

Bibliography of *Fusarium* (Fungi: Hyphomycetes) in South Africa, 1945-1985

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ABSTRACT

A taxonomic study of the genus *Fusarium* in South Africa was published by Doidge in 1938. A record of all the fungi, including *Fusarium*, known to occur in South Africa, and of the literature concerning them until the end of 1945, was compiled by Doidge in 1950. The present bibliography attempts to provide an index to all the literature on *Fusarium* in South Africa published after 1945 until the end of 1985. An alphabetical list of *Fusarium* species is provided and the hosts and/or substrates from which each species has been recorded are listed alphabetically together with references to the literature cited. A separate alphabetical list of hosts and substrates together with the *Fusarium* species recorded on each is also included.

UITTREKSEL

'n Taksonomiese studie van die genus *Fusarium* in Suid-Afrika is in 1938 deur Doidge gepubliseer. In 1950 het Doidge al die fungi, waaronder *Fusarium*, wat in Suid-Afrika bekend is en die toepaslike literatuur tot aan die einde van 1945, aangeteken. Die huidige bibliografie poog om 'n indeks te voorsien tot al die literatuur oor *Fusarium* in Suid-Afrika wat na 1945 tot aan die einde van 1985 gepubliseer is. 'n Alfabetiese lys van *Fusarium*-spesies word voorsien en die gashere en/of substrate waarop elke spesie aangeteken is, word in 'n alfabetiese lys aangegee tesame met verwysings na die betrokke literatuur. 'n Aparte alfabetiese lys van gashere en substrate tesame met die *Fusarium*-spesies wat op elk aangeteken is, word ook ingesluit.

INTRODUCTION

A major taxonomic study of the genus *Fusarium* in South Africa was published by Doidge (1938). In this publication a detailed account was given of the occurrence of 26 species, 31 varieties, and 13 formae of *Fusarium* on a large number of host plants, as well as insects and other fungi. Doidge (1950) compiled a record of all the fungi and lichens known to occur in South Africa and of the literature concerning them, until the end of 1945. This monumental compilation included some 29 species, 25 varieties, and 11 formae of *Fusarium*. These two publications are the basis of all the existing knowledge about the occurrence of the genus *Fusarium* in South Africa. Several subsequently published lists of plant diseases in South Africa (Doidge *et al.* 1953; Gorter 1961, 1973, 1977, 1981) have added some information about the occurrence of *Fusarium* spp. as plant pathogens in South Africa, but did not include the literature dealing with the occurrence of *Fusarium* spp. as saprophytes or mycotoxin producers in South Africa.

The aim of the present publication is to compile an index to all the available literature on *Fusarium* in South Africa published after 1945, and thus not included in Doidge (1950), to the end of 1985. In addition to phyto-

pathological aspects, the literature surveyed included mycological, mycotoxicological, and ecological studies. A few references to papers published prior to 1945 but not cited by Doidge (1950) are included. It is hoped that this bibliography, together with Doidge (1938) and Doidge (1950), will be as complete a guide as possible to the literature on *Fusarium* in South Africa to the end of 1985.

The material in this bibliography is arranged in three parts: References; *Fusarium* species; Hosts and substrates.

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FUSARIUM SPECIES

The *Fusarium* species are arranged alphabetically and the hosts and/or substrates from which each species has been recorded are listed alphabetically under that species together with references to the literature cited. The system of taxonomy and nomenclature of *Fusarium* used is that of Nelson *et al.* (1983). In cases where the names of *Fusarium* species used in the literature cited cannot be accommodated according to this system, e.g. *F. roseum*, the name is indexed as used in the relevant publication(s) with a note that the identity is uncertain. In cases where the names used in the literature cited are considered to be synonyms of the names accepted by Nelson *et al.* (1983), these names are cited as synonyms under each species and are also cross-referenced in the alphabetical list, e.g. *F. verticillioides* (Sacc.) Nirenberg is considered to be a synonym under *F. moniliforme* Sheldon, but is also included in the alphabetical list under *F. verticillioides* with a note to 'see *F. moniliforme*'. In no case did the present authors attempt to confirm the identity of any of the *Fusarium* species or the hosts referred to in the literature cited. The names of the host plants are given as in the original reference.

acuminatum Ell. & Ev.

- Conifers: Darvas *et al.* (1978)
Eleusine sp.: Kellerman *et al.* (1980)
Medicago sativa: Marasas & Bredell (1973); Thompson (1985)
Medicago spp.: Lamprecht *et al.* (1984)
Panicum coloratum: Kellerman *et al.* (1980)
 Pastures: Kellerman *et al.* (1980)
Pennisetum typhoides: Rabie *et al.* (1982)
Sorghum caffrorum: Rabie *et al.* (1982)
Tribulus terrestris: Kellerman *et al.* (1980)
Triticum aestivum: Kellerman *et al.* (1980)

aquaeductuum (Radlk. & Rabenh.) Lagerh.

- = *aquaeductuum* (Radlk. & Rabenh.) Lagerh. var. *medium* Wollenw.
 Conifers: Darvas *et al.* (1978)

aquaeductuum var. *medium* (See *aquaeductuum*)**avenaceum** (Fr.) Sacc.

- Hordeum vulgare*: Rabie *et al.* (1982)
Medicago spp.: Lamprecht *et al.* (1984)
Panicum coloratum: Eicker (1976)
 Pastures: Kellerman *et al.* (1980)
 Soil: Eicker (1969)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985)
Triticum aestivum: Putterill (1954)

chlamydosporum Wollenw. & Reinking

- = *chlamydosporum* Wollenw. & Reinking var. *fuscum* Gerlach
 = *fusarioides* (Frag. & Cif.) Booth
Aspalathus linearis: Engelbrecht *et al.* (1983)
Cynodon lemfuensis: Gerlach & Nirenberg (1982)
 Pastures: Kellerman *et al.* (1980)
Pennisetum typhoides: Kriek & Marasas (1983); Marasas *et al.* (1984a); Rabie *et al.* (1975, 1982)
Phaseolus vulgaris: Marasas *et al.* (1984a); Rabie *et al.* (1978)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985); Rabie *et al.* (1978, 1982)
Tribulus terrestris: Kellerman *et al.* (1980)
Zea mays: Kriek & Marasas (1983); Marasas (1982); Marasas *et al.* (1981)

chlamydosporum var. *fuscum* (See *chlamydosporum*)**ciliatum** Lk.

- Epichloë zahlbruckneriana*: Gerlach & Nirenberg (1982)

concolor Reinking (Identity uncertain)

- Pennisetum typhoides*: Gerlach & Nirenberg (1982); Rabie *et al.* (1982)
Pyrus malus: Combrink *et al.* (1985)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985)

crookwellense Burgess, Nelson & Toussoun

- Panicum laevifolium*: Burgess *et al.* (1982)
Triticum aestivum: Burgess *et al.* (1982)

culmorum (W. G. Smith) Sacc.

- Conifers: Darvas *et al.* (1978)
Eleusine sp.: Kellerman *et al.* (1980)
Panicum coloratum: Kellerman *et al.* (1980)
 Pastures: Kellerman *et al.* (1980)
Persea americana: Darvas & Kotzé (1981)
 Soil: Eicker (1969, 1970b); Smith *et al.* (1984)
Triticum aestivum: CMI (1984a); Jooste (1965); Kellerman *et al.* (1980); Maas & Kotzé (1981); Scott (1980); Smith *et al.* (1984)

decemcellulare Brick

- Persea americana*: Darvas (1978); Darvas & Kotzé (1979, 1981)

dlamini Marasas, Nelson & Toussoun

- Soil: Marasas *et al.* (1985a)

equiseti (Corda) Sacc.

- Arachis hypogaea*: Martin *et al.* (1971)
 Conifers: Darvas *et al.* (1978)
Cucumis melo: Reuveni (1985)
Lycopersicon esculentum: Visser (1980)
Medicago sativa: Thompson (1985)
Medicago spp.: Lamprecht *et al.* (1984)
 Pastures: Kellerman *et al.* (1980)
Pennisetum typhoides: Rabie *et al.* (1982)
 Soil: Eicker (1974, 1975); Papendorf (1976); Smith *et al.* (1984)
Sorghum caffrorum: Martin *et al.* (1971); Rabie & Lübben (1984); Rabie & Thiel (1985); Rabie *et al.* (1982)
Triticum aestivum: Maas & Kotzé (1985); Smith *et al.* (1984)
Zea mays: Kriek & Marasas (1983); Marasas (1982); Marasas *et al.* (1981)

equiseti var. *longipes* (See *longipes*)*fusarioides* (See *chlamydosporum*)**graminearum** Schwabe

- Medicago* spp. Lamprecht *et al.* (1984)
Panicum coloratum: Eicker (1976)
 Soil: Eicker (1976)
Triticum aestivum: Maas & Kotzé (1981); Oelofsen (1950); Scott (1980)
Zea mays: Aucock *et al.* (1980); Gelderblom *et al.* (1984b); Kriek & Marasas (1983); Krüger (1970a, 1970b, 1970c); Krüger & Jooste (1967); Krüger *et al.* (1965); Marasas (1982); Marasas *et al.* (1977, 1979a, 1979b, 1981, 1984a); Steyn (1933); Thiel *et al.* (1982); Watt & Breyer-Brandwijk (1962)

heterosporum Nees

- Trifolium subterraneum*: Mills (1984)

heterosporum Nees var. *congoense* (Wollenw.) Wollenw. (Identity uncertain)

- Grasses infected with ergot or smut: Gerlach & Nirenberg (1982)

lateritium Nees

- = *lateritium* Nees var. *longum* Wollenw.
 = *stilboides* Wollenw.
 Citrus spp.: Booth (1971); Gerlach & Nirenberg (1982); Gordon (1960)
Coffea spp.: Gerlach & Nirenberg (1982)

lateritium var. *longum* (See *lateritium*)**longipes** Wollenw. & Reinking

- = *equiseti* (Corda) Sacc. var. *longipes* (Wollenw. & Reinking) Joffe
Eleusine sp.: Kellerman *et al.* (1980)
Panicum coloratum: Kellerman *et al.* (1980)
Triticum aestivum: Kellerman *et al.* (1980)

lunulosporum Gerlach

- Citrus paradisi*: Gerlach (1977); Gerlach & Nirenberg (1982)

lycopersici (See *oxysporum* f. sp. *lycopersici*)**merismoides** Corda

- Sorghum caffrorum*: Rabie & Lübben (1984); Rabie & Thiel (1985)

moniliforme Sheldon

- = *verticillioides* (Sacc.) Nirenberg
Ananas comosus: Edmonstone-Sammons (1957, 1958)
Arachis hypogaea: Van Warmelo (1967)
 Cereals: Scott (1965); Van Rensburg *et al.* (1971)

- Conifers: Darvas *et al.* (1978)
 Feeds: Van Warmelo (1967)
 Hay: Van Warmelo (1967)
 Legumes: Scott (1965); Van Rensburg *et al.* (1971)
Medicago sativa: Van Warmelo (1967)
Musa spp: Swarts (1978)
Oryza sativa: Gorter (1977)
Panicum coloratum: Eicker (1976)
 Pastures: Kellerman *et al.* (1980)
Pennisetum typhoides: Marasas *et al.* (1984a); Rabie *et al.* (1982); Steyn *et al.* (1978)
Persea americana: Darvas (1979)
Phaseolus vulgaris: Van der Walt & Steyn (1943)
Saccharum officinarum: Booth (1971); CMI (1977b)
 Soil: Eicker (1969); Papendorf (1976)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985); Rabie *et al.* (1982)
Tribulus terrestris: Kellerman *et al.* (1980)
Voandzeia subterranea: Martin *et al.* (1971)
Zea mays: Aucock *et al.* (1980); CMI (1977b); Coetzer *et al.* (1985); Du Toit (1968); Gelderblom *et al.* (1983, 1984a, 1984b, 1984c); Kellerman *et al.* (1972); Kriek & Marasas (1983); Kriek *et al.* (1981a, 1981b); Krüger (1970a, 1970b, 1970c, 1970d); Krüger & Jooste (1967); Krüger *et al.* (1965); Marasas *et al.* (1976, 1977, 1979a, 1979b, 1981, 1984a, 1984b, 1985b); Pienaar (1977); Pienaar *et al.* (1981); Russell & Berjak (1983); Russell *et al.* (1983); Steyn (1933, 1950); Steyn *et al.* (1979); Thiel *et al.* (1982); Van Warmelo (1967)
- moniliforme* var. *subglutinans* (See *subglutinans*)
- oxysporum** Schlecht. emend. Snyd. & Hans.
 = *oxysporum* Schlecht. var. *redolens* (Wollenw.) Gordon
Arachis hypogaea: Rabie *et al.* (1982)
Aspalathus linearis: Engelbrecht *et al.* (1983)
Chrysanthemum cinerariaefolium: Ingamells (1974)
Cichorium intybus: Du Toit & Ingamells (1972)
 Citrus spp.: Gordon (1960)
 Conifers: Darvas *et al.* (1978)
Cucumis melo: Ferreira & Knox-Davis (1984, 1985); Reuveni (1985)
Hordeum vulgare: Rabie *et al.* (1982)
 Man: Young & Meyers (1979)
Mangifera indica: Rijkenberg & Crookes (1985)
Medicago sativa: Thompson (1985)
Medicago spp.: Lamprecht *et al.* (1984)
Musa spp.: Deacon *et al.* (1985)
Narcissus pseudonarcissus: Gordon (1960); Wager (1972)
Panicum coloratum: Eicker (1976)
Persea americana: Darvas (1979)
 Soil: Darvas (1979); Eicker (1969, 1970a, 1970b, 1974, 1975); Papendorf (1976); Rijkenberg & Crookes (1985)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985); Rabie *et al.* (1982)
Trifolium subterraneum: Mills (1984)
Vitis vinifera: Le Roux *et al.* (1973)
Zea mays: Du Toit (1968); Krüger (1970a, 1970b, 1970c, 1970d); Krüger & Jooste (1967)
- oxysporum** Schlecht. f. sp. *cepae* (Hanz.) Snyd. & Hans.
Allium cepa: Holz & Knox-Davies (1974, 1976, 1985a, 1985b, 1985c)
Oxalis pes-caprae: Holz & Knox-Davies (1976)
Oxalis zeekoevleyensis: Holz & Knox-Davies (1976)
- oxysporum** Schlecht. f. sp. *cubense* (E. F. Smith) Snyd. & Hans.
Musa spp.: CMI (1977a); Deacon (1984a, 1984b); Deacon *et al.* (1985); Swarts (1978)
- oxysporum** Schlecht. f. sp. *cucumerinum* Owen
Cucumis sativus: Booth (1971); CMI (1984b)
- oxysporum** Schlecht. f. sp. *lycopersici* (Sacc.) Snyd. & Hans.
 = *lycopersici* Bruschi
Lycopersicon esculentum: Hofmeyr *et al.* (1948); Holz (1976); Nel (1949); Visser (1980)
- oxysporum** Schlecht. f. sp. *melonis* Snyd. & Hans.
Cucumis melo: Ferreira & Knox-Davies (1984, 1985)
- oxysporum** Schlecht. f. sp. *niveum* (E. F. Smith) Snyd. & Hans.
Citrullus vulgaris: Booth (1971)
- oxysporum** Schlecht. f. sp. *phormii* Wager
Phormium tenax: Wager (1947)
- oxysporum** Schlecht. f. sp. *vasinfectum* (Atk.) Snyd. & Hans.
Gossypium spp.: Booth (1971)
- oxysporum* var. *redolens* (See *oxysporum*)
- poae** (Peck) Wollenw.
Saccharum officinarum: Booth (1971)
Zea mays: Kriek & Marasas (1983); Marasas (1982); Marasas *et al.* (1981)
- roseum** Link (Identity uncertain)
 Cereals: Scott (1965); Van Rensburg *et al.* (1971)
 Legumes: Scott (1965); Van Rensburg *et al.* (1971)
 Soil: Eicker (1975)
- sacchari* var. *subglutinans* (See *subglutinans*)
- sambucinum** Fuckel
Humulus lupulus: Gorter (1977)
Persea americana: Darvas (1978); Darvas & Kotzé (1979)
 Soil: Eicker (1974, 1975)
- scirpi** Lambotte & Fautr.
Medicago spp.: Burgess *et al.* (1985); Lamprecht *et al.* (1984)
 Soil: Burgess *et al.* (1985)
Sorghum caffrorum: Rabie & Lübben (1984)
Zea mays: (Krüger (1970a)
- scirpi** Lambotte & Fautr. var. *compactum* Wollenw. (Identity uncertain)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985)
- semitectum** Berk. & Rav.
 Conifers: Darvas *et al.* (1978)
Musa sp.: Swarts (1978)
Pennisetum typhoides: Rabie *et al.* (1982)
 Soil: Eicker (1969)
Sorghum caffrorum: Martin *et al.* (1971); Rabie & Lübben (1984)
- solani** (Mart.) Appel & Wollenw. emend. Snyd. & Hans.
Chrysanthemum cinerariaefolium: Ingamells (1974)
Citrus limonia: Graham *et al.* (1985)
Crotalaria juncea: Hean (1947)
Cucumis melo: Reuveni (1985)
Hyacinthus sp.: Gordon (1960); Wager (1972)
 Insects: Gordon (1960)
Medicago sativa: Thompson (1985)
Persea americana: Darvas (1978); Darvas & Kotzé (1979)
 Soil: Eicker (1974, 1975); Papendorf (1976)
Sorghum caffrorum: Rabie & Lübben (1984); Rabie & Thiel (1985)
Trifolium subterraneum: Mills (1985)
Vitis vinifera: Le Roux *et al.* (1973)
Zea mays: Krüger (1970a)
- sp.** (See *Fusarium* species undetermined at end of this list)
- sporotrichioides** Sherb.
 Soil: Papendorf (1976)
Voandzeia subterranea: Kriek & Marasas (1983); Martin *et al.* (1971)
- stilboides* (See *lateritium*)
- subglutinans** (Wollenw. & Reinking) Nelson, Toussoun & Marasas
 = *moniliforme* Sheldon var. *subglutinans* Wollenw. & Reinking
 = *sacchari* (Butler) Gams var. *subglutinans* (Wollenw. & Reinking) Nirenberg
 Air: Crookes & Rijkenberg (1985a)
Ananas comosus: Gordon (1960)
 Conifers: Darvas *et al.* (1978)
Crotalaria juncea: Hean (1947)
Mangifera indica: Crookes & Rijkenberg (1985a, 1985b); Dieckman *et al.* (1982); Kotzé (1985)
Morus japonica: Crookes & Rijkenberg (1985a)
Saccharum officinarum: Booth (1971)
 Soil: Crookes & Rijkenberg (1985a); Rijkenberg & Crookes (1985)
Sorghum caffrorum: CMI (1978); Rabie & Lübben (1984); Rabie & Thiel (1985); Rabie *et al.* (1982)
Syzygium cordatum: Crookes & Rijkenberg (1985a)
Zea mays: Aucock *et al.* (1980); CMI (1978); Gelderblom *et al.* (1984b); Kriek & Marasas (1983); Kriek *et al.* (1977); Krüger *et al.* (1965); Marasas (1982); Marasas *et al.* (1977, 1979a, 1979b, 1981, 1984a); Steyn (1933); Steyn *et al.* (1978); Thiel (1978); Thiel *et al.* (1982); Watt & Breyer-Brandwijk (1962)
- verticillioides* (See *moniliforme*)

Fusarium species undetermined

- Ananas comosus*: Malan (1954)
Arachis hypogaea: Van Warmelo (1967)
 Cereals: Dutton & Westlake (1985)
 Conifers: Darvas *et al.* (1978)
Crotalaria juncea: Hean (1947)
Eleusine sp.: Kellerman *et al.* (1980)
 Feeds: Dutton & Westlake (1985); Van Warmelo (1967)
Glycine max: Dutton & Westlake (1985)
 Hay: Van Warmelo (1967)
Mangifera indica: Crookes & Rijkenberg (1985a)
Medicago sativa: Thompson (1985); Van Warmelo (1967)
Musa spp.: Deacon *et al.* (1985)

- Panicum coloratum*: Eicker (1976); Kellerman *et al.* (1980)
 Pastures: Kellerman *et al.* (1980)
Pennisetum clandestinum: Bryson (1982); Newsholme *et al.* (1983)
Pennisetum typhoides: Rabie *et al.* (1975)
 Soil: Crookes & Rijkenberg (1985a); Eicker (1969, 1970b, 1974, 1975); Van Wyk & Baard (1970)
Solanum tuberosum: Combrink & Prinsloo (1975); Combrink *et al.* (1975); Visser & Kotzé (1979)
Tribulus terrestris: Kellerman *et al.* (1980)
Triticum aestivum: Kellerman *et al.* (1980)
Zea mays: Du Toit (1969); Dutton & Westlake (1985); Krüger (1970a, 1970b); Krüger & Jooste (1967); Van Warmelo (1967)

HOSTS AND SUBSTRATES

The hosts and substrates are listed alphabetically and the *Fusarium* species recorded on each are listed alphabetically. References to the literature cited can be found under the relevant *Fusarium* species. The names of the host plants are given as in the original reference.

Air

- F. subglutinans*

- F. oxysporum* f. sp. *melonis*
F. solani

Allium cepa L.

- F. oxysporum* f. sp. *cepa*

Cucumis sativus L.

- F. oxysporum* f. sp. *cucumerinum*

Ananas comosus (L.) Merr.

- F. moniliforme*
F. subglutinans
F. sp.

Cynodon lemfuensis Vanderyst

- F. chlamydosporum*

Arachis hypogaea L.

- F. equiseti*
F. moniliforme
F. oxysporum
F. sp.

Eleusine spp.

- F. acuminatum*
F. culmorum
F. longipes
F. sp.

Aspalathus linearis (Burm. f.) R. Dahlg.

- F. chlamydosporum*
F. oxysporum

Epichloë zahlbruckneriana P. Henn.

- F. ciliatum*

Cereals

- F. moniliforme*
F. roseum
F. sp.

Feeds

- F. moniliforme*
F. sp.

Chrysanthemum cinerariaefolium (Trev.) Bocc.

- F. oxysporum*
F. solani

Glycine max (L.) Merr.

- F. sp.*

Cichorium intybus L.

- F. oxysporum*

Gossypium spp.

- F. oxysporum* f. sp. *vasinfectum*

Citrullus vulgaris Schrad.

- F. oxysporum* f. sp. *niveum*

Grasses infected with Ergot or Smut

- F. heterosporum* var. *congoense*

Citrus limonia Osbeck

- F. solani*

Hay

- F. moniliforme*
F. sp.

Citrus paradisi Macf.

- F. lunulosporum*

Hordeum vulgare L.

- F. avenaceum*
F. oxysporum

Citrus spp.

- F. lateritium*
F. oxysporum

Humulus lupulus L.

- F. sambucinum*

Coffea spp.

- F. lateritium*

Hyacinthus sp.

- F. solani*

Conifers

- F. acuminatum*
F. aquaeductuum
F. culmorum
F. equiseti
F. moniliforme
F. subglutinans
F. oxysporum
F. semitectum
F. sp.

Insects

- F. solani*

Legumes

- F. moniliforme*
F. roseum

Crotalaria juncea L.

- F. solani*
F. subglutinans
F. sp.

Lycopersicum esculentum Mill.

- F. equiseti*
F. oxysporum f. sp. *lycopersici*

Cucumis melo L.

- F. equiseti*
F. oxysporum

Man

- F. oxysporum*

Mangifera indica L.

- F. oxysporum*
F. subglutinans
F. sp.

Medicago sativa L.

- F. acuminatum*
F. equiseti

- F. moniliforme*
F. oxysporum
F. solani
F. sp.
- Medicago** spp.
F. acuminatum
F. avenaceum
F. equiseti
F. graminearum
F. oxysporum
F. scirpi
- Morus japonica** L.
F. subglutinans
- Musa** spp.
F. moniliforme
F. oxysporum
F. oxysporum f. sp. *cubense*
F. semitectum
F. sp.
- Narcissus pseudonarcissus** L.
F. oxysporum
- Oryza sativa** L.
F. moniliforme
- Oxalis pescaprae** L.
F. oxysporum f. sp. *cepa*
- Oxalis zeekoevleyensis** R. Knuth
F. oxysporum f. sp. *cepa*
- Panicum coloratum** L.
F. acuminatum
F. avenaceum
F. culmorum
F. graminearum
F. longipes
F. moniliforme
F. oxysporum
F. sp.
- Panicum laevifolium** Hack.
F. crookwellense
- Pastures**
F. acuminatum
F. avenaceum
F. chlamydosporum
F. culmorum
F. equiseti
F. moniliforme
F. sp.
- Pennisetum clandestinum** Hochst. ex Chiov.
F. sp.
- Pennisetum typhoides** (Burm.) Stapf & Hubbard
F. acuminatum
F. chlamydosporum
F. concolor
F. equiseti
F. moniliforme
F. semitectum
F. sp.
- Persea americana** Mill.
F. culmorum
F. decemcellulare
F. moniliforme
F. oxysporum
F. sambucinum
F. solani
- Phaseolus vulgaris** L.
F. chlamydosporum
F. moniliforme
- Phormium tenax** Forst.
F. oxysporum f. sp. *phormii*
- Pyrus malus** L.
F. concolor
F. lateritium
- Saccharum officinarum** L.
F. moniliforme
F. poae
F. subglutinans
- Soil**
F. avenaceum
F. culmorum
F. dlamini
F. equiseti
F. graminearum
F. moniliforme
F. oxysporum
F. roseum
F. sambucinum
F. scirpi
F. semitectum
F. solani
F. sporotrichioides
F. subglutinans
F. sp.
- Solanum tuberosum** L.
F. sp.
- Sorghum caffrorum** Beauv.
F. acuminatum
F. avenaceum
F. chlamydosporum
F. concolor
F. equiseti
F. merismoides
F. moniliforme
F. oxysporum
F. sambucinum
F. scirpi
F. scirpi var. *compactum*
F. semitectum
F. solani
F. subglutinans
- Syzygium cordatum** Hochst.
F. subglutinans
- Tribulus terrestris** L.
F. acuminatum
F. chlamydosporum
F. moniliforme
F. sp.
- Trifolium subterraneum** L.
F. heterosporum
F. oxysporum
F. solani
- Triticum aestivum** L.
F. acuminatum
F. avenaceum
F. crookwellense
F. culmorum
F. equiseti
F. graminearum
F. longipes
F. sp.
- Vitis vinifera** L.
F. oxysporum
F. solani
- Voandzeia subterranea** (L.) Thomas
F. moniliforme
F. sporotrichioides
- Zea mays** L.
F. chlamydosporum
F. equiseti
F. graminearum
F. moniliforme
F. oxysporum
F. poae
F. scirpi
F. solani
F. subglutinans
F. sp.