea</i> (Johnson) Young et al <i>Xanthomonas heterocea</i> (Vzorov) Savulescu (not an accepted name)
Bacterial wilt	<i>Pseudomonas solanacearum</i> (Smith) Smith
Botrytis head rot (gray mold)	<i>Botrytis cinerea</i> Pers.: Fr. (teleomorph: <i>Botryotinia fuckeliana</i> (de Bary) Whetzel)
Broomrape	<i>Orobanche aegyptiaca</i> Pers. <i>O. cernua</i> Loefl. <i>O. cumana</i> Wallr. <i>O. ramosa</i> L.
Charcoal rot	<i>Macrophomina phaseolina</i> (Tassi) Goidanich = <i>Sclerotium bataticola</i> Tauberhaus = <i>Rhizoctonia bataticola</i> (Tauberhaus) E. J. Butler
Crown gall	<i>Agrobacterium tumefaciens</i> (Smith & Townsend) Conn
Dagger nematode	<i>Xiphinema americanum</i> Cobb
Dodder	<i>Cuscuta</i> spp. <i>C. glomerata</i> Choisy <i>C. indecora</i> Choisy <i>C. pentagona</i> Engelm.
Downy mildew	<i>Plasmopara halstedii</i> (Farl.) Berl. & De Toni in Sacc. <i>P. helianthi</i> Novot. f. <i>helianthi</i>
Erwinia stalk rot and head rot	<i>Erwinia carotovora</i> subsp. <i>atroseptica</i> (van Hall) Dye <i>E. carotovora</i> subsp. <i>carotovora</i> (Jones) Bergey et al
Fusarium stalk rot	<i>Fusarium equiseti</i> (Corda) Sacc. (teleomorph: <i>Gibberella intricans</i> Wollenweb.) <i>F. solani</i> (Mart.) Sacc. (teleomorph: <i>Nectria haematococca</i> Berk. & Broome) <i>Microdochium tabacinum</i> (Van Beyma) Arx = <i>Fusarium tabacinum</i> (Van Beyma) W. Gams (teleomorph: <i>Monographella</i> <i>cucumerina</i> (Lindfors) Arx)
Fusarium wilt	<i>Fusarium moniliforme</i> J. Sheld. (teleomorph: <i>Gibberella fujikori</i> (Sawada) Ito in Ito & K. Kimura)

(continued)

Sunflower, Jerusalem Artichoke (continued)

Common name	Pathogen or cause
Lesion nematode	<i>F. oxysporum</i> Schlechtend.: Fr.
Myrothecium leaf and stem spot	<i>Pratylenchus hexincisus</i> Taylor & Jenkins <i>Myrothecium roridum</i> Tode: Fr. <i>M. verrucaria</i> (Albertini & Schwein.) Ditmar: Fr.
Phialophora yellows	<i>Phialophora asteris</i> (Dowson) Burge & Isaac
Phoma black stem	<i>Phoma macdonaldi</i> Boerema (teleomorph: <i>Leptosphaeria lindquistii</i> Frezzi) = <i>P. oleracea</i> Sacc. var. <i>helianthi-tuberosi</i> Sacc.
Phomopsis brown stem canker	<i>Phomopsis</i> spp. <i>P. helianthi</i> M. Muntanola-Cvetkovic et al (teleomorph: <i>Diaporthe helianthi</i> M. Muntanola-Cvetkovic et al)
Phymatotrichum root rot (cotton root rot)	<i>Phymatotrichopsis omnivora</i> (Duggar) Hennebert = <i>Phymatotrichum</i> <i>omnivorum</i> Duggar
Phytophthora stem rot	<i>Phytophthora</i> spp. <i>P. drechsleri</i> Tucker
Pin nematode	<i>Paratylenchus projectus</i> Jenkins
Powdery mildew	<i>Erysiphe cichoracearum</i> DC. f. <i>helianthi</i> <i>Leveillula compositarum</i> Golovin f. <i>helianthi</i> <i>L. taurica</i> (Lév.) G. Arnaud (anamorph: <i>Oidiopsis sicula</i> Scalia) <i>Sphaerotheca fuliginea</i> (Schlechtend.:Fr.) Pollacci
Pythium seedling blight and root rot	<i>Pythium</i> spp. <i>P. aphanidermatum</i> (Edson) Fitzp. <i>P. debaryanum</i> Auct. non R. Hesse <i>P. irregulare</i> Buisman
Reniform nematodes	<i>Rotylenchulus</i> spp. <i>R. reniformis</i> Linford & Oliveira
Rhizoctonia seedling blight	<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (A. B. Frank) Donk)
Rhizopus head rot	<i>Rhizopus arrhizus</i> A. Fischer = <i>R. nodosus</i> Namyslowski <i>R. microsporus</i> Tiegh. <i>R. stolonifer</i> (Ehrenb.: Fr.) Vuill. = <i>R. nigricans</i> Ehrenb.
Root knot	<i>Meloidogyne arenaria</i> (Neal) Chitwood <i>M. incognita</i> (Kofoid & White) Chitwood <i>M. javanica</i> (Treb) Chitwood
Rust	<i>Puccinia helianthi</i> Schwein.
Rust, cocklebur	<i>Puccinia xanthii</i> Schwein. <i>Uromyces junci</i> (Desmaz.) Tul.
Sclerotinia basal stalk rot and wilt, mid-stalk rot, head rot	<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary = <i>S. libertiana</i> Fuckel = <i>Whetzelinia</i> <i>sclerotiorum</i> (Lib.) Korf & Dumont
Sclerotinia basal stalk rot and wilt	<i>Sclerotinia minor</i> Jagger
Sclerotium basal stalk and root rot (southern blight)	<i>Sclerotium rolfsii</i> Sacc. (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough)
Septoria leaf spot	<i>Septoria helianthi</i> Ellis & Kellerm.
Spiral nematode	<i>Helicotylenchus</i> sp.
Stunt nematode	<i>Quinisulcius acutus</i> (Allen) Siddiqi <i>Tylenchorhynchus nudus</i> Allen
Sunflower mosaic	Cucumber mosaic virus Sunflower virus Tobacco mosaic virus
Verticillium wilt	<i>Verticillium albo-atrum</i> Reinke & Berthier <i>V. dahliae</i> Kleb.
White rust	<i>Albugo tragopogonis</i> (Pers.) S. F. Gray = <i>Cystopus tragopogonis</i> (Pers.) J. Schröt.
Yellow rust	<i>Coleosporium helianthi</i> (Schwein.) Arth. <i>C. pacificum</i> Cummins = <i>C. madae</i> Cooke