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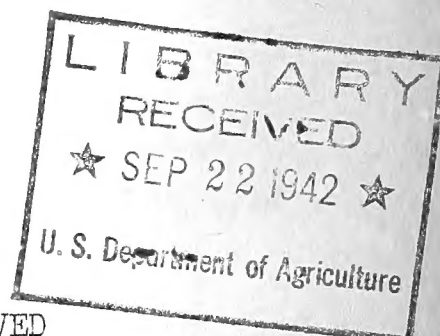
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SUPPLEMENT 137

HOST AND PATHOGEN INDICES TO THE DISEASES OBSERVED
ON GRASSES IN CERTAIN WESTERN STATES DURING 1941

August 15, 1942



The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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HOST AND PATHOGEN INDICES TO THE DISEASES OBSERVED

ON GRASSES IN CERTAIN WESTERN STATES DURING 1941^{1/}

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Howard W. Johnson, and John R. Hardison^{2/}

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The host and pathogen indices which follow summarize the data resulting from collections and observations of grass diseases in the States of Arizona, California, Idaho, Minnesota, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming in 1941.

Most of the records are from the extensive observational row nurseries of the Soil Conservation Service and the Bureau of Plant Industry, United States Department of Agriculture, at Mandan, North Dakota; Pullman, Washington; Corvallis, Oregon; Tucson, Arizona and Pleasanton, California. State observational grass nurseries at Berkeley and Davis, California were surveyed intensively also. However, these records are well supplemented and substantiated by extensive collecting and survey trips in most of the States mentioned above.

In general the 1941 growing season was one of almost unprecedented rainfall, in most of the area covered. As a result, the development of foliage diseases was considerably favored as evidenced by the unusual number and extent of development of leaf spots, rusts, and bacterial diseases.

This report includes 259 species and varieties of native and introduced grasses, on which a total of 161 diseases are recorded; 62 leaf spots, streaks, etc., 30 rusts, 28 rootrots and secondary rootrots, and 25 smuts. Some of these diseases were found on a large number of grasses, as outlined in Table 1.

^{1/}Grass disease investigations of the Divisions of Forage Crops and Diseases, Cereal Crops and Diseases, and Dry Land Agriculture, Bureau of Plant Industry in cooperation with the Nursery Division, Soil Conservation Service, United States Department of Agriculture, and the North Dakota and Washington Agricultural Experiment Stations. Published as Scientific Paper No. 517, College of Agriculture and Agricultural Experiment Station, State College of Washington, Pullman.

^{2/}Associate pathologist, pathologist, pathologist in charge of investigations of forage crop diseases, and agent, respectively, Bureau of Plant Industry, United States Department of Agriculture, Pullman, Washington; Mandan, North Dakota; and Washington, D. C.

Table 1. Number of host species and varieties recorded for the more prevalent grass diseases in the western states in 1941.

DISEASE	CAUSAL ORGANISM	NUMBER OF HOSTS
Stem rust	<u>Puccinia graminis</u>	81
Rootrot	<u>Fusarium scirpi acuminatum</u>	63
Leaf rust	<u>Puccinia rubigo-vera</u>	54
Stripe rust	<u>Puccinia glumarum</u>	53
Leaf spot	<u>Scolecotrichum graminis</u>	53
Rootrot	<u>Helminthosporium sativum</u>	53
Ergot	<u>Claviceps purpurea</u>	50
Selenophoma stem speckle and leaf spot	<u>Selenophoma donacis</u> and varieties	43
Root browning	<u>Pythium arrhenomanes</u>	42
Root necrosis and Damping-off	<u>Pythium debaryanum</u>	39
Rootrot	<u>Rhizoctonia solani</u>	36
Bends	Cause unknown	33
Powdery mildew	<u>Erysiphe graminis</u>	31
Stem smut	<u>Ustilago hypodytes</u>	26
Head smut	<u>Ustilago bullata</u>	26
Chocolate spot	<u>Bacterium coronafaciens atropurpureum</u>	24
Brown stripe rust	<u>Puccinia montanensis</u>	22
Crown rust	<u>Puccinia coronata</u>	16
Stripe smut	<u>Ustilago striaeformis</u>	13

It has seemed desirable to give the authorities for grass names in the host index and for the pathogens in the pathogen index.

The task of identifying the thousands of collections forming the basis for this report was in general divided as follows: Smuts and rusts were identified at Pullman, Washington, leaf spots and root rots at Mandan, North Dakota, and other diseases at both places. Many of the pathogens are named to genus only, because they are being studied further or are in the process of publication elsewhere. This is particularly true for species of Ascochyta, Selenophoma, Septoria, Tilletia and Ustilago. The collecting was performed by the authors as follows: Fischer and Hardison covered Washington (east of Cascades), Idaho, Montana, western Wyoming, northern Utah, and northeastern Oregon. Sprague collected in Montana, North and South Dakota and adjacent Minnesota, briefly in Nebraska and, on personal travel, in southern Montana, northwestern Wyoming, northern Idaho, and central Washington; Johnson collected in Arizona, California, and western Oregon.

The authors are grateful to the many persons who have aided in this survey by collecting and submitting grass disease specimens from practically all parts of the area represented.

HOST INDEX

AEGILOPS CYLINDRICA Host.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.^{3/}

AEGILOPS TRIUNCIALIS L. (P.I. 134607)

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

AGROPYRON ALBICANS Scribn. & Smith

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

✓ AGROPYRON AMURENSE Drobov (P.I. 131532)

Bends, cause undet.^{4/} -- Pullman, Wash.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

AGROPYRON CANINUM(L.) Beauv. (F.P.I. 90124)

Damping-off, *Pythium ultimum* -- Mandan, N. Dak.

Ergot, *Claviceps purpurea* -- Pullman, Wash.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.

Leaf spot, *Ascochyta agropyrina* -- Mandan, N. Dak.

Septoria sp. -- Pullman, Wash.

Leaf streak, *Scolecotrichum graminis* -- Mandan, N. Dak.

Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.

Secondary rootrot, *Fusarium scirpi* -- Mandan, N. Dak.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON CILIARE (Trin.) Franch. (P.I. 109805)

Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

Rhizoctonia solani -- Mandan, N. Dak.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON CRISTATUM (L.) Gaertn.

Bacterial slime spot, *Aplanobacter agropyri* -- Mandan, N. Dak.

Bends, cause undet. -- Pullman, Wash.; western Mont.

Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.

^{3/} Most of the records from Pullman, Wash. and Mandan, N. Dak. are the result of intensive row-by-row notes and collections from the very extensive Soil Conservation Service and Bureau of Plant Industry nurseries at both places.

^{4/} See *Phytopath.* 31: 674-676. 1941

AGROPYRON CRISTATUM cont.

- Damping-off, *Pythium irregulare* -- Mandan, N. Dak.
Pythium ultimum -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.; eastern, central, and southern Mont.; N. and S. Dak. Common at Mandan, N. Dak.
 Leaf rot, *Ascochyta agropyrina* -- Forsythe, Mont.
 Leaf rust, *Puccinia rubigo-vera* -- Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- General in N. and S. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
 Rootrot, *Fusarium graminearum* -- Mandan, N. Dak.
 Fusarium scirpi var. *acuminatum* -- N. and S. Dak. (Secondary)
 Helminthosporium sativum -- Nebr., N. and S. Dak.
 Rhizoctonia solani -- Dickinson, Mandan, N. Dak.; Hecla, S. Dak.
 Seedling blight 5/, cause undet. -- eastern Wash.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.; Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum*, with parasite, *Darluca filum* -- Pullman, Wash.

AGROPYRON DASYSTACHYUM (Hook.) Scribn.

- Bends, cause undet. -- Pullman, Wash.
 Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.; central Mont.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.; central Mont.; Mandan, N. Dak.
 Head smut, *Ustilago bullata* -- Pullman, Wash.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; central and southern Wash.; Mandan, N. Dak.
 Leaf streak, *Scolecotrichum graminis* -- western Wyo.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary rootrot, *Sclerotium* sp. -- Mandan, N. Dak. (Pathogenicity doubtful)
 Seedling blight, cause undet. 5/ -- Pullman, Wash.
 Stem rust, *Puccinia graminis* -- Pullman (with *Darluca filum*), southern Wash.; central Calif.; Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON DESERTORUM (Fisch.) Schult. (P.I. 110302; 113013)

- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
 Pythium ultimum -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

5/ Probably *Pythium* spp.

✓ AGROPYRON DIVARICATUM Boiss. & Bal.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON EIMERI Scribn.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

AGROPYRON ELONGATUM (Host) Beauv.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
(weak parasite).

Fusarium scirpi var. *compactum* -- Mandan, N. Dak. (weak
parasite).

Helminthosporium sativum -- Mandan, N. Dak.

Rhizoctonia solani -- Mandan, N. Dak.

✓ AGROPYRON FERGANENSE Drobov (P.I. 116254)

Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.

AGROPYRON GRIFFITHSII Scribn. & Smith

Leaf streak, *Scolecotrichum graminis* -- Harney Nat'l For., S. Dak.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

✓ AGROPYRON HIRSUTUM (Bartol)

Leaf rust, *Puccinia rubigo-vera* (DC.) Wint. -- Mandan, N. Dak.

AGROPYRON INERME (Scribn. & Smith) Rydb.

Bends, cause undet. -- Pullman, Wash.

Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash., and
central Mont.

Ergot, *Claviceps purpurea* -- central Mont., Roundup, Mont.,
Pullman, Wash., northern Ore.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., central and
southern Mont.

Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.

Rust, *Puccinia pattersoniana* -- Oregon, eastern and central Wash.

Seedling blight, cause undet. -- eastern Wash.

Selenophoma sheath speckle, *Selenophoma donacis* var. 6/ -- eastern
Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash., Mandan, N. Dak.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash., eastern and
central Wash., central Mont., northern Ore.

Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.

6/ Several varieties of *Selenophoma donacis* or possibly distinct species have been recognized in this work and are under investigation at Mandan, N. Dak.

AGROPYRON INTERMEDIUM (Host) Beauv. (U.S.S.R. W. 2327)

- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

AGROPYRON PANORMITAMUM Parl.

- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON REPENS (L.) Beauv.

- Brown stripe rust, *Puccinia montanensis* -- Quad Creek in southern Mont.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* --
 General in Minn., N. Dak., and S. Dak.
 Ergot, *Claviceps purpurea* -- N. Dak., S. Dak.
 Leaf blotch, *Septoria elymi* -- Wild Rice, Buxton, N. Dak.;
 Laurel, Mont.
 Leaf rot, *Wojnowicia graminis* -- Jamestown, N. Dak.
 Leaf streak, *Scolecotrichum graminis* -- Buxton, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Brocket, Mountain, Park
 River, N. Dak.; Fosston, Minn.
 Root necrosis, *Pythium debaryanum* -- Fosston, Minn.
Pythium ultimum -- near Bemidji, Minn.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
Pythium periilum -- near Bemidji, Minn.
Rhizoctonia solani -- Sykeston, N. Dak.
 Scald, *Rhynchosporium secalis* -- Fosston, Minn.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- N. Dak.,
 S. Dak., Minn.
Helminthosporium halodes -- Fosston, Minn.
Wojnowicia graminis -- Gardner, N. Dak.
 Stripe rust, *Puccinia glumarum* -- central Mont.
 Stem smut, *Ustilago hypodytes* -- eastern and central Wash.,
 western Idaho, northeast Ore.

AGROPYRON RIPARIUM Scribn. & Smith (P.E.I. 127957)

- Brown stripe rust, *Puccinia montanensis* -- southern Idaho; Mandan,
 N. Dak. (with parasite *Darluca filum*).
 Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* --
 Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON SIBIRICUM (Willd.) Beauv. (F.P.I. 113047)

- Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Mandan, N. Dak.
 Leaf rot, *Phytophthora* sp. -- Mandan, N. Dak.

AGROPYRON SIBIRICUM Cont.

- Leaf rust, *Puccinia rubigo-vera* -- Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* --
 Mandan, N. Dak.
Rhizoctonia solani -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Mandan, N. Dak.

AGROPYRON SMITHII Rydb.

- Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.
 (with *Darlucalucium filum*); central Mont.; Mandan, Lang-
 don, N. Dak.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* --
 general in N. Dak.
 Ergot, *Claviceps purpurea* -- Forsythe, central and southern
 Mont.; Jackson, Wyo.
 Leaf blotch, *Septoria elymi* -- Mandan, N. Dak.
 Leaf rot, *Wojnowicia graminis* -- Lakota, N. Dak.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; central
 Mont. (with *Darlucalucium filum*); Mandan, Langdon, N. Dak.
 Leaf speckle, *Cladosporium herbarum* -- central N. Dak. (common
 in very early spring on new growth).
 Leaf spot, *Septoria* sp. 7/ (not *elymi*) -- Forsythe, Mont.;
 western N. Dak.
 Leaf streak, *Sclerotrichum graminis* -- N. Dak.
 Mold, *Wojnowicia graminis* -- Forsythe, Mont.
 Powdery mildew, *Erysiphe graminis* -- central Mont.; central
 N. Dak.
 Root necrosis, *Pythium debaryanum* -- Dwight, N. Dak.
 Rootrot, *Helminthosporium sativum* -- general east of Rocky Mts.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- general
 east of Rockies.
Phoma (terrestris) -- central N. Dak.
Rhizoctonia solani -- scattered in N. Dak., S. Dak.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- general
 in N. Dak., S. Dak., Mont. and Wyo.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.; central Mont.;
 central N. Dak.; Huron, S. Dak.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.; central Mont.

AGROPYRON SPICATUM (Pursh) Scribn. & Smith

- Bends, cause undet. -- Pullman, Wash.
 Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.; central
 Mont.

7/ A complex of forms on Agropyron and Elymus which includes S. infuscans
 (Ell. and Ev.) Sprague, S. elymi-europaei Jaap and material near
S. nodorum Berk. is under study at Mandan, N. D.

AGROPYRON SPICATUM Cont.

- Ergot, *Claviceps purpurea* -- Pullman, Wash.; Roundup, central and southern Mont.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash. (with *Darluca filum*) central Wash.; central Mont.; Yellowstone Park, Wyo.
- Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; central Mont.
- Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.; northeast Ore.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Rust, *Puccinia pattersoniana* -- southern Wash.; northern Ore.; western Idaho.
- Seedling blight, cause undet. -- eastern Wash.
- Selenopnoma stem speckle, *Selenophoma donacis* var. -- Sentinel Butte, N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash.; Mandan, N. Dak.
- Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
- Stripe rust, *Puccinia glumarum* -- Pullman, east and central Wash.; west Ore.; central Mont.

AGROPYRON SUBSECUNDUM (Link) Hitchc.

- Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.; central Mont.
- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
- Ergot, *Claviceps purpurea* -- Pullman, Wash.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; north Wyo.
- Leaf spot, *Scolecotrichum graminis* -- Pullman, Wash.; north Wyo.
- Leaf tip spot, *Ascochyta agropyrina* -- Mandan, N. Dak.
- Powdery mildew, *Erysiphe graminis* -- North Wyo.
- Rootrot, *Helminthosporium sativum* -- central N. Dak.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- central N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash., central Mont., northern Wyo.
- Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.

AGROPYRON TRACHYCAULUM^{8/} (Link) Malte

- Anthraxnose, *Colletotrichum graminicolum* -- Lawton, N. Dak.
- Bands, cause undet. -- Pullman, Wash.; central Mont.
- Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.; central Mont.; Mandan, Langdon, N. Dak.
- Cat-tail disease, *Epichloë typhina* -- Pullman, Wash.; central Mont.; western N. Dak.
- Char spot, *Septogloeum oxysporum* -- Lawton, Tagus, N. Dak.
- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Lawton, S. Dak.

^{8/} A. pauciflorum (slender wheatgrass); see Rhodora 36:417. - 1934.

AGROPYRON TRACHYCAULUM Cont.

- Ergot, *Claviceps purpurea* -- Pullman, Wash., northern Oreg.;
general in Mont. and N. Dak.
- Flag smut, *Urocystis agropyri* -- northwest Wyo.
- Head smut, *Ustilago bullata* -- Pullman, Wash., northeast Oreg.,
southern Idaho, central Mont.
- Leaf rust, *Puccinia rubigo-vera* (with *Darluca filum*) -- Pullman,
Wash.; Jackson, Wyo.; Tappen, N. Dak.
- Leaf spot, *Ascochyta agropyrina* -- Lawton, N. Dak.
Selenophoma donacis var. -- Drummond, Mont.
Septoria sp. -- southern Mont., western N. Dak.
Septoria elymi -- Langdon, N. Dak.
- Leaf spot and blotch, near *Septoria nodorum* -- Ward Co., and
Lawton, S. Dak.
- Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; eastern
and central Mont.; Yellowstone Park, Jackson, Wyo.;
Crookston, Minn.; N. Dak.
- Powdery mildew, *Erysiphe graminis* -- central Mont., northeast
Oreg., eastern Wash., central N. Dak.
- Purple leaf spot, *Stagonospora arenaria* -- Mandan, N. Dak.
- Root browning, *Pythium aristosporum* -- Mandan, N. Dak.
Pythium arrhenomanes -- Mandan, N. Dak.
- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
Rhizoctonia solani -- Mandan, N. Dak.
- Scald, *Rhynchosporium secalis* -- Pullman, Wash.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash., western N. Dak.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash., central Mont.,
northern Wyo.
- Stripe smut, *Ustilago striaeformis* -- Pullman, Wash., central Mont.
- Twist disease, *Dilophospora alopecuri* -- northwest Wyo., South
Roosevelt Park, N. Dak.

AGROPYRON TRICHOPHORUM (Link) Richt. (P.I.106,831)(F.P.I.107,327-29)

- Bacterial slime spot, *Aplanobacter agropyri* -- Mandan, N. Dak.
- Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
- Ergot, *Claviceps purpurea* -- Pullman, Wash.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; Mandan, N. Dak.
- Leaf spot, *Ascochyta agropyrina* -- Mandan, N. Dak.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
- Rootrot, *Rhizoctonia solani* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROPYRON UGAMICUM Drobov (F.P.I.110,065).

- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

AGROSTIS ALBA L.

- Char spot, *Septogloeum oxysporum* -- northwest Wyo.
 Leaf blight, *Sclerotium rhizodes* -- northwest Wyo.
 Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash., northern Idaho, southern Mont., northeast Oreg., northwest Wyo., Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
Pythium ultimum -- Mandan, N. Dak.
 Stripe smut, *Ustilago striaeformis* -- Pullman, and general in eastern Wash.; western Oreg.; western Idaho; northwest Wyo.

AGROSTIS CASTELLANA Boiss. & Reut.

- Crown rust, *Puccinia coronata* -- northern Calif., western Oreg.
 Leaf blotch, *Septoria triseti* -- western Oreg.
 Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.

AGROSTIS EXARATA Trin.

- Leaf streak, *Scolecotrichum graminis* -- western Idaho.
 Powdery mildew, *Erysiphe graminis* -- western Idaho, northeast Oreg., eastern Wash.
 Stem rust, *Puccinia graminis* -- western Idaho.

AGROSTIS HALLII Vasey

- Stem rust, *Puccinia graminis* -- northwest Calif.

AGROSTIS PALUSTRIS Huds.

- Stripe smut, *Ustilago striaeformis* -- western Oreg.

AGROSTIS SCABRA Willd.

- Char spot, *Septogloeum oxysporum* -- Cornucopia, Oreg.
 Leaf spot, *Septoria secalis* var. *stipae* -- Ft. Totten, N. Dak.
 Selenophoma speckle, *Selenophoma donacis* var. -- Ft. Totten, N. Dak.

AGROSTIS STOLONIFERA L.

- Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.

AGROSTIS TENUIS Sibth.

- Crown rust, *Puccinia coronata* -- western Oreg.
 Leaf blotch, *Septoria triseti* -- western Oreg.
 Stem rust, *Puccinia graminis* -- western Oreg.

ALOPECURUS AEQUALIS Sobol.

- Leaf streak, *Scolecotrichum graminis* -- northeast Oreg.

ALOPECURUS ARUNDINACEUS Poir.

- Stem rust, *Puccinia graminis* -- Tucson, Ariz.

ALOPECURUS PRATENSIS L.

- Ergot, *Claviceps purpurea* -- central Mont. and Corvallis, Oreg.
 Leaf streak, *Scolecotrichum graminis* -- Mandan, N. Dak.
 Scald, *Rhynchosporium orthosporum* -- Corvallis, Granger, Oreg.

AMMOPHILA ARENARIA (L.) Link.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

ANDRICOPOGON FURCATUS Muhl.

Leaf spot, *Ascochyta* sp. -- Mandan, N. Dak.

Phyllosticta sp. -- Mandan, N. Dak.

Root browning, *Pythium arrhenomanes* -- McCanna, Mandan, N. Dak.

Root necrosis and Damping-off, *Pythium debaryanum* -- Albion, Nebr.; Mandan, N. Dak.

Pythium ultimum -- Albion, Nebr.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Albion, Nebr.

Stomatal drowning, cause, excess rain plus *Bacterium* sp. -- Mandan, N. Dak.

ANDROPOGON HALLII Hack.

Damping-off, *Pythium debaryanum* -- Mandan, McCanna, N. Dak.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

Helminthosporium sativum -- Mandan, N. Dak.

Stomatal drowning, cause, excess rain plus *Bacterium* sp. -- Mandan, N. Dak.

ANDROPOGON SCOPARIUS Michx.

Root necrosis and Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.

Rust, *Puccinia ellisiana* -- Mandan, N. Dak.

Stomatal drowning, cause, excess rain plus *Bacterium* sp. -- Mandan, N. Dak.

ARISTIDA LONGISETA Steud.

Kernel smut, *Sorosporium consanguineum* -- western Idaho.

Rust, *Puccinia aristidae* -- western Idaho.

Selenophoma stem speckle, *Selenophoma donacis* var. -- extreme western N. Dak.

ARRHENATHERUM ELATIUS (L.) Mert. & Koch.

Ergot, *Claviceps purpurea* -- central Mont. and Corvallis, Oreg.

Leaf spot and stem speckle, *Selenophoma donacis* var. -- Bozeman, Mont.

Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; central Mont.; western Oreg.

Loose smut, *Ustilago avenae* -- Pullman, Wash.; south Idaho.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.

Rootrot (charcoal rot) *Macrophomina phaseoli* -- Mandan, N. Dak.

AVENA FATUA L.

Anthraxnose, *Colletotrichum graminicolum* -- Grand Forks, N. Dak.

Crown rust, *Puccinia coronata* -- southern, central and northwest Calif.; east Wash.

Leaf spot, *Ascochyta avenae* & associated ascomycete -- Pullman, Wash.

AVENA FATUA L. Cont.

- Root browning, *Pythium arrhenomanes* -- Mandan, McCanna, Taft, N. Dak.
 Rootrot, *Helminthosporium sativum* -- McCanna, N. Dak.
 Stem rust, *Puccinia graminis avenae* -- south, central and northeast Calif.; eastern Wash.; eastern and northeast N. Dak. (*Darluca filum* near Taft, N. Dak.)

AVENA HOOKERI Scribn.

- Anthracnose, *Colletotrichum graminicolum* -- McHenry Co., N. Dak.
 Crown rust, *Puccinia coronata* -- Quad Creek in southern Mont.

BECKMANNIA SYZIGACHNE (Steud.) Fernald

- Crown rust, *Puccinia coronata* -- central Calif.
 Leaf streak, *Scolecotrichum graminis* -- Ward Co., N. Dak.

BOUPELOUA CURTIPENDULA (Michx.) Torr.

- Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
 Helminthosporium sativum -- Mandan, N. Dak.
 Rhizoctonia solani -- Mandan, N. Dak.
 Rust, *Puccinia vexans* (with *Darluca filum*) -- Dickinson, Mandan, N. Dak.
 Selenophoma stem speckle and leaf spot; *Selenophoma donacis* var. -- near Beach, N. Dak.

BOUPELOUA GRACILIS (H. B. K.) Lag.

- Damping-off, *Pythium debaryanum* -- Mandan, N. Dak., Grassy Butte, McCanna, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, McCanna, N. Dak.
 Rootrot, *Curvularia geniculata* -- Yates, Mont.; western N. Dak.
 Fusarium poae -- Mandan, N. Dak.
 Fusarium scirpi var. *acuminatum* -- Mandan, N. Dak.
 Fusarium sporotrichoides -- Albion, Nebr.
 Helminthosporium sativum -- Coburn, Mandan, N. Dak.
 Rhizoctonia solani -- McCanna, Mandan, N. Dak.
 Rust, *Puccinia bartholomaei* -- Coburn, N. Dak.

BRACHYPODIUM SYLVATICUM (Huds.) Beauv. (P.I.113,027).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.
 Fusarium scirpi var. *acuminatum* -- Mandan, N. Dak.
 Macrophomina phaseoli -- Mandan, N. Dak.

BROMUS ANOMALUS Rupr.

- Head smut, *Ustilago bullata* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

BROMUS ARVENSIS L. (Denmark F.C.13,674).

Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.

BROMUS CARINATUS Hook. & Arn.

Ergot, *Claviceps purpurea* -- western Idaho, central Mont.

Head smut, *Ustilago bullata* -- eastern Wash., Pullman, Wash.; western and southern Idaho; central Mont.; northern Wyo.; northern Utah.

Leaf rust, *Puccinia rubigo-vera* -- general from Idaho westward, and Calif.

Leaf streak, *Scolecotrichum graminis* -- western Idaho, central Mont., Jackson, Wyo.

Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.; west Idaho; Cooke City, Mont.

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

Rhizoctonia solani -- Mandan, N. Dak.

Scald, *Rhynchosporium secalis* -- Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.; central Mont.; northeast Oreg.; eastern Wash.; northern Wyo.

BROMUS CATHARTICUS Vahl.

Head smut, *Ustilago bullata* -- western Oreg.

Leaf streak, *Scolecotrichum graminis* -- eastern Wash.

BROMUS CILIATUS L.

Ergot, *Claviceps purpurea* -- central Mont.

Head smut, *Ustilago bullata* -- central Mont.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash. and northeast Oreg.

Stem rust, *Puccinia graminis* -- central Calif.

Stripe rust, *Puccinia glumarum* -- central Mont.

BROMUS ERECTUS Huds.

Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- eastern Wash.; central Mont.

Ergot, *Claviceps purpurea* -- central Mont.

Head smut, *Ustilago bullata* -- central and eastern Wash.; south Idaho.

Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

BROMUS INERMIS Leyss.

Bends, cause undet. -- Pullman, Wash.; central Mont.

Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Pullman, Wash.; general in N. Dak., S. Dak., Minn., Nebr.

Ergot, *Claviceps purpurea* -- N. Dak., and S. Dak.

Leaf spot, *Ascochyta graminicola* var. *diedickeana* -- McCanna, N. Dak.; Laporte, Minn.

Selenophoma bromigena -- Pullman, Wash. and almost universal east of the Rockies except in the drier areas.

BROMUS INERMIS Cont.

- Root browning, *Pythium arrhenomanes* -- common and destructive from Minn. to the Rockies.
- Root necrosis, *Pythium debaryanum* -- scattered in N. Dak., S. Dak., Minn. and Nebr.
- Pythium irregulare* -- Mandan, N. Dak.
- Pythium* (?) *proliferum* (*irregulare*) -- Lincoln, Nebr.
- Pythium ultimum* -- Lincoln, Nebr.
- Rootrot, *Helminthosporium sativum* -- common in N. Dak., S. Dak., Mont. and in Nebr.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- N. Dak., S. Dak., Mont.
- Helminthosporium* sp. -- rarely isolated in N. Dak.
- Sclerotium* sp. -- central N. Dak.
- Rhizoctonia solani* -- N. Dak.; S. Dak.
- Scald, *Rhynchosporium secalis* -- Pullman, Wash.

BROMUS JAPONICUS Thurb.

- Head smut, *Ustilago bullata* -- eastern Wash.
- Leaf spot, *Septoria bromi* -- eastern Wash.
- Secondary rootrot, *Fusarium scirpi acuminatum* -- Highmore, S. Dak.

BROMUS LAEVIPES Shear

- Leaf rust, *Puccinia rubigo-vera* -- central and north Calif.

BROMUS LANUGINOSUS Poir.

- Leaf rust, *Puccinia rubigo-vera* -- central Calif.

BROMUS MARGINATUS Nees

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Pullman, Wash.
- Ergot, *Claviceps purpurea* -- Pullman, Wash., northern Idaho.
- Head smut, *Ustilago bullata* -- Pullman, Wash.; southern Idaho; western Oreg.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash. (with parasite *Darluca filum*); central Calif.
- Leaf streak, *Scolecotrichum graminis* -- eastern Wash.
- Powdery mildew, *Erysiphe graminis* -- Pullman, Wash., western Mont.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Scald, *Rhynchosporium secalis* -- Pullman, Wash.
- Stem rust, *Puccinia graminis* -- Pullman, Wash.
- Stripe rust, *Puccinia glumarum* -- central Calif., central Oreg.

BROMUS MADRITENSIS L.

- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

BROMUS MOLLIS L.

- Bunt, *Tilletia guyotiana* -- northern Idaho, eastern Wash.
- Head smut, *Ustilago bullata* -- central and northern Calif., northern Utah, southern Wash.
- Leaf rust, *Puccinia rubigo-vera* -- central Calif.

BROMUS POLYANTHUS Scribn.

- Head smut, *Ustilago bullata* -- southern Idaho.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., central Calif.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

BROMUS PURGANS L.

- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

BROMUS RACEMOSUS L.

- Bunt, *Tilletia guyotiana* -- southern Wash.
 Head smut, *Ustilago bullata* -- southern Wash.

BROMUS RIGIDUS Roth.

- Head smut, *Ustilago bullata* -- southern Wash.
 Leaf rust, *Puccinia rubigo-vera* -- southern and central Calif.,
 southern Wash.
 Stem rust, *Puccinia graminis* -- central Calif.

BROMUS RUBENS L.

- Head smut, *Ustilago bullata* -- central Calif.
 Leaf rust, *Puccinia rubigo-vera* -- central Calif.
 Stem rust, *Puccinia graminis* -- central Calif.

BROMUS SECALINUS L.

- Head smut, *Ustilago bullata* -- western Oreg.
 Leaf spot, *Septoria bromi* -- northwest Idaho.

BROMUS SIBIRICUS Drobov (P.I. 111531).

- Head smut, *Ustilago bullata* -- Pullman, Wash.
 Leaf rust, *Puccinia rubigo-vera* -- central Calif.
 Stem rust, *Puccinia graminis* -- central Calif.

BROMUS TECTORUM L.

- Head smut, *Ustilago bullata* -- general west of Rockies.
 Leaf rust, *Puccinia rubigo-vera* -- eastern Wash., central Calif.
 Powdery mildew, *Erysiphe graminis* -- Lincoln, Nebr.
 Root necrosis, *Pythium irregulare* -- Lincoln, Nebr.
Pythium proliferum -- Lincoln, Nebr.
 Rootrot, *Helminthosporium sativum* -- Park River, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Kildeer Mts.,
 N. Dak.
 Stem rust, *Puccinia graminis* -- central Calif.

BROMUS TOMENTELLUS Boiss. (P.I. 111530).

- Head smut, *Ustilago bullata* -- Pullman, Wash.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

BROMUS VULGARIS (Hook.) Shear

- Head smut, *Ustilago bullata* -- Pullman, Wash.

BROMUS VULGARIS Cont.

- Leaf rot, *Hendersonia* sp. -- Lake Itasca, Minn.
 Leaf streak, *Scolecotrichum graminis* -- northern Idaho.

BUCHLOË DACTYLOIDES (Nutt.) Engelm.

- Cercospora* seed blight, *Cercospora seminalis* -- Mandan, N. Dak.
 Leaf rot, *Ascochyta* phase of *Hendersonia* sp. -- Fargo, N. Dak.
Helminthosporium inconspicuum var. *buchloës* -- Nebr., Mont.,
 N. Dak.
 Rootrot, *Curvularia geniculata* -- Albion, Nebr.
Fusarium scirpi var. *acuminatum* -- Albion, Nebr.
Rhizoctonia solani -- Albion, Nebr.
 Rust, *Puccinia kansensis* -- SCS nursery, North Platte, Nebr.

CALAMAGROSTIS CANADENSIS (Michx.) Beauv.

- Anthraxnose, *Colletotrichum graminicolum* -- Bismarck, Langdon,
 N. Dak.; Townsend, Mont.
 Crown rust, *Puccinia coronata* -- Townsend, Mont.
 Leaf rot, *Hendersonia calamovilfae* -- western S. Dak.
 Leaf streak, *Scolecotrichum graminis* -- Langdon, N. Dak.
 Red eye-spot, *Mastigosporium rubricosum* -- Yellowstone Park, Wyo.
 Scald, *Rhynchosporium orthosporum* -- Yellowstone Park, Wyo.

CALAMAGROSTIS INEXPANSA A. Gray

- Anthraxnose, *Colletotrichum graminicolum* -- Lawton, N. Dak.
 Ergot, *Claviceps purpurea* -- Lawton, N. Dak.

CALAMAGROSTIS RUBESCENS Buckl.

- Anthraxnose, *Colletotrichum graminicolum* -- Cornucopia, Oreg.

CALAMAGROSTIS SCRIBNERI Beal

- Crown rust, *Puccinia coronata* -- Jackson L. For. Camp, Wyo.
 Leaf spot, *Selenophoma donacis* var. -- Jackson Lake, Wyo.

CALAMOVILFA GIGANTEA (Nutt.) Scribn. and Merr.

- Leaf spot, *Hendersonia calamovilfae* -- Pullman, Wash.

CALAMOVILFA LONGIFOLIA (Hook.) Scribn.

- Leaf mold, *Cladosporium herbarum* -- Coburn, N. Dak.
 Leaf rot and spot, *Hendersonia calamovilfae* -- Coburn, N. Dak.
 Leaf spot, *Septoria calamovilfae* -- Wilton, N. Dak.
Selenophoma donacis -- Mandan, N. Dak., and vicinity.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Rust, *Puccinia amphigena* -- Wibaux, Mont., central N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan,
 N. Dak.

CHLORIS VIRGATA Swartz

- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan,
 N. Dak.

- CINNA LATIFOLIA (Trevir.) Griseb.
 Leaf spot, *Stagonospora arenaria* -- Cornucopia, Oreg.; Tamarac
 Game Sanctuary, Minn.
 Stem rust, *Puccinia graminis* -- Cornucopia, Oreg.
- CYNODON DACTYLON (L.) Pers.
 Rust, *Puccinia cynodontis* -- southern Calif.
- DACTYLIS GLOMERATA L.
 Bends, cause undet. -- Pullman, Wash., central Mont.
 Ergot, *Claviceps purpurea* -- Corvallis, Oreg.
 Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash., eastern
 Wash., western Oreg.
 Mold, *Wojnowicia graminis* -- Mandan, N. Dak.
 Powdery mildew, *Erysiphe graminis* -- southern Mont., eastern Wash.
 Purple spot, *Mastigosporium rubricosum* -- Corvallis, Oreg.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- Pullman, Wash.
 Stem rust, *Puccinia graminis* -- eastern Wash. and Bard, Calif.
- DANTHONIA CALIFORNICA Boland.
 Bends, cause undet. -- western Idaho.
 Loose smut, *Ustilago residua* -- central Calif.
- DANTHONIA CALIFORNICA var. AMERICANA (Scribn.) Hitchc.
 Bends, cause undet. -- western Idaho.
- DANTHONIA UNISPICATA (Thurb.) Munro
 Bends, cause undet. -- Pullman, Wash.
- DESCHAMPSIA ATROPURPUREA (Wahl.) Scheele
 Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth Pass
 in Mont.
- DESCHAMPSIA CAESPITOSA (L.) Beauv.
 Crown rust, *Puccinia coronata* -- western Oreg.
 Ergot, *Claviceps purpurea* -- northeast Oreg.
 Leaf blast, *Cercospora subulata* -- Beartooth Pass, Wyo.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth
 Pass in Wyo.
- DESCHAMPSIA DANTHONIOIDES (Trin.) Munro
 Bunt, *Tilletia airae* -- eastern Wash.
 Stem rust, *Puccinia graminis* -- eastern Wash.
- DESCHAMPSIA ELONGATA (Hook.) Munro
 Bunt, *Tilletia airae* -- northwest Idaho, northwest Oreg.

DESCHAMPSIA ELONGATA *Cont.*

- Leaf streak, *Scolecotrichum graminis* -- western Wash.
 Rust, *Uromyces jacksonii* -- northern Idaho.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- eastern Wash., Pullman, Wash.
 Stem rust, *Puccinia graminis* -- central Calif., northwest Idaho.

DIGITARIA SANGUINALIS (L.) Scop.

- Anthracnose, *Colletotrichum graminicolum* -- Mandan, N. Dak.
 Leaf rot, *Curvularia geniculata* -- Mandan, N. Dak.
Curvularia trifolii -- Mandan, N. Dak.
 Mold, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary mold and rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

DISTICHLIS SPICATA (L.) Greene

- Char spot, *Dothidella aristidae* -- northern Calif.

DISTICHLIS STRICTA (Torr.) Rydb.

- Char spot, *Dothidella aristidae* -- northeast Oreg., northern Utah, central and eastern Wash., N. Dak., S. Dak.
 Rust, *Puccinia aristidae* -- general from central Calif. to eastern N. Dak. and S. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- northern, central N. Dak.
Wojnowicia graminis -- Niagara, N. Dak.
 Tar spot, *Phyllachora* sp. -- western N. Dak.

ECHINOCHLOA CRUSGALLI (L.) Beauv.

- Root browning, *Pythium aristosporum* -- Dickinson, N. Dak.
Pythium arrhenomanes -- Dwight, Dickinson, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Langdon, N. Dak.
 Rootrot, *Fusarium culmorum* -- Dickinson, N. Dak.
Helminthosporium sativum -- Fairmont, N. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.
Curvularia trifolii -- Mandan, N. Dak.
Fusarium scirpi var. *acuminatum* -- Dickinson, Mandan, N. Dak.
Rhizoctonia solani -- Mandan, N. Dak.

ELYMUS AMBIGUUS Vasey & Scribn.

- Ergot, *Claviceps purpurea* -- western Mont.

ELYMUS ANTARCTICUS Hook. f.

- Bends, cause undet. -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS ARENARIUS L.

- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS CANADENSIS L.

Bends, cause undet. -- Pullman, Wash.

Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash., southern Idaho, central Mont., Mandan, N. Dak.

Brown stripe smut, *Tilletia* sp. -- southern Mont.

Cat-tail disease, *Epichloë typhina* -- Pullman, Wash.

Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- central N. Dak.

Head smut, *Ustilago bullata* -- eastern Wash.

Leaf blotch, *Septoria elymi* -- Coburn, N. Dak.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., southern Mont., western and central N. Dak. (with *Darluca filum*).

Leaf spot, *Ascochyta agropyrina* -- Mandan, N. Dak.

Ascochyta elymi -- Solen, N. Dak.

Septoria sp. -- Leonard, N. Dak.

Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash., central Mont., northern Utah, central and northcentral N. Dak.

Powdery mildew, *Erysiphe graminis* -- western and central Mont.

Rootrot, *Helminthosporium sativum* -- Dickinson, Mandan, N. Dak.

Scald, *Rhynchosporium secalis* -- Pullman, Wash.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

Rhizoctonia solani -- McCanna, Mandan, N. Dak.

Stem rust, *Puccinia graminis* -- Pullman, Wash., Mandan, N. Dak.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash., central Mont.

Stripe smut, *Ustilago macrospora* -- Pullman, Wash., southern Mont.

Ustilago striaeformis -- Pullman, Wash.

ELYMUS CANADENSIS var. ROBUSTUS (Scribn. & Smith) McKenzie & Bush

Brown stripe rust, *Puccinia montanensis* (with parasite *Darluca filum*) -- Mandan, N. Dak.

ELYMUS CONDENSATUS Presl

Bends, cause undet. -- Pullman, Wash.

Brown stripe rust, *Puccinia montanensis* -- central Wash., Mandan, N. Dak.

Char spot, *Septogloeum oxysporum* -- eastern Wash., western Wyo., central and western Mont.

Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- central Calif., eastern Wash.

Ergot, *Claviceps purpurea* -- Pullman, Wash., central Wash., central and western Mont., northeast Oreg., Jackson, Wyo.

Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., and general in eastern and central Wash., northeast Oreg., central Calif., Mandan, N. Dak., Drummond, Mont.

Leaf spot, *Heterosporium avenae* -- Pullman, Wash.

Selenophoma donacis -- central Wash., Mandan, N. Dak., Livingston, Mont.

Septoria pacifica -- northwest Calif.

ELYMUS CONDENSATUS Cont.

- Leaf spot, *Septoria* sp. -- western and central Mont., Jackson, Wyo.
Septoria infuscans -- central Wash.
 Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash., western and central Mont.
 Powdery mildew, *Erysiphe graminis* -- northeast Oreg., Jackson, Wyo.
 Stem rust, *Puccinia graminis* -- Pullman, Wash., central Calif., Mandan (with associated *Bacterium* and *Darluca filum*) N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, eastern and central Wash., central Calif., central Mont., northern Oreg.
 Stripe smut, *Ustilago macrospora* -- central Mont.

ELYMUS CONDENSATUS var. PUBENS Piper

- Leaf rust, *Puccinia rubigo-vera* -- central Calif.
 Leaf spot, *Septoria* sp. -- central Calif.
 Stem rust, *Puccinia graminis* -- central Calif.
 Stripe rust, *Puccinia glumarum* -- central Calif.

ELYMUS DAHURICUS Turcz. (P.I. 113124).

- Cat-tail disease, *Epichloë typhina* -- Pullman, Wash.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Helminthosporium sativum -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.; Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

ELYMUS DASYSTACHYS Trin. (F.P.I. 113109).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- central N. Dak.
 Secondary rootrot, *Macrophomina phaseoli* -- Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

ELYMUS EXCELSUS Turcz.

- Bends, cause undet. -- Pullman, Wash.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Covered smut, *Ustilago hordei* -- Pullman, Wash.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf rot, *Ascochyta agropyrina* -- Mandan, N. Dak., Pullman, Wash.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS FLAVESCENS Scribn. & Smith

- Leaf rust, *Puccinia rubigo-vera* -- central Wash.
 Leaf spot, *Selenophoma donacis* -- central Wash.
 Leaf streak, *Scolecotrichum graminis* -- Centennial Valley, Mont.

ELYMUS GIGANTEUS Vahl. (P.I. 108339).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* --
Mandan, N. Dak.
Ergot, *Claviceps purpurea* -- southern Wash.
Leaf and sheath spot, *Selenophoma donacis* var. -- Pullman, Wash.

ELYMUS GLAUCUS Buckl.

- Bends, cause undet. -- Pullman, Wash.
Brown stripe rust, *Puccinia montanensis* -- Pullman, Wash.,
Mandan, N. Dak.
Bunt, *Tilletia elymi* -- northeast Oreg.
Covered smut, *Ustilago hordei* -- Pullman, Wash.
Ergot, *Claviceps purpurea* -- Pullman, Wash., northeast Oreg.,
Mandan, N. Dak.
Head smut, *Ustilago bullata* -- Pullman, Wash.
Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash. (with parasite
Darluca filum); central Calif., northern Oreg., southern Wash.
Leaf spot, *Selenophoma donacis* var. -- Pullman, Wash.
Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; central Calif.
Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Seedling blight, cause undet. -- eastern Wash.
Stem rust, *Puccinia graminis* -- Pullman, Wash.; central Calif.
Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
Stripe rust, *Puccinia glumarum* -- Pullman, Wash.; central Calif.;
northeast Oreg.
Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.; northeast Oreg.

ELYMUS INTERRUPTUS Buckl.

- Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* --
Mandan, N. Dak.
Leaf rust, *Puccinia rubigo-vera* -- Mandan (also associated with
Bacterium sp.), N. Dak.
Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS JUNCEUS Fisch.

- Bends, cause undet. -- central Mont.
Ergot, *Claviceps purpurea* -- central Mont.; Mandan, N. Dak. (in
conidial form only).
Glume blotch, *Septoria nodorum* -- Langdon, N. Dak.
Grease spot, cause undet. -- Mandan, N. Dak.
Head smut, *Ustilago bullata* -- Pullman, Wash.; central Mont.;
Mandan (from Pullman seed), N. Dak.
Joint disease, *Bacterium* sp. -- Mandan, N. Dak.
Leaf rust, *Puccinia rubigo-vera* -- western Calif.; Mandan, N. Dak.
(*Bacterium* sp. and *Darluca filum* associated).

ELYMUS JUNCEUS Cont.

- Powdery mildew, *Erysiphe graminis* -- central Mont., Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
Pythium irregulare -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Langdon, N. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.
Fusarium scirpi var. *acuminatum* -- Mandan, Dickinson, N. Dak.
Rhizoctonia solani -- Mandan, N. Dak.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- Mandan, Langdon, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash., central Mont., Mandan, N. Dak. (Bacterium associated), central S. Dak.

ELYMUS MACOUNII Vasey

- Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- western and southern Mont., central N. Dak.
 Leaf spot, *Ascochyta graminicola* -- Townsend, Mont.
Ascochyta graminicola var. *brachypodii* -- Mandan, N. Dak.
Septoria sp. (not *elymi*) -- Ft. Totten, N. Dak.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash., Mandan, N. Dak.

ELYMUS PSEUDOAGROPYRON (Griseb.) Trin. (P.I. 135580).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.

ELYMUS SABULOSUS Bieb. (A 74 from Pima, Ariz. S.C.S. 1938).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS SALINA Jones

- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS SALSUGINOSUS Turcz. (P.I. 111554).

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Mandan, N. Dak.

ELYMUS SIBIRICUS L. (P.I. 131578).

- Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
 Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Mandan, N. Dak.

ELYMUS SIBIRICUS Cont.

- Head smut, *Ustilago bullata* -- southern Idaho.
- Leaf rust, *Puccinia rubigo-vera* -- western Oreg., Mandan, N. Dak.
- Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.
- Powdery mildew, *Erysiphe graminis* -- Mandan, N. Dak.
- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash., Mandan, N. Dak.
- Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
- Stripe rust, *Puccinia glumarum* (with parasite *Darluca filum*), Pullman, Wash.

ELYMUS TRITICCIDES Buckl.

- Char spot, *Septogloeum oxysporum* -- northern Calif.
- Ergot, *Claviceps purpurea* -- Pullman, Wash., northern Calif.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., southern Calif., western Calif.; western Oreg.
- Leaf spot, *Septoria elymi-europaei* -- northern Calif.
- Stagonospora arenaria* -- northern Calif.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Mandan (with *Darluca filum*), N. Dak., northern Calif.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash., western Oreg.

ELYMUS VIRESCENS Piper

- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ELYMUS VIRGINICUS L.

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Bozeman, Mont., Mandan, N. Dak.
- Leaf spot, *Ascochyta agropyrina* -- Mandan, N. Dak.
- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

ERAGROSTIS CURVULA (Schrad.) Nees. (Pima, Ariz. D.G.-69-37).

- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
- Rhizoctonia solani* -- Mandan, N. Dak.

ERAGROSTIS PILOSA (L.) Beauv.

- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

FESTUCA CALIFORNICA Vasey

- Stem rust, *Puccinia graminis* -- western Calif.

FESTUCA DERTONENSIS (All.) Aschers. & Graebn.

- Bunt, *Tilletia fusca* -- eastern Wash.
- Smut, *Ustilago mulfordiana* -- eastern Wash.

FESTUCA ELATIOR L.

- Bends, cause undet. -- Pullman, Wash.
- Crown rust, *Puccinia coronata* -- western Calif.
- Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
- Pythium irregulare* -- Mandan, N. Dak.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Rootrot, ? *Aphanomyces* sp. -- Mandan, N. Dak.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash., central Mont., northeast and western Oreg.

FESTUCA ELATIOR var. ARUNDINACEA (Schreb.) Wimm.

- Bends, cause undet. -- Pullman, Wash.
- Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
- Ergot, *Claviceps purpurea* -- Corvallis, Ore.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- Pullman, Wash.

FESTUCA IDAHOENSIS Elmer

- Bends, cause undet. -- Pullman, Wash., northern Wyo.
- Ergot, *Claviceps purpurea* -- northern Idaho.
- Leaf rust, *Puccinia crandallii* -- Pullman (with parasite *Darluca filum*), northern Idaho.
- Leaf spot, *Septoria tenella* -- Yellowstone, Park, Wyo.
- Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.
- Selenophoma spot, *Selenophoma donacis* var. -- Lyle, Wash.
- Stem rust, *Puccinia graminis* -- Pullman, Wash.

FESTUCA MEGALURA Nutt.

- Stem rust, *Puccinia graminis* -- central Calif.

FESTUCA OCTOFLORA Walt.

- Bunt, *Tilletia fusca* -- central and eastern Wash.
- Leaf spot, *Septoria tenella* -- Kildeer Mts. and area, N. Dak.
- Rootrot, *Helminthosporium sativum* -- western N. Dak.
- Secondary rootrot, *Rhizoctonia solani* -- western N. Dak.
- Smut, *Ustilago mulfordiana* -- central Mont., central, eastern and southern Wash.

FESTUCA OVINA L.

- Bends, cause undet. -- Pullman, Wash.
- Leaf rust, *Puccinia crandallii* -- Pullman, Wash., Jackson L., Wyo.
- Leaf spot, *Selenophoma donacis* -- southern Wash.
- Septoria tenella* -- Yellowstone Park, Wyo.
- Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

FESTUCA OVINA var. BRACHYPHYLLA (Schult.) Piper

- Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth Pass in Wyo.

FESTUCA PACIFICA Piper

- Bends, cause undet. -- central Wash.
 Bunt, *Tilletia fusca* -- central and eastern Wash.
 Smut, *Ustilago mulfordiana* -- central, eastern and southern Wash.

FESTUCA RUBRA L.

- Ergot, *Claviceps purpurea* -- Pullman, Wash. and Corvallis, Oreg.
 Leaf rust, *Puccinia crandallii* (with parasite *Darluca filum*) -- Pullman, Wash., western Oreg.
 Leaf spot, *Ascochyta graminicola* -- Mandan, N. Dak.
 Secondary rootrot, ? *Aphanomyces* sp. -- Mandan, N. Dak.
 Fusarium scirpi var. *acuminatum* -- Mandan, N. Dak.
 Rhizoctonia solani -- Mandan, N. Dak.
 Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth Pass in Mont.
 Stem rust, *Puccinia graminis* -- Pullman, Wash., central Calif.
 Tar spot, *Phyllachora sylvatica* -- western Oreg.

FESTUCA RUBRA var. COMMUTATA Gaud.

- Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf spot, *Septoria tenella* -- western Oreg.
 Powdery mildew, *Erysiphe graminis* -- western Oreg.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
 Rhizoctonia solani -- Mandan, N. Dak.

FESTUCA RUBRA var. LANUGINOSA Mert. & Koch

- Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- Pullman, Wash.

FESTUCA SCABRELLA Torr.

- Leaf rust, *Puccinia cockerelliana* -- Pullman, Wash.

FESTUCA SUBULATA Trin.

- Stem rust, *Puccinia graminis* -- northeast Oreg.

FESTUCA THURBERI Vasey

- Bends, cause undet. -- Pullman, Wash.

FESTUCA VIRIDULA Vasey

- Leaf rust, *Puccinia crandallii* -- Pullman, Wash.

GLYCERIA ELATA (Nash) Hitchc.

- Leaf spot, *Septoria nodorum* -- northeast Oreg.
 Leaf streak, *Scolecotrichum graminis* -- eastern Wash.

GLYCERIA GRANDIS S. Wats.

- Leaf smut, *Ustilago longissima* -- northern Idaho, central Mont., northeast Oreg.

GLYCERIA PAUCIFLORA Presl

Leaf spot, *Septoria nodorum* -- Cascade Mts., Wash.
Stem rust, *Puccinia graminis* -- western Idaho.

GLYCERIA STRIATA (Lam.) Hitchc.

Leaf rot, *Stagonospora* sp. -- Niawa, Minn.

HESPEROCHLOA KINGII (S. Wats.) Rydb.

Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth Pass. in Mont.

HIEROCHLOË ODORATA (L.) Beauv.

Leaf rot (trace), *Helminthosporium* sp. -- northern Calif.
Leaf spot, *Ascochyta graminicola* -- Rapid City, S. Dak.
Stem rust, *Puccinia graminis* (with *Darluca*) -- northern Calif.

HILARIA JAMESII (Torr.) Benth.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

HILARIA MUTICA (Buckl.) Benth.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

HOLCUS LANATUS L.

Crown rust, *Puccinia coronata* -- western Wash.; western, northern and central Calif.

HORDEUM BREVISUBULATUM (Trin.) Link (P.I. 131539).

Bacterial spot, *Bacterium translucens* -- Mandan, N. Dak.
Bends, cause undet. -- eastern Wash.
Brown stripe rust, *Puccinia montanensis* -- Mandan, N. Dak.
Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
Rhizoctonia solani -- Mandan, N. Dak.
Stem rust, *Puccinia graminis* -- Mandan, N. Dak.
Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

HORDEUM BULBOSUM L. (P.I. 107361).

Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Stripe rust, *Puccinia glumarum* -- Tucson, Ariz. and Pullman, Wash.

HORDEUM JUBATUM L.

Brown stripe rust, *Puccinia montanensis* -- southern Mont.
Ergot, *Claviceps purpurea* -- northeast Oreg.
Flag smut, *Urocystis agropyri* -- northeast Oreg.
Head smut, *Ustilago bullata* -- western Mont., northeast Oreg., northern Utah.
Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash., northeast Oreg., N. Dak.

HORDEUM JUBATUM Cont.

- Leaf spot, *Septoria passerinii* -- common in N. Dak.
- Leaf streak, *Scolecotrichum graminis* -- Marion, Sydney, and western Mont.; East Grand Forks, Minn.; central N. Dak.
- Loose smut, *Ustilago sitanii* -- southern Wash.
- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
- Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
- Fusarium scirpi* var. *compactum* -- Emerado, N. Dak.
- Rhizoctonia solani* -- Mandan, N. Dak.
- Stem rust, *Puccinia graminis* -- common from central Wash. to Minn.
- Stripe rust, *Puccinia glumarum* -- eastern Wash.

HORDEUM JUBATUM var. CAESPITOSUM (Scribn.) Hitchc.

- Ergot, *Claviceps purpurea* -- western and southern Mont.
- Head smut, *Ustilago bullata* -- western Mont.
- Leaf rust, *Puccinia rubigo-vera* -- central Wash.
- Leaf streak, *Scolecotrichum graminis* -- southern Wash.
- Loose smut, *Ustilago sitanii* -- southern Wash.
- Stripe rust, *Puccinia glumarum* -- western Mont., eastern and central Wash.

HORDEUM MURINUM L.

- Leaf rust, *Puccinia hordei*, with parasite *Darluca filum* -- eastern Wash.
- Stem rust, *Puccinia graminis* -- eastern Wash.
- Stripe rust, *Puccinia glumarum* -- eastern Wash.

HORDEUM NODOSUM L.

- Head smut, *Ustilago bullata* -- Pullman, Wash.
- Leaf rust, *Puccinia rubigo-vera* (with parasite *Darluca filum*), western Idaho, northeast Oreg.
- Leaf spot, *Septoria passerinii* -- Sydney, Mont.
- Leaf streak, *Scolecotrichum graminis* -- Marion, Mont.; southern Mont.
- Stem rust, *Puccinia graminis* -- western Idaho.
- Stripe rust, *Puccinia glumarum* -- Pullman, Wash.; western Idaho; northeast Oreg.

HORDEUM SPONTANEUM C. Koch

- Leaf rust, *Puccinia anomala* -- western Calif.

KOELERIA CRISTATA (L.) Pers.

- Bends, cause undet. -- Pullman, Wash.
- Leaf rust, *Puccinia koeleriae* -- Pullman, Wash. (with parasite *Darluca filum*); central Mont.; western Oreg.
- Leaf spot, *Septoria calamagrostidis* f. *koeleriae* -- Pullman, Wash.; northern Wyo.
- Leaf streak, *Scolecotrichum graminis* -- Jackson, Wyo.; Steele, N. Dak.

KCELERIA CRISTATA Cont.

- Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.
 Secondary rootrot, *Curvularia geniculata* -- Yates, Mont.
Fusarium scirpi var. *acuminatum* -- Steele, N. Dak.
Rhizoctonia solani -- Steele, N. Dak.
 Sheath and leaf spot, *Selenophoma donacis* var. -- Pullman, Wash.;
 Gardner, Langdon, N. Dak.; Jackson, Wyo.
 Stem rust, *Puccinia graminis* -- western Calif.; northeast Oreg.

LOLIUM MULTIFLORUM Lam.

- Anthraxnose, *Colletotrichum graminicolum* -- Corvallis, Oreg.
 Crown rust, *Puccinia coronata* -- Corvallis, Oreg.; southern,
 western and central Calif.
 Ergot, *Claviceps purpurea* -- northern Calif. and Corvallis, Oreg.
 Rootrot, *Rhizoctonia solani* -- Mandan, N. Dak.

LOLIUM PERENNE L.

- Anthraxnose, *Colletotrichum graminicolum* -- Corvallis, Oreg.
 Chocolate spot, *Bacterium coronafaciens atropurpureum* -- Corvallis,
 Oreg.
 Crown rust, *Puccinia coronata* -- southern, western and central Calif.
 Ergot, *Claviceps purpurea* -- northern Calif. and Corvallis, Oreg.
 Leaf spot, *Ascochyta lolii* (Zimm.) Spr. & John. -- northern Calif.

LOLIUM REMOTUM Schrank

- Crown rust, *Puccinia coronata* -- western and central Calif.

LOLIUM SUBULATUM Visiani

- Crown rust, *Puccinia coronata* -- western Calif.

MELICA ARISTATA Thurb.

- Stem rust, *Puccinia graminis* -- central Calif.

MELICA BULBOSA Geyer

- Leaf blast, *Cercospora subulata* -- northwest Wyo.
 Twist disease, *Dilophospora alopecuri* -- northwest Wyo.

MELICA CALIFORNICA Scribn.

- Powdery mildew, *Erysiphe graminis* -- central Calif.

MELICA GEYERI Munro

- Leaf streak, *Scolecotrichum graminis* -- northwest Wyo.

MELICA HARFORDII Boland.

- Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

MICHEL'S GRASS (SECALE sp.)

- Ergot, *Claviceps purpurea* -- McCanna, Mandan, N. Dak.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, eastern Wash.; Bard
 and western Calif.; northeast and western Oreg.; Mandan, N. Dak.

MICHEL'S GRASS Cont.

Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.

MUHLENBERGIA CUSPIDATA (Torr.) Rydb.

Tar spot, *Phyllachora vulgata* -- north of Beach, N. Dak.

MUHLENBERGIA JAPONICA Steud. (P.I. 135606).

Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.

Helminthosporium halodes -- Mandan, N. Dak.

MUHLENBERGIA MEXICANA (L.) Trin.

Leaf spot, *Septoria* sp. -- Lake Itasca, Minn.

MUHLENBERGIA RACEMOSA (Michx.) B.S.P.

Root browning, *Pythium arrhenomanes* -- Lake Itasca, Minn.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

Rhizoctonia solani -- Itasca Park, Minn.

ORYZOPSIS HYMENCIDES (Roem. and Schult.) Ricker.

Bends, cause undet. -- Pullman, Wash.; northern Wyo.

Damping-off, *Pythium debaryanum* -- McCanna, N. Dak.

Leaf spot, *Stagonospora arenaria* -- Terry, Mont.

Root browning, *Pythium arrhenomanes* -- Mandan, McCanna, N. Dak.

Rootrot, *Helminthosporium sativum* -- Mandan, McCanna, Dickinson, N. Dak.

Rust, *Puccinia scaber*, with *Darluca filum* -- central Mont.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, McCanna, Dickinson, N. Dak.

Rhizoctonia solani -- Mandan, Dickinson, McCanna, N. Dak.

Selenophoma stem speckle, *Selenophoma donacis* var. -- Roosevelt Park, N. Dak.; Terry, Mont.

Sheath and leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.

Stem smut, *Ustilago hypodytes* -- Pullman, central Wash.; central and western Mont.; western Wyo.; northern Utah.

Ustilago sp.^{9/} -- northern and western Wyo., including Yellowstone Park.

ORYZOPSIS MILIACEA (L.) Benth. and Hook.

Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.

PANICUM CAPILLARE L.

Bacterial eye-spot, *Bacterium holci* -- Mandan, N. Dak.

Leaf spot, *Helminthosporium* sp. -- western Idaho.

Loose smut, *Sorosporium syntherismae* -- western Idaho; central N. Dak.

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

^{9/} Found also on several species of *Stipa*, and reported herein. Under investigation at Pullman, Wash.

PANICUM CAPILLARE Cont.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Dickinson,
Mandan, N. Dak.

Rhizoctonia solani -- Mandan, Dickinson, N. Dak.

PANICUM DICHOTOMIFLORUM Michx.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Norfolk, Nebr.

PANICUM FLEXILE (Gattinger) Scribn.

Leaf spot, *Helminthosporium* sp. -- Tokio, N. Dak.

PANICUM MILIACEUM L.

Bacterial eye-spot, *Bacterium holci* -- Langdon, Leonard, N. Dak.

Root browning, *Pythium arrhenomanes* -- New Salem, N. Dak.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan,
New Salem, Richardton, N. Dak.

Smut, *Sorosporium syntherismae* -- Mandan, N. Dak.

PANICUM VIRGATUM L.

Damping-off, *Pythium debaryanum* -- Albion, Nebr.

Leaf spot, *Ascochyta* sp. -- near Wilton, N. Dak.

Cercospora fusimaculans -- Coburn, N. Dak.

Rootrot, *Helminthosporium sativum* -- Albion, Nebr.

Secondary rootrot, *Curvularia geniculata* -- Albion, Nebr.

Fusarium scirpi var. *acuminatum* -- Albion, Nebr.; Mandan, N. Dak.

Selenophoma speckle, *Selenophoma donacis* -- Coburn, Mandan, N. Dak.

Stomatal leaf drown, cause, excess rain plus *Bacterium* sp. --
Mandan, N. Dak.

PHALARIS ARUNDINACEA L.

Crown rust, *Puccinia coronata* -- southern Wash.

Purple leaf spot, *Stagonospora arenaria* -- Bismarck, N. Dak.;
Hecla, S. Dak.

Root necrosis, *Pythium debaryanum* -- Bismarck, N. Dak.

Rust, *Puccinia sessilis* -- Mandan, N. Dak.

Selenophoma speckle and leaf spot, *Selenophoma donacis* -- Lower
Souris Game Sanctuary, N. Dak.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

PHALARIS CALIFORNICA Hook. & Arn.

Stem rust, *Puccinia graminis* -- central Calif.

PHALARIS MINOR Retz.

Stem rust, *Puccinia graminis* -- central Calif.

PHALARIS TUBEROSA L.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

PHLEUM BOEHRMEREI Wibel. = P. PHLECIDES

PHLEUM GRAECUM Boiss. & Heldr.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

PHLEUM PHLEOIDES (L.) Karst. (includes *P. BOEHMERI* Wibel.) (E. Kasakstan W 356; U.S.S.R. W 2490).

Leaf spot, *Heterosporium phlei* -- Pullman, Wash.

Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

Stem rust, *Puccinia graminis* -- Pullman, Wash.; northwest Calif.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

PHLEUM PRATENSE L.

Bends, cause undet. -- Pullman, Wash.

Leaf spot, *Ascochyta* sp. -- Niawa, Minn.

Heterosporium phlei -- Pullman, Wash.; northern and western Idaho; western Oreg.; Niawa, Minn.

Leaf streak, *Scolecotrichum graminis* -- western Idaho; central Mont.; western Oreg.; southern Wyo.; western Minn.

Rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, McCanna, N. Dak.

Rhizoctonia solani -- McCanna, N. Dak.

Stem rust, *Puccinia graminis* -- Pullman, Wash.; central Mont.; western Oreg.

Stripe smut, *Ustilago striaeformis* -- Pullman, Wash.; western Calif.; western Idaho; central Mont.; northern Oreg.; eastern Wash.

PHRAGMITES COMMUNIS Trin.

Rootrot, *Pythium debaryanum* -- Bismarck, N. Dak.

Pythium ultimum -- Bismarck, N. Dak.

Rust, *Puccinia magnusiana* -- west of Cleveland, N. Dak.

POA ALPINA L.

Leaf rust, *Puccinia poae-sudeticae* -- southern Mont.

Selenophoma stem speckle, *Selenophoma donacis* var. -- Beartooth Pass in Mont.

POA AMPLA Merr.

Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.

Pythium ultimum -- McCanna, N. Dak.

Ergot, *Claviceps purpurea* -- Pullman, Wash.; northern Idaho.

Flag smut, *Urocystis agropyri* -- northwest Wyo.

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash. (with parasite *Darlucá filum*); northeast Oreg. (also with *Darlucá filum*).

Puccinia rubigo-vera -- Pullman, Wash. and general in eastern and southern Wash.; southern Idaho; northeast Oreg., central Oreg.

Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; central Mont.

Selenophoma stem speckle and leaf spot, *Selenophoma donacis* var. -- Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, central Wash.; northeast Oreg.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

POA ANNUA L.

- Head mold, *Fusarium* sp. -- Ft. Steilacoom, Wash.
 Leaf rust, *Puccinia poae-sudeticae* -- western Calif.
 Leaf spot, *Septoria macropoda* -- Ft. Steilacoom, Wash.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

POA ARIDA Vasey

- Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.; (with parasite *Darluca filum*), Mandan, N. Dak.
 Leaf spot, *Selenophoma donacis* var. -- Mandan, N. Dak.
 Powdery mildew, *Erysiphe graminis* -- Mandan, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

POA ARCTICA R. Br.

- Selenophoma* stem speckle, *Selenophoma donacis* var. -- Cooke City, Mont.

POA BULBOUSA L.

- Damping-off, *Pythium debaryanum* -- McCanna, N. Dak.
 Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* -- Pullman, Wash.
 Rootrot, *Helminthosporium sativum* -- McCanna, N. Dak.
 Secondary rootrot, *Rhizoctonia solani* -- McCanna, N. Dak.

POA CANBYI (Scribn.) Piper

- Bends, cause undet. -- Pullman, Wash.
 Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* -- Pullman, Wash.; Mandan, N. Dak.
Puccinia rubigo-vera -- central Calif.; southern Idaho.
 Leaf spot, *Septoria oudemansii* -- Mandan, N. Dak.
 Leaf streak, *Scolecotrichum graminis* -- western N. Dak.; eastern Mont.
 Powdery mildew, *Erysiphe graminis* -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.; central Calif.
 Stripe smut, *Ustilago striaeformis* -- near Mandan, N. Dak.

POA COMPRESSA L.

- Cat-tail disease, *Epichloë typhina* -- New Rockford, N. Dak.
 Leaf rust, *Puccinia poae-sudeticae* -- Wild Rice, N. Dak. (with rust parasitized by *Fusarium avenaceum*).
 Leaf spot, *Helminthosporium vagans* -- Wild Rice, N. Dak.
Septoria oudemansii -- Wild Rice, N. Dak.
 Leaf spot, mold and blotch, *Hendersonia crastophila* -- Clyde, N. Dak.
 Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; N. Dak.; S. Dak.; Mont.; Minn.
 Powdery mildew, *Erysiphe graminis* -- central Mont.
 Seed mold, *Cladosporium herbarum* -- Wild Rice, N. Dak.
Curvularia geniculata -- Lake Lida, Minn.; Wild Rice, N. Dak.
Selenophoma stem speckle, *Selenophoma donacis* var. -- 2 miles north of Nekoma, N. Dak.

POA CURTA Rydb.

Leaf rust, *Puccinia poae-sudeticae*, with parasite *Darluca filum* --
Pullman, Wash.

POA CUSICKII Vasey

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash. (with parasite
Darluca filum) -- western Wyo.

Puccinia rubigo-vera with parasite *Darluca filum* -- Pullman, Wash.

Powdery mildew, *Erysiphe graminis* -- northern Wyo.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA EPILIS Scribn.

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.; western Wyo.

Leaf streak, *Scolecotrichum graminis* -- northern Wyo.

Selenophoma stem speckle, *Selenophoma donacis* var. -- northern Wyo.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA GLAUCIFOLIA Scribn. & Will.

Powdery mildew, *Erysiphe graminis* -- Mandan, N. Dak.

Stem rust, *Puccinia graminis* (with associate *Bacterium* sp.) --
S.C.S. Nursery, North Platte, Nebr.

POA GRACILLIMA Vasey

Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* --
Pullman, Wash.

POA INTERIOR Rydb.

Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* --
Pullman, Wash.

Selenophoma stem speckle and leaf spot, *Selenophoma donacis* var. --
south of Red Lodge, Mont.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA JUNCIFOLIA Scribn.

Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* --
Pullman, Wash.

Puccinia rubigo-vera -- southern Idaho.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA LONGIFOLIA Trin.

Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* --
Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA NEMORALIS L.

Bands, cause undet. -- Pullman, Wash.

Ergot, *Claviceps purpurea* -- Pullman, Wash.

Leaf rust, *Puccinia poae-sudeticae* -- western Oreg.

Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.

POA NERVOSA (Hook.) Vasey

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.

POA NEVADENSIS Vasey

Bends, cause undet. -- Pullman, Wash.

Leaf rust, *Puccinia poae-sudeticae*, with parasite *Darluca filum* -- Pullman, Wash.; western Calif.

Puccinia rubigo-vera -- western Calif.; southern Idaho.

Leaf spot, *Septoria oudemansii* -- Fargo, N. Dak.

Leaf streak, *Scolecotrichum graminis* -- northwest Wyo.

Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.

Stem rust, *Puccinia graminis* -- Pullman, Wash.; Fargo, N. Dak.

Stem smut, *Ustilago hypodytes* -- Pullman, Wash.

POA PALUSTRIS L.

Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.

Ergot, *Claviceps purpurea* -- Blaisdell, N. Dak.

Glume and sheath blotch, *Septoria nodorum* -- western S. Dak.

Leaf rust, *Puccinia poae-sudeticae* (with parasite *Darluca filum*) -- Pullman, Wash.; southern Mont.; N. Dak.; S. Dak.

Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.; southern Mont.; northern Wyo.; central N. Dak.

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

Secondary rootrot, *Rhizoctonia solani* -- Lake Itasca, Minn.

POA PRATENSIS L.

Anthraxnose, *Colletotrichum graminicolum* -- Roosevelt Park, N. Dak.; Webster, S. Dak.

Brown patch, *Rhizoctonia solani* -- Albion, Norfolk, Nebr.; western Minn.

Ergot, *Claviceps purpurea* -- central Mont.

Leaf mottle, *Septoria macropoda* var. *septulata* -- general from Puget Sound to the Mississippi River.

Leaf rot, *Fusarium graminearum* -- Jackson, Wyo.

Leaf rust, *Puccinia poae-sudeticae* -- Tucson, Ariz., Pullman, Wash. (with *Darluca filum*); central Mont. (also with *Darluca filum*); southern Mont.; western Idaho; western Oreg. (with *Darluca filum*); eastern and southern Wash.; central Calif.; general east of Rockies.

Leaf spot, *Ascochyta graminicola* -- Fargo, N. Dak.

Helminthosporium vagans -- Pullman, eastern Wash.; general in moister places in Great Plains.

Septoria oudemansii -- western Idaho; Newman Grove, Nebr.; Fargo and Lawton, N. Dak.; Itasca Park, Minn.; Mt. Shasta, Calif. (Cooke).

Stagonospora sp. -- Laporte, Minn.

Leaf streak, *Scolecotrichum graminis* -- Wibaux, Mont.

Powdery mildew, *Erysiphe graminis* -- eastern Wash.; western and southern Mont.; Mt. Shasta, Calif.; general in N. Dak., and in western Minn.

POA PRATENSIS Cont.

- Rootrot, *Helminthosporium sativum* -- Devils Lake, Fargo, Harwood, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Nebr.; S. Dak.; N. Dak.
 Seed molds, *Hendersonia* spp.; *Sphaeropsis* sp. (N. Dak. only); *Wojnowicia graminis*; *Mycosphaerella tulasnei* -- N. Dak.; Mont.; Wyo.
 Selenophoma speckle, *Selenophoma donacis* var. -- Fargo, N. Dak.; Red Lodge, Livingston, Mont.; Jackson, Wyo.
 Stripe smut, *Ustilago striaeformis* -- eastern Wash.

POA SCABRELLA (Thurb.) Benth.

- Leaf rust, *Puccinia poae-sudeticae* (with parasite *Darluca filum*) -- Pullman, Wash., and central Calif.
Puccinia rubigo-vera -- western Calif.; southern Idaho.
 Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.
 Stem rust, *Puccinia graminis* -- central Calif.

POA SECUNDA Presl

- Bends, cause undet. -- Pullman, Wash.
 Black leaf rust, *Uromyces dactylidis* -- western N. Dak.
 Cat-tail disease, *Epichloë typhina* -- Little Missouri River, N. Dak.
 Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf spot, *Septoria macropoda* var. *grandis* -- Kildeer Mts., N. Dak.
 Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* -- Pullman, Wash.
Puccinia rubigo-vera -- western Calif.; southern Idaho.
 Leaf smut, *Ustilago* sp.^{10/} -- northeast Oreg.
 Leaf streak, *Scolecotrichum graminis* -- Kildeer Mts., N. Dak.
 Powdery mildew, *Erysiphe graminis* -- Pullman, Wash.
 Root necrosis, *Pythium debaryanum* -- Grassy Butte, Zap, N. Dak.
Pythium ultimum -- Grassy Butte, N. Dak.
 Rootrot, *Helminthosporium sativum* -- central N. Dak.
 Selenophoma speckle, *Selenophoma donacis* var. -- S. Roosevelt Park, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.; northwest Calif.
 Stripe smut, *Ustilago striaeformis* -- western Wyo.

POA STENANTHA Trin.

- Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.

POA SYLVESTRIS A. Gray

- Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.

^{10/} Under investigation at Pullman, Wash.

POA TIBETICA Munro

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.

POA TRIVIALIS L.

Leaf rust, *Puccinia poae-sudeticae* -- Pullman, Wash.

POA VASEYOCHLOA Scribn.

Leaf rust, *Puccinia poae-sudeticae* with parasite *Darluca filum* --
 Pullman, Wash.

POLYPOGON MONSPELIENSIS (L.) Desf.

Crown rust, *Puccinia coronata* -- central Calif.
 Powdery mildew, *Erysiphe graminis* -- central Calif., eastern and
 central Wash.

PUCCINELLIA DISTANS (L.) Parl.

Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.

PUCCINELLIA LEMMONI (Vasey) Scribn.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

PUCCINELLIA LIMOSA (Schur) Holmb. (P.I. 125281).

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

PUCCINELLIA NUTKAENSIS (Presl) Fern. & Weath.

Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

PUCCINELLIA NUTTALIANA (Schult.) Hitchc.

Leaf rust, *Puccinia poae-sudeticae* (with parasite *Darluca filum*) --
 Pullman, Wash.
Puccinia rubigo-vera -- Pullman, Wash.; northeast Oreg.;
 Mandan, N. Dak. (with parasite *Darluca filum*).
 Stem rust, *Puccinia graminis* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

SCHEDONNARDUS PANICULATUS (Nutt.) Trel.

Rust, *Puccinia schedonnardi* -- Mandan, N. Dak.

SCHIZACHNE PURPURASCENS (Torr.) Swallen

Anthraxnose, *Colletotrichum graminicolum* -- Itasca Park, Minn.
 Leaf rot, *Hendersonia* sp. -- Itasca Park, Minn.
 Leaf spot, *Phyllosticta* sp. -- Itasca Park, Minn.

SCOLOCHLOA FESTUCACEA (Willd.) Link. (*Fluminea festucacea* (Willd.) Hitchc.)

Grey spot, *Piricularia grisea* -- Nekoma, N. Dak.
 Purple leaf spot, *Stagonospora arenaria* -- New Effington, Nekoma,
 N. Dak.

SECALE CEREALE x S. MONTANUM

- Ergot, *Claviceps purpurea* -- Pullman, Wash.
 Stem smut, *Ustilago hypodytes* -- eastern Wash.

SECALE MONTANUM Guss.

- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.
 Leaf scald, *Rhynchosporium secalis* -- Pullman, Wash.
 Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

SETARIA ITALICA (L.) Beauv.

- Bacterial eye-spot, *Bacterium holci* -- Grand Forks, Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, Roth, N. Dak.;
 Sisseton, S. Dak.
 Root necrosis and Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Langdon, N. Dak.; Malloy, Minn.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Langdon,
 Mandan, N. Dak.

SETARIA LUTESCENS (Weigel) F. T. Hubb.

- Kernel smut, *Ustilago neglecta* -- northern Utah.
 Rootrot, *Helminthosporium sativum* -- Buxton, Fargo, N. Dak.

SETARIA VIRIDIS (L.) Beauv.

- Bacterial leaf spot, *Bacterium* sp. -- general in N. Dak.
 Damping-off, *Pythium debaryanum* -- Fargo, McCanna, N. Dak.;
 White Rock, S. Dak.; Arago, Minn.
 Downy mildew, *Sclerospora graminicola* -- Langdon, N. Dak.
 Grey leaf spot, *Piricularia grisea* -- general in N. Dak.
 Red eye-spot, *Phyllosticta sorghina* -- Langdon, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, St. Anthony, Yucca,
 McCanna, Driscoll, Sheyenne, N. Dak.; Sprague Siding, Minn.;
 White Rock, S. Dak.
 Rootrot, *Helminthosporium sativum* -- Arvilla, Fargo, N. Dak.
Rhizoctonia solani -- Fargo, N. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Arago, Minn.; New Salem,
 Richardton, N. Dak.
Fusarium moniliforme -- Dickinson, N. Dak.
Fusarium scirpi var. *acuminatum* -- Fargo, Sheyenne, N. Dak.;
 Lily, White Rock, S. Dak.
Helminthosporium halodes -- Sisseton, White Rock, S. Dak.
Helminthosporium monoceras -- New Salem, Minot, N. Dak.
Helminthosporium turcicum -- Sisseton, S. Dak.

SITANION HANSENI (Scribn.) J. G. Smith

- Leaf spot, *Selenophoma* sp. -- Mt. Shasta, Calif.
 Rust, *Puccinia pattersoniana* -- central Calif.
 Leaf streak, *Scolecotrichum graminis* -- Mt. Shasta, Calif.
 Stripe rust, *Puccinia glumarum* -- western Oreg.; Mt. Shasta, Calif.

SITANION HYSTRIX (Nutt.) J. G. Smith

- Ergot, *Claviceps purpurea* -- northeast Oreg., western Oreg.
 Leaf rust, *Puccinia rubigo-vera* -- northern Idaho; Utah;
 western Wyo.
 Leaf spot, *Scolecotrichum graminis* -- western and southcentral
 Mont.
 Rust, *Puccinia pattersoniana* -- northern Idaho.
 Selenophoma stem speckle, *Selenophoma donacis* -- central Mont.
 Sheath and leaf spot, *Selenophoma* sp. -- northern Utah.
 Stripe rust, *Puccinia glumarum* -- northeast Oreg.; northern Wyo.

SITANION JUBATUM J. G. Smith

- Loose smut, *Ustilago sitanii* -- southern Wash.
 Rust, *Puccinia pattersoniana* -- central Wash.
 Stem rust, *Puccinia graminis* -- northern Idaho.
 Stem smut, *Ustilago hypodytes* -- Pullman, Wash.
 Stripe rust, *Puccinia glumarum* -- Pullman, Wash.; western Calif.
 Twist disease, *Dilophospora alopecuri* -- southern Wash.
 Yellow bacterial head blight, *Aplanobacter agropyri* -- southern
 Wash.

SORGHASTRUM NUTANS (L.) Nash

- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.

SORGHUM HALEPENSE (L.) Pers.

- Bacterial eye-spot, *Bacterium holci* -- Mandan, N. Dak.
 Smut, *Sphacelotheca cruenta* -- southern Calif.
Sphacelotheca sorghi -- central Ariz.; Huron, S. Dak.

SORGHUM VULGARE Pers.

- Bacterial eye-spot, *Bacterium holci* -- general in central and
 eastern N. Dak.
 Root browning (Milo disease), *Pythium arrhenomanes* -- Mandan,
 McCanna, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Mandan, Minot, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Surrey, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.

SORGHUM VULGARE var. SUDANENSE (Piper) Hitchc.

- Bacterial eye-spot, *Bacterium holci* -- Langdon, Devil's Lake,
 Mandan, N. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Root necrosis, *Pythium debaryanum* -- Wild Rice, Devil's Lake,
 Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Hebron, Wild Rice, N. Dak.
 Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Helminthosporium turcicum -- Hebron, N. Dak.

SPARTINA GRACILIS Trin.

- Rust, *Puccinia distichlidis*, with parasite *Darluca filum* -- Townsend,
 Mont.

SPARTINA PECTINATA Link

Leaf spot, *Ascochyta spartinae* 11/ -- central S. Dak.
Rust, *Puccinia peridermiospora* -- Fargo, Mandan, N. Dak.

SPHENOPHOLIS OBTUSATA (Michx.) Scribn.

Rust, *Puccinia eatoniae* -- Mandan, N. Dak.

SPODOPOGON SIBIRICUS Trin. (P.I. 135626).

Bacterial leaf streak, *Bacterium andropogonii* -- Mandan, N. Dak.

SPOROBOLUS AIRCIDES (Torr.) Torr.

Bacterial slime blight, *Aplanobacter* sp. -- Mandan, N. Dak.
Bends, cause undet. -- Pullman, Wash.
Leaf spot, *Ascochyta stipae* -- Pullman, Wash.
Hendersonia simplex -- Pullman, Wash.

SPOROBOLUS ASPER (Michx.) Kunth

Leaf spot, *Hendersonia simplex* -- Pullman, Wash.

SPOROBOLUS CRYPTANDRUS (Torr.) A. Gray

Rust, *Puccinia simulans* -- western Idaho; southern Mont.; Fargo, N. Dak.

SPOROBOLUS FLEXUOSUS (Thurb.) Rydb.

Bacterium sp. leaf spot -- Mandan, N. Dak.

SPOROBOLUS HETEROLEPIS (A. Gray) A. Gray

Anthracnose, *Colletotrichum graminicolum* -- Buffalo, N. Dak.

SPOROBOLUS NEGLECTUS Nash

Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.

STIPA BAICALENSIS Roshev. (P.I. 135627).

Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

STIPA CERNUA Stebbins & Love

Stem smut, *Ustilago* sp. -- central Calif.

STIPA COLUMBIANA Macoun

Leaf streak, *Scolecotrichum graminis* -- northeast Oreg.
Secondary rootrot, *Fusarium scirpi* var. *acuminatum* -- Mandan, N. Dak.
Stripe rust, *Puccinia glumarum* -- Pullman, Wash.

STIPA COMATA Trin. & Rupr.

Chocolate spot, *Bacterium coronafaciens* var. *atropurpureum* -- southern Mont.; 20 miles south of Big Timber, Mont.
Leaf spot, *Selenophoma donacis* -- north of Wibaux, Mont.; near Beach, N. Dak.

11/ A species of *Septoria*, under investigation at Mandan, N. Dak.

STIPA COMATA Cont.

- Leaf streak, *Scolecotrichum graminis* -- Bradley, S. Dak.
 Root browning, *Pythium arrhenomanes* -- Mandan, Park River, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Rust, *Puccinia scaber* -- central Mont.
 Puccinia stipae -- Pullman, Wash.; central Mont.; northeast Oreg.;
 central and eastern Wash.; western Wyo.; S. Roosevelt Park,
 N. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Mandan, N. Dak.
 Fusarium scirpi var. *acuminatum* -- Mandan, N. Dak.
 Rhizoctonia solani -- Mandan, N. Dak.
 Stem rust, *Puccinia graminis* -- Pullman, Wash.
 Stem smut, *Sorosporium granulorum* -- central Mont.
 Ustilago hypodytes -- southern Mont.; western Wyo.
 Ustilago sp. -- western Wyo.

STIPA LETTERMANI Vasey

- Bends, cause undet. -- Pullman, Wash.
 Leaf streak, *Scolecotrichum graminis* -- northeast Oreg.
 Stem smut, *Ustilago jacksonii* -- Rich county, Utah.
 Ustilago sp. -- western Wyo.

STIPA OCCIDENTALIS Thurb.

- Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.
 Rust, *Puccinia scaber* -- western Wyo.

STIPA RICHARDSONI Link

- Rust, *Puccinia stipae* -- Jackson, Wyo.
 Sheath and stem spot, *Selenophoma donacis* -- Jackson, Wyo.
 Selenophoma donacis var. -- central Mont.
 Stem smut, *Ustilago* sp. -- central Mont.; western Wyo.

(STIPA SIBIRICA (L.) Lam. (P.Q. 034946) (P.I. 110164).

- Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.
 Secondary rootrot, *Rhizoctonia solani* -- Mandan, N. Dak.

STIPA SPARTEA Trin.

- Root browning, *Pythium arrhenomanes* -- Mandan, N. Dak.
 Rootrot, *Helminthosporium sativum* -- Mandan, N. Dak.

STIPA SPECIOSA Trin. & Rupr.

- Stem smut, *Ustilago* sp. -- central Calif.

STIPA THURBERIANA Piper

- Leaf streak, *Scolecotrichum graminis* -- Pullman, Wash.; western Wyo.
 Rust, *Puccinia scaber* -- central Mont.
 Stem smut, *Ustilago hypodytes* -- southern Mont.
 Ustilago sp. -- southern Mont.

STIPA VIRIDULA Trin.

- Blotch, *Stagonospora* sp. -- S! Roosevelt Park, N. Dak.
 Damping-off, *Pythium debaryanum* -- Mandan, N. Dak.; Langdon,
 N. Dak.
 Ergot, *Claviceps purpurea* -- Nekoma, N. Dak.
 Leaf spot, *Ascochyta graminicola* -- Webster, S. Dak.
 Leaf streak, *Scolecotrichum graminis* -- Livingston, Mont.
 Rootrot, *Helminthosporium sativum* -- common in N. Dak. and S. Dak.
 Rust, *Puccinia scaber* -- general in N. Dak.; S. Dak.; Sprague
 Siding, Minn. Parasitized by *Darluca filum* at Mandan, N. Dak.,
 Clark, S. Dak.
 Secondary rootrot, *Curvularia geniculata* -- Mandan, Park River,
 N. Dak.
Fusarium scirpi var. *acuminatum* -- Mandan, N. Dak.
Rhizoctonia solani -- Park River, N. Dak.
Sclerotium sp. -- Mandan, N. Dak.
 Selenophoma stem speckle, *Selenophoma donacis* -- Argusville, N. Dak.;
 Livingston, Mont.
 Stem smut, *Ustilago hypodytes* -- Sprague Siding, Minn.
 White leaf spot, *Septoria secalis* var. *stipae* -- Spiritwood,
 Mandan, Gupzell, N. Dak.; Webster, S. Dak.

STIPA WILLIAMSII Scribn.

- Leaf spot, *Helminthosporium* sp. -- Pullman, Wash.
 Leaf streak, *Scolecotrichum graminis* -- western Idaho.

TRisetum CANESCENS Buckl.

- Leaf streak, *Scolecotrichum graminis* -- western Idaho; northwest
 Mont.
 Stem rust, *Puccinia graminis* -- northern Oreg.

TRisetum MONTANUM Vasey

- Leaf streak, *Scolecotrichum graminis* -- northwest Mont.

TRisetum SPICATUM (L.) Richt.

- Leaf rust, *Puccinia rubigo-vera* -- Pullman, Wash.; northwest, Wyo.
 (*Darluca filum* on rust).
 Leaf spot, *Selenophoma donacis* var. -- south of Red Lodge, Mont.;
 Beartooth Pass, Wyo.

PATHOGEN INDEXSCHIZOMYCETES -- EUBACTERIALES

APLANOBACTER AGROPYRI O'Gara

Agropyron cristatum
 A. trichophorum
 Sitanion jubatum
 Sporobolus airoides

BACTERIUM ANDROPOGONI E. F. S.

Spodopogon sibiricus

BACTERIUM CORONAFACIENS Elliott

var. ATROPURPUREUM Reddy &
 Godkin

Agropyron dasystachyum
 A. repens
 A. smithii
 A. subsecundum
 A. trachycaulum
 Brachypodium sylvaticum
 Bromus erectus
 B. inermis
 B. marginatus
 Elymus canadensis
 E. condensatus
 E. dasystachys
 E. excelsus
 E. giganteus
 E. interruptus
 E. macounii
 E. pseudoagropyron
 E. sabulosus
 E. salsuginosus

BACTERIUM CORONAFACIENS var.

AGROPURPUREUM Cont.

Elymus sibiricus
 E. virginicus
 Festuca rubra var. lanuginosa
 Lolium perenne
 Stipa comata

BACTERIUM HOLCI Kendrick

Panicum capillare
 P. miliaceum
 Setaria italica
 Sorghum halepense
 S. vulgare
 S. vulgare var. sudanense

BACTERIUM TRANSLUCENS Jones,

Johnson, & Reddy
 Hordeum brevisubulatum

BACTERIUM sp.

Andropogon furcatus
 A. hallii
 A. scoparius
 Elymus junceus
 Panicum virgatum
 Puccinia graminis
 P. rubigo-vera
 Setaria viridis
 Sporobolus flexuosus

PHYCOMYCETES

? APHANOMYCES sp.

Festuca elatior
 F. rubra

PHYTOPHTHORA sp.

Agropyron sibiricum

PYTHIUM ARISTOSPORUM Vanterpool

Agropyron trachycaulum
 Echinochloa crusgalli

PYTHIUM ARRHENOMANES Drechsl.

Aegilops triuncialis
 Agropyron amurense
 A. ciliare
 A. cristatum
 A. dasystachyum
 A. desertorum
 A. elongatum
 A. intermedium
 A. repens

PHYCOMYCETES Cont.

PYTHIUM ARRHENOMANES Cont.

Agropyron riparium
 A. sibiricum
 A. spicatum
 A. trachycaulum
 A. trichophorum
 Ammophila arenaria
 Andropogon furcatus
 Arrhenatherum elatius
 Avena fatua
 Bouteloua curtipendula
 B. gracilis
 Brachypodium sylvaticum
 Bromus erectus
 B. inermis
 B. marginatus
 Echinochloa crusgalli
 Elymus glaucus
 E. interruptus
 E. junceus
 E. macounii
 Festuca elatior
 F. elatior var. arundinacea
 Hordeum jubatum
 Muhlenbergia racemosa
 Oryzopsis hymenoides
 Panicum miliaceum
 Setaria italica
 S. viridis
 Sorghastrum nutans
 Sorghum vulgare
 S. vulgare var. sudanense
 Stipa comata
 S. spartea

PYTHIUM DEBARYANUM Hesse

Agropyron caninum
 A. ciliare
 A. cristatum
 A. desertorum
 A. repens
 A. riparium
 A. sibiricum
 A. smithii
 A. trichophorum

PYTHIUM DEBARYANUM Cont.

Agrostis alba
 Andropogon furcatus
 A. hallii
 A. scoparius
 Arrhenatherum elatius
 Bouteloua curtipendula
 B. gracilis
 Bromus arvensis
 B. inermis
 Echinochloa crusgalli
 Elymus junceus
 E. macounii
 Festuca elatior
 F. elatior var. arundinacea
 F. rubra var. commutata
 Hordeum bulbosum
 Oryzopsis hymenoides
 O. miliaceum
 Panicum virgatum
 Phalaris arundinacea
 Phragmites communis
 Poa ampla
 P. bulbosa
 P. palustris
 P. secunda
 Setaria italica
 S. viridis
 Sorghum vulgare
 S. vulgare var. sudanense
 Stipa viridula

PYTHIUM IRREGULARE Buis.

Agropyron cristatum
 Bromus inermis
 B. tectorum
 Elymus junceus
 Festuca elatior

PYTHIUM (?) PERIILUM Drechsl.

Agropyron repens

PYTHIUM (?) PROLIFERUM Schenk

Bromus inermis
 B. tectorum

PHYCOMYCETES Cont.

PYTHIUM ULTIMUM Trow.

Agropyron caninum
 A. cristatum
 A. desertorum
 A. repens
 Agrostis alba
 Andropogon furcatus
 Bromus inermis

PYTHIUM ULTIMUM Cont.

Phragmites communis
 Poa ampla
 P. secunda

SCLEROSPORA GRAMINICOLA (Sacc.)

Schroet.
 Setaria viridis

ASCOMYCETES

CLAVICEPS PURPUREA (Fr.) Tul.

Agropyron caninum
 A. cristatum
 A. dasystachyum
 A. inerme
 A. repens
 A. riparium
 A. sibiricum
 A. smithii
 A. spicatum
 A. subsecundum
 A. trachycaulum
 A. trichophorum
 Alopecurus pratensis
 Arrhenatherum elatius
 Bromus carinatus
 B. ciliatus
 B. erectus
 B. inermis
 B. marginatus
 Calamagrostis inexpansa
 Dactylis glomerata
 Deschampsia caespitosa
 Elymus ambiguus
 E. condensatus
 E. dahuricus
 E. excelsus
 E. giganteus
 E. glaucus
 E. junceus
 E. macounii
 E. salsuginosus
 E. triticoides
 Festuca elatior var. arundinacea
 F. idahoensis

CLAVICEPS PURPUREA Cont.

Festuca rubra
 F. rubra var. commutata
 Hordeum jubatum
 H. jubatum var. caespitosum
 Lolium multiflorum
 L. perenne
 Michel's grass
 Poa ampla
 P. nemoralis
 P. palustris
 P. pratensis
 P. secunda
 P. stenantha
 Puccinellia distans
 Sitanion hystrix
 Stipa viridula

DOTHIDELLA ARISTIDAE (Schw.)

Ell. & Ev.
 Distichlis spicata
 D. stricta

EPICHLÖE TYPHINA (Fr.) Tul.

Agropyron trachycaulum
 Elymus canadensis
 E. dahuricus
 Poa compressa
 P. secunda

ERYSIPHE GRAMINIS DC.

Agropyron inerme
 A. smithii
 A. spicatum
 A. subsecundum

ASCOMYCETES Cont.

ERYSIPHE GRAMINIS Cont.

Agropyron trachycaulum
 Agrostis exarata
 Bromus carinatus
 B. marginatus
 B. tectorum
 Dactylis glomerata
 Elymus canadensis
 E. condensatus
 E. junceus
 E. sibiricus
 Festuca idahoensis
 F. ovina
 F. rubra var. commutata
 Koeleria cristata
 Melica californica
 Poa arida
 P. canbyi
 P. compressa
 P. cusickii
 P. glaucifolia

ERYSIPHE GRAMINIS Cont.

Poa nemoralis
 P. nevadensis
 P. palustris
 P. pratensis
 P. scabrella
 P. secunda
 Polypogon monspeliensis

MYCOSPHAERELLA TULASNEI Jacz.

Poa pratensis

PHYLLACHORA SYLVATICA Sacc. & Speg.

Festuca rubra

PHYLLACHORA VULGATA Theiss. & Syd.

Muhlenbergia cuspidata

PHYLLACHORA sp.

Distichlis stricta

USTILAGINALES -- USTILAGINACEAE

SOROSPORIUM CONSANGUINEUM Ell.

& Ev.

Aristida longiseta

SOROSPORIUM GRANULOSUM Ell. & Tracy

Stipa comata

SOROSPORIUM SYNTHESISMAE (Pk.)

Farl.

Panicum capillare

P. miliaceum

SPHACELOTHECA CRUENTA (Kühn)

A. Potter

Sorghum halepense

SPHACELOTHECA SORGHI (Lk.) Clinton

Sorghum halepense

USTILAGO AVENAE (Cda.) Jens.

Arrhenatherum elatius

USTILAGO BULLATA Berk.

Agropyron dasystachyum

USTILAGO BULLATA Cont.

Agropyron trachycaulum

Bromus anomalus

B. carinatus

B. catharticus

B. ciliatus

B. erectus

B. japonicus

B. marginatus

B. mollis

B. polyanthus

B. racemosus

B. rigidus

B. rubens

B. secalinus

B. sibiricus

B. tectorum

B. tomentellus

B. vulgaris

Elymus canadensis

E. glaucus

E. junceus

E. sibiricus

Hordeum jubatum

USTILAGINALES -- USTILAGINACEAE Cont.

USTILAGO BULLATA Cont.

Hordeum jubatum var. caespitosum
H. nodosum

USTILAGO HORDEI Lagerh.

Elymus excelsus
E. glaucus

USTILAGO HYPODYTES (Schlecht.) Fr.

Agropyron amurense
A. cristatum
A. dasystachyum
A. inerme
A. repens
A. riparium
A. spicatum
Elymus canadensis
E. condensatus
E. dahuricus
E. dasystachys
E. excelsus
E. glaucus
E. sibiricus
Hordeum brevisubulatum
Melica harfordii
Oryzopsis hymenoides
Phalaris arundinacea
Phleum phleoides
Poa ampla
P. nevadensis
Secale cereale x S. montanum
Sitanion jubatum
Stipa comata
S. thurberiana
S. viridula

USTILAGO JACKSONII Zundel & Dunlap

Stipa lettermani

USTILAGO LONGISSIMA (Sow.) Tul.

Glyceria grandis

USTILAGO MACROSPORA Desm.

Elymus canadensis

USTILAGO MACROSPORA Cont.

Elymus condensatus

USTILAGO MULFORDIANA Ell. & Ev.

Festuca dertonensis
F. octoflora
F. pacifica

USTILAGO NEGLECTA Niessl

Setaria lutescens

USTILAGO RESIDUA Clinton

Danthoria californica

USTILAGO SITANII Fischer

Hordeum jubatum
H. jubatum var. caespitosum
Sitanion jubatum

USTILAGO STRIAEFORMIS (Westend.)

Niessl
Agropyron inerme
A. subsecundum
A. trachycaulum
Agrostis alba
A. castellana
A. palustris
A. stolonifera
Elymus canadensis
E. glaucus
Phleum pratense
Poa canbyi
P. pratensis
P. secunda

USTILAGO spp. (undetermined)^{12/}

Poa secunda
Stipa cernua
S. richardsoni
S. lettermani
S. speciosa
S. thurberiana

^{12/} Under investigation at Pullman, Wash.

USTILAGINALES -- TILLETIACEAE

TILLETIA AIRAE Blytt
Deschampsia danthonioides
D. elongata

TILLETIA ELYMI Diet. & Holw.
Elymus glaucus

TILLETIA FUSCA Ell. & Ev.
Festuca dertonensis
F. octoflora
F. pacifica

TILLETIA GUYOTIANA Hariot
Bromus mollis
B. racemosus

TILLETIA sp. 12/
Elymus canadensis

UROCYSTIS AGROPYRI (Preuss) Schroet.
Agropyron trachycaulum
Hordeum jubatum
Poa ampla

UREDINALES -- PUCCINIACEAE

PUCCINIA AMPHIGENA Diet.
Calamovilfa longifolia

PUCCINIA ANOMALA Rostr.
Hordeum spontaneum

PUCCINIA ARISTIDAE Tracy
Aristida longiseta
Distichlis stricta

PUCCINIA BARTHOLOMAEI Diet.
Bouteloua gracilis

PUCCINIA COCKERELLIANA Bethel
Festuca scabrella

PUCCINIA CORONATA Cda.
Agrostis castellana
A. tenuis
Avena fatua
A. hookeri
Beckmannia syzigachne
Calamagrostis canadensis
C. scribneri
Deschampsia caespitosa
Festuca elatior
Holcus lanatus
Lolium multiflorum
L. perenne

PUCCINIA CORONATA Cont.
Lolium remotum
L. subulatum
Phalaris arundinacea
Polypogon monspeliensis

PUCCINIA CRANDALLII Pam. & Hume
Festuca idahoensis
F. ovina
F. rubra
F. viridula

PUCCINIA CYNODONTIS Lacroix
Cynodon dactylon

PUCCINIA DISTICHLIDIS Ell. & Ev.
Spartina gracilis

PUCCINIA EATONIAE Arth.
Sphenopholis obtusata

PUCCINIA ELLISIANA Thüm.
Andropogon scoparius

PUCCINIA GLUMARUM (Schm.) Erikss.
& Henn.
Aegilops cylindrica
Agropyron albicans
A. caninum

12/ Under investigation at Pullman, Wash.

UREDINALES -- PUCCINIACEAE Cont.

PUCCINIA GLUMARUM Cont.

Agropyron ciliare
 A. cristatum
 A. dasystachyum
 A. desertorum
 A. divaricatum
 A. griffithsii
 A. inerme
 A. panormitanum
 A. repens
 A. riparium
 A. smithii
 A. spicatum
 A. subsecundum
 A. trachycaulum
 A. trichophorum
 A. ugamicum
 Bromus anomalus
 B. carinatus
 B. ciliatus
 B. marginatus
 B. polyanthus
 B. purgans
 Elymus antarcticus
 E. arenarius
 E. canadensis
 E. condensatus
 E. condensatus var. pubens
 E. excelsus
 E. glaucus
 E. interruptus
 E. sabulosus
 E. salina
 E. sibiricus
 E. triticoides
 E. virescens
 E. virginicus
 Hordeum bulbosum
 H. jubatum
 H. jubatum var. caespitosum
 H. murinum
 H. nodosum
 Puccinellia lemmoni
 P. limosa
 P. nutkaensis
 P. nuttalliana

PUCCINIA GLUMARUM Cont.

Secale montanum
 Sitanion hanseni
 S. hystrix
 S. jubatum
 Stipa columbiana

PUCCINIA GRAMINIS Pers.

Agropyron albicans
 A. caninum
 A. cristatum
 A. dasystachyum
 A. desertorum
 A. elmeri
 A. griffithsii
 A. inerme
 A. riparium
 A. sibiricum
 A. smithii
 A. spicatum
 A. subsecundum
 A. trachycaulum
 A. trichophorum
 Agrostis exarata
 A. hallii
 A. tenuis
 Alopecurus arundinaceus
 Avena fatua
 Bromus carinatus
 B. ciliatus
 B. marginatus
 B. rigidus
 B. rubens
 B. sibiricus
 B. tectorum
 Cinna latifolia
 Dactylis glomerata
 Deschampsia caespitosa
 D. danthonioides
 D. elongata
 Elymus canadensis
 E. condensatus
 E. condensatus var. pubens
 E. dahuricus
 E. excelsus
 E. glaucus

UREDINALES -- PUCCINIACEAE Cont.

PUCCINIA GRAMINIS Cont.

Elymus interruptus
E. junceus
E. macounii
E. sibiricus
E. triticoides
Festuca californica
F. elatior
F. elatior var. *arundinacea*
F. idahoensis
F. megalura
F. rubra
F. subulata
Glyceria pauciflora
Hierochloë odorata
Hordeum brevisubulatum
H. jubatum
H. murinum
H. nodosum
Koeleria cristata
Melica aristata
Phalaris californica
P. minor
Phleum graecum
P. phleoides
P. pratense
Poa ampla
P. canbyi
P. cusickii
P. epilis
P. glaucifolia
P. interior
P. juncifolia
P. longifolia
P. nevadensis
P. scabrella
P. secunda
P. tibetica
P. sp.
Puccinellia distans
P. nuttalliana
Sitanion jubatum
Stipa comata
Trisetum canescens

PUCCINIA HORDEI Fekl.

Hordeum murinum

PUCCINIA KANSENSIS Ell. & Barth.
Buchloë dactyloides

PUCCINIA KOELERIAE Arth.
Koeleria cristata

PUCCINIA MAGNUSIANA Körn.
Phragmites communis

PUCCINIA MONTANENSIS Ell.

Agropyron ciliare
A. cristatum
A. dasystachyum
A. ferganense
A. inerme
A. repens
A. riparium
A. sibiricum
A. smithii
A. spicatum
A. subsecundum
A. trachycaulum
A. trichophorum
Elymus canadensis
E. canadensis var. *robustus*
E. condensatus
E. glaucus
E. interruptus
E. macounii
E. sibiricus
Hordeum brevisubulatum
H. jubatum

PUCCINIA PATTERSONIANA Arth.

Agropyron inerme
A. spicatum
Sitanion hansenii
S. hystrix
S. jubatum

PUCCINIA PERIDERMIOSPORA (Ell. & Tracy) Arth.
Spartina pectinata

UREDINALES -- PUCCINIACEAE Cont.

PUCCINIA POAE-SUDETICAE (Westend.)

Jørstad
Poa alpina
P. ampla
P. annua
P. arida
P. bulbosa
P. canadensis
P. canbyi
P. compressa
P. curta
P. cusickii
P. epilis
P. gracillima
P. interior
P. juncifolia
P. longifolia
P. nemoralis
P. nevadensis
P. palustris
P. pratensis
P. scabrella
P. secunda
P. stenantha
P. sylvestris
P. tibetica
P. trivialis
P. vaseyochloa
Puccinellia nuttalliana

PUCCINIA RUBIGO-VERA (DC.) Wint.

Agropyron albicans
A. caninum
A. cristatum
A. dasystachyum
A. elmeri
A. hirsutum
A. inerme
A. riparium
A. sibiricum
A. smithii
A. spicatum
A. subsecundum
A. trachycaulum
A. trichophorum
Bromus carinatus

PUCCINIA RUBIGO-VERA Cont.

Bromus ciliatus
B. laevipes
B. lanuginosus
B. marginatus
B. mollis
B. polyanthus
B. rigidus
B. rubens
B. sibiricus
B. tectorum
Elymus canadensis
E. condensatus
E. condensatus var. pubens
E. excelsus
E. flavescens
E. glaucus
E. interruptus
E. junceus
E. macounii
E. salina
E. sibiricus
E. triticoides
E. virginicus
Hordeum brevisubulatum
H. jubatum
H. jubatum var. caespitosum
H. nodosum
 Michel's grass
Poa ampla
P. canbyi
P. juncifolia
P. nevadensis
P. scabrella
P. secunda
Puccinellia distans
P. nuttalliana
Secale montanum
Sitanion hystrix
Trisetum spicatum

PUCCINIA SCABER (Ell. & Ev.) Barth.

Oryzopsis hymenoides
Stipa comata
S. occidentalis
S. thurberiana

UREDINALES -- PUCCINIACEAE Cont.

- | | |
|--|---|
| PUCCINIA SCABER Cont.
Stipa viridula | PUCCINIA STIPAE Arth.
Stipa comata
S. richardsoni |
| PUCCINIA SCHEDONNARDI Kellerm.
& Sw.
Schedonnardus paniculatus | PUCCINIA VEXANS Farl.
Bouteloua curtipendula |
| PUCCINIA SESSILIS Schneid.
Phalaris arundinacea | UROMYCES DACTYLIDIS Otth
Poa secunda |
| PUCCINIA SIMULANS (Pk.) Barth.
Sporobolus cryptandrus | UROMYCES JACKSONII Arth. & Fromme
Deschampsia elongata |

FUNGI IMPERFECTI- MELANCONIALES

- | | |
|--|---|
| COLLETOTRICHUM GRAMINICOLUM (Ces.)
Wils.
Agropyron trachycaulum
Avena fatua
A. hookeri
Calamagrostis canadensis
C. inexpansa
C. rubescens
Digitaria sanguinalis
Lolium multiflorum
L. perenne
Poa pratensis | COLLETOTRICHUM GRAMINICOLUM Cont.
Schizachne purpurascens
Sporobolus heterolepis

SEPTOGLOEUM OXYSPORUM Sacc., Bomm.,
& Rouss.
Agropyron trachycaulum
Agrostis alba
A. scabra
Elymus condensatus
E. triticoides |
|--|---|

FUNGI IMPERFECTI -- MONILIALES

- | | |
|---|--|
| CERCOSPORA FUSIMACULANS Atk.
Panicum virgatum | CURVULARIA GENICULATA (Tracy &
Earle) Boedijn
Bouteloua gracilis
Brachypodium sylvaticum
Buchloë dactyloides
Digitaria sanguinalis
Echinochloa crusgalli
Elymus junceus
Koeleria cristata
Muhlenbergia japonica
Panicum virgatum
Poa compressa
Setaria viridis
Sporobolus neglectus |
| CERCOSPORA SEMINALIS Ell. & Ev.
Buchloë dactyloides | |
| CERCOSPORELLA SUBULATA Sprague
Deschampsia caespitosa
Melica bulbosa | |
| CLADOSPORIUM HERBARUM (Pers.) Lk.
Agropyron smithii
Calamovilfa longifolia
Poa compressa | |

FUNGI IMPERFECTI -- MONILIALES Cont.

CURVULARIA GENICULATA Cont.

Stipa comata
S. viridula

CURVULARIA TRIFOLII (Kauff.)

Boedijn
Digitaria sanguinalis
Echinochloa crusgalli

FUSARIUM AVENACEUM (Fr.) Sacc.

Poa compressa

FUSARIUM CULMORUM (W.G.Sm.) Sacc.

Echinochloa crusgalli

FUSARIUM GRAMINEARUM Schwabe

Agropyron cristatum
Poa pratensis

FUSARIUM MONILIFORME Sheld.

Setaria viridis

FUSARIUM POAE (Pk.) Wr.

Bouteloua gracilis

FUSARIUM SCIRPI Lamb. & Fautr.

Agropyron caninum

FUSARIUM SCIRPI var. ACUMINATUM

(Ell. & Ev.) Wr.

Agropyron ciliare
A. cristatum
A. elongatum
A. repens
A. riparium
A. sibiricum
A. smithii
A. subsecundum
A. trachycaulum
Andropogon furcatus
A. hallii
Bromus erectus
Bouteloua curtipendula
B. gracilis
Brachypodium sylvaticum

FUSARIUM SCIRPI var. ACUMINATUM Cont.

Bromus inermis
B. japonicus
B. tectorum
B. tomentellus
Buchloë dactyloides
Calamovilfa longifolia
Chloris virgata
Dactylis glomerata
Digitaria sanguinalis
Distichlis stricta
Echinochloa crusgalli
Elymus canadensis
E. dahuricus
E. glaucus
E. interruptus
E. junceus
E. macounii
E. triticoides
Eragrostis curvula
E. pilosa
Festuca elatior
F. ovina
F. rubra
F. rubra commutata
Hilaria jamesii
H. mutica
Hordeum bulbosum
H. jubatum
Koeleria cristata
Oryzopsis hymenoides
Muhlenbergia racemosa
Panicum capillare
P. dichotomiflorum
P. miliaceum
P. virgatum
Phalaris tuberosa
Phleum phleoides
P. pratense
Poa annua
P. arida
P. pratensis
Setaria italica
S. viridis
Sorghum vulgare

FUNGI IMPERFECTI -- MONILIALES Cont.

FUSARIUM SCIRPI var. ACUMINATUM

Cont.

Sorghum vulgare sudanense
Stipa columbiana
S. comata
S. viridula

FUSARIUM SCIRPI var. COMPACTUM Wr.

Agropyron elongatum
Hordeum jubatum

FUSARIUM SPOROTRICHOIDES Sherb.

Bouteloua gracilis

FUSARIUM sp.

Poa annua

HELMINTHOSPORIUM HALODES Drechs.

Agropyron repens
Muhlenbergia japonica
Setaria viridis

HELMINTHOSPORIUM INCONSPICUUM

Ell. & Ev. var. BUCHLOES
Ell. & Ev. Nom. Nud.
Buchloë dactyloides

HELMINTHOSPORIUM MONOCERAS Drechsl.

Setaria viridis

HELMINTHOSPORIUM SATIVUM Pam.,

King, & Bak.

Agropyron amurense
A. cristatum
A. dasystachyum
A. elongatum
A. intermedium
A. repens
A. smithii
A. sibiricum
A. subsecundum
A. trachycaulum
Ammophila arenaria
Andropogon hallii
Avena fatua
Bouteloua curtipendula
B. gracilis

HELMINTHOSPORIUM SATIVUM Cont.

Bromus carinatus
B. inermis
B. madritensis
B. tectorum
B. tomentellus
Calamovilfa longifolia
Dactylis glomerata
Digitaria sanguinalis
Echinochloa crusgalli
Elymus canadensis
E. dahuricus
E. excelsus
E. junceus
E. interruptus
E. sibiricus
Eragrostis curvula
E. pilosa
Festuca octoflora
Hordeum brevisubulatum
H. bulbosum
H. jubatum
Oryzopsis hymenoides
Panicum capillare
P. virgatum
Poa bulbosa
P. palustris
P. pratensis
P. secunda
Setaria italica
S. lutescens
S. viridis
Sorghum vulgare
S. vulgare sudanense
Stipa baicalensis
S. comata
S. sibirica
S. spartea
S. viridula

HELMINTHOSPORIUM TURCICUM Pass.

Setaria viridis
Sorghum vulgare sudanense

HELMINTHOSPORIUM VAGANS Drechsl.

Poa compressa
P. pratensis

FUNGI IMPERFECTI -- MONILIALES Cont.

HELMINTHOSPORIUM sp.

Bromus inermis
 Hierochloë odorata
 Panicum capillare
 P. flexile
 Stipa williamsii

HETEROSPORIUM AVENAE Oud.

Elymus condensatus

HETEROSPORIUM PHLEI Gregory

Phleum phleoides
 P. pratense

MASTIGOSPORIUM RUBRICOSUM (Dearn.

& Barth.) Sprague
 Calamagrostis canadensis
 Dactylis glomerata

PIRICULARIA GRISEA (Cke.) Sacc.

Scolochloa (Fluminea) festucacea
 Setaria viridis

RHYNCHOSPORIUM CRTHOSPORUM

Caldwell
 Alopecurus pratensis
 Calamagrostis canadensis

RHYNCHOSPORIUM SECALIS (Oud.)

J. J. Davis
 Agropyron repens
 A. trachycaulum
 Bromus carinatus
 B. inermis
 B. marginatus
 Elymus canadensis
 Secale montanum

SCOLECOTRICHUM GRAMINIS Fckl.

Agropyron caninum
 A. dasystachyum
 A. griffithsii
 A. repens
 A. smithii
 A. spicatum
 A. subsecundum
 A. trachycaulum

SCOLECOTRICHUM GRAMINIS Cont.

Agrostis alba
 A. exarata
 Alopecurus aequalis
 A. pratensis
 Arrhenatherum elatius
 Beckmannia syzigachne
 Bromus carinatus
 B. catharticus
 B. marginatus
 B. vulgaris
 Dactylis glomerata
 Deschampsia elongata
 Elymus canadensis
 E. condensatus
 E. flavescens
 E. glaucus
 E. sibiricus
 Glyceria elata
 Hordeum jubatum
 H. jubatum var. caespitosum
 H. nodosum
 Koeleria cristata
 Melica geyeri
 Michel's grass
 Cryzopsis hymenoides
 Phleum pratense
 Poa ampla
 P. canbyi
 P. compressa
 P. epilis
 P. nevadensis
 P. pratensis
 P. secunda
 Secale montanum
 Sitanion hansenii
 S. hystrix
 Stipa columbiana
 S. comata
 S. lettermani
 S. occidentalis
 S. thurberiana
 S. viridula
 S. williamsii
 Trisetum canescens
 T. montanum

FUNGI IMPERFECTI -- SPHAEROPSIDALES

ASCOCHYTA AGROPYRINA (Fairm.)

Trott.

Agropyron caninum

A. cristatum

A. subsecundum

A. trachycaulum

A. trichophorum

Elymus canadensis

E. excelsus

E. virginicus

ASCOCHYTA AVENAE (Petr.)

Sprague & Johnson

Avena fatua

ASCOCHYTA ELYMI Tehon & Daniels

Elymus canadensis

ASCOCHYTA GRAMINICOLA Sacc.

Elymus macounii

Festuca rubra

Hierochloë odorata

Poa pratensis

Stipa viridula

ASCOCHYTA GRAMINICOLA var.

BRACHYPODII Trail

Elymus macounii

ASCOCHYTA GRAMINICOLA var.

DIEDICKEANA Baudys & Picb.

Bromus inermis

ASCOCHYTA LOLII (Zimm.)

Sprague & Johnson

Lolium perenne

ASCOCHYTA (Septoria) SPARTINAE

Trel.

Spartina pectinata

ASCOCHYTA STIPAE Died.

Sporobolus airoides

ASCOCHYTA SP.^{13/}

Buchloë dactyloides

Panicum virgatum

Phleum pratense

DARLUCA FILUM (Biv.) Cast.

Puccinia glumarum

P. graminis

P. montanensis

P. rubigo-vera

P. crandallii

P. distichlidis

P. hordei

P. koeleriae

P. poae-sudeticae

P. scaber

P. vexans

DILOPHOSPORA ALOPECURI (Fr.) Fr.

Agropyron trachycaulum

Melica bulbosa

Sitanion jubatum

HENDERSONIA CALAMOVILFAE Petr.

Calamagrostis canadensis

Calamovilfa gigantea

C. longifolia

HENDERSONIA CRASTOPHILA Sacc.

Poa compressa

HENDERSONIA SIMPLEX Schroet.

Sporobolus airoides

S. asper

HENDERSONIA sp.

Bromus vulgaris

Poa pratensis

Schizachne purpurascens

MACROPHOMINA PHASEOLI (Maubl.) Ashby

Arrhenatherum elatius

Brachypodium sylvaticum

13/ Several species of Ascochyta, Phyllosticta, Septoria, and Stagonospora are under investigation at Mandan, N. Dak.

FUNGI IMPERFECTI -- SPHAEROPSIDALES Cont.

MACROPHOMINA PHASEOLI (Maubl.)

Ashby Cont.

Elymus dasystachys

PHOMA (TERRESTRIS Hansen)

Agropyron smithii

PHYLLOSTICTA SORGHINA Sacc.

Setaria viridis

PHYLLOSTICTA sp.

*Andropogon furcatus**Schizachne purpurascens*

SELENOPHOMA BROMIGENA (Sacc.)

Sprague & Johnson

Bromus inermis

SELENOPHOMA DONACIS (Pass.)

Sprague & Johnson

*Calamovilfa longifolia**Elymus condensatus**E. flavescens**Festuca ovina**Panicum virgatum**Phalaris arundinacea**Stipa comata**S. richardsoni**S. viridula*

SELENOPHOMA DONACIS var.

*Agrostis scabra**Bouteloua curtipendula**Calamagrostis scribneri**Deschampsia atropurpurea**D. caespitosa**D. elongata**Festuca ovina* var. *brachyphylla**F. rubra**Hesperochloa* (*Festuca*) *kingii**Trisetum spicatum*

SELENOPHOMA DONACIS var.

*Agropyron inerme**Elymus glaucus**Stipa richardsoni*

SELENOPHOMA DONACIS var.

*Agropyron smithii**A. spicatum**A. trachycaulum**Aristida longiseta**Arrhenatherum elatius**Dactylis glomerata**Elymus giganteus**E. junceus**Festuca idahoensis**Koeleria cristata**Oryzopsis hymenoides**Poa alpina**P. ampla**P. arctica**P. arida**P. compressa**P. epilis**P. interior**P. pratensis**P. secunda**Sitanion hystrix*

SELENOPHOMA sp.

*Sitanion hansenii**S. hystrix*

SEPTORIA BROMI Sacc.

*Bromus japonicus**B. secalinus*

SEPTORIA CALAMAGROSTIDIS (Lib.)

Sacc. f. *KOELERIAE* (Cocc. &

Mor.) Sprague

Koeleria cristata

SEPTORIA CALAMOVILFAE Petr.

Calamovilfa longifolia

SEPTORIA ELYMI Ell. & Ev.

*Agropyron repens**A. smithii**A. trachycaulum**Elymus canadensis*

FUNGI IMPERFECTI -- SPHAEROPSIDALES Cont.

SEPTORIA INFUSCANS (Ell. & Ev.)

Sprague
Elymus condensatus

SEPTORIA MACROPODA Pass.

Poa annua

SEPTORIA MACROPODA var. SEPTULATA

(Gz. Fr.) Sprague
Poa pratensis

SEPTORIA MACROPODA var. GRANDIS

Sprague
Poa secunda

SEPTORIA NODICRUM Berk.

Agropyron trachycaulum
Elymus junceus
Glyceria elata
G. pauciflora
Poa palustris

SEPTORIA OUDEMANSII Sacc.

Poa canbyi
P. compressa
P. nevadensis
P. pratensis

SEPTORIA PACIFICA Sprague

Elymus condensatus

SEPTORIA PASSERINII Sacc.

Hordeum jubatum
H. nodosum

SEPTORIA SECALIS Prill. & Delacr.

var. STIPAE Sprague
Agrostis scabra
Stipa viridula

SEPTORIA TENELLA Cke. & Ell.

Festuca idahoensis

SEPTORIA TENELLA Cont.

Festuca octoflora
F. ovina
F. rubra
F. rubra var. commutata

SEPTORIA TRISETI Speg.

Agrostis castellana
A. tenuis

SEPTORIA sp.

Agropyron caninum
A. smithii
A. trachycaulum
Elymus arenarius
E. canadensis
E. macounii
Muhlenbergia mexicana

SPHAEROPSIS sp.

Poa pratensis

STAGONOSPORA ARENARIA Sacc.

Agropyron trachycaulum
Cinna latifolia
Elymus triticoides
Oryzopsis hymenoides
Phalaris arundinacea
Scolochloa (Fluminea) festucacea

STAGONOSPORA sp.

Glyceria striata
Poa pratensis
Stipa viridula

WOJNOWICIA GRAMINIS (McAlp.) Sacc.

& D. Sacc.
Agropyron repens
A. smithii
Dactylis glomerata
Distichlis stricta
Poa pratensis

FUNGI IMPERFECTI -- MYCELIA STERILIA

RHIZOCTONIA SOLANI Kühn

Agropyron ciliare
 A. cristatum
 A. elongatum
 A. repens
 A. sibiricum
 A. smithii
 A. trachycaulum
 A. trichophorum
 Agrostis alba
 Bouteloua curtipendula
 B. gracilis
 Bromus carinatus
 B. inermis
 Buchloë dactyloides
 Echinochloa crusgalli
 Elymus canadensis
 E. junceus
 Eragrostis curvula
 Festuca octoflora
 F. rubra
 F. rubra commutata
 Hordeum brevisubulatum

RHIZOCTONIA SOLANI Cont.

Hordeum jubatum
 Koeleria cristata
 Lolium multiflorum
 Oryzopsis hymenoides
 Muhlenbergia racemosa
 Panicum capillare
 Phleum pratense
 Poa bulbosa
 P. palustris
 P. pratensis
 Setaria viridis
 Stipa comata
 S. sibirica
 S. viridula

SCLEROTIUM sp.

Agropyron dasystachyum
 Bromus inermis
 Stipa viridula

SCLEROTIUM RHIZODES Auersw.

Agrostis alba

CAUSE UNDETERMINED

BENDS

Agropyron amurense
 A. cristatum
 A. dasystachyum
 A. inerme
 A. spicatum
 A. trachycaulum
 Bromus inermis
 Dactylis glomerata
 Danthonia californica
 D. californica var. americana
 D. unispicata
 Elymus antarcticus
 E. canadensis
 E. condensatus
 E. excelsus
 E. glaucus
 E. junceus
 Festuca elatior
 F. elatior var. arundinacea
 F. idahoensis

BENDS Cont.

Festuca ovina
 F. pacifica
 F. thurberi
 Hordeum brevisubulatum
 Koeleria cristata
 Oryzopsis hymenoides
 Phleum pratense
 Poa canbyi
 P. nemoralis
 P. nevadensis
 P. secunda
 Sporobolus airoides
 Stipa lettermani

SEEDLING BLIGHT

Agropyron cristatum
 A. inerme
 A. dasystachyum
 A. spicatum
 Elymus glaucus