

Import Health Standard
Commodity Sub-class: Fresh Fruit/Vegetables
Cucumber, *Cucumis sativus*
from Australia

ISSUED

Issued pursuant to Section 24A of the Biosecurity Act 1993
Date Issued: [date]

1 NEW ZEALAND NATIONAL PLANT PROTECTION ORGANISATION

The New Zealand national plant protection organisation is the Ministry for Primary Industries and as such, all communication should be addressed to:

Plant Health
Biosecurity New Zealand
Ministry for Primary Industries
PO Box 2526
Wellington 6140

Email: plantimports@mpi.govt.nz

2 GENERAL CONDITIONS FOR ALL PLANT PRODUCTS

All plants and plant products are **PROHIBITED** entry into New Zealand, unless an import health standard has been issued in accordance with Section 24A of the Biosecurity Act 1993. Should prohibited plants or plant products be intercepted by the New Zealand Ministry for Primary Industries, the importer will be offered the option of reshipment or destruction of the consignment.

The national plant protection organisation of the exporting country is requested to inform the New Zealand Ministry for Primary Industries of any change in its address.

The national plant protection organisation of the exporting country is required to inform the New Zealand Ministry for Primary Industries of any newly recorded organisms which may infest/infect any commodity approved for export to New Zealand.

Pursuant to the Hazardous Substances and New Organisms Act 1996, proposals for the deliberate introduction of new organisms (including genetically modified organisms) as defined by the Act should be referred to:

Environment Protection Authority
PO Box 131
Wellington
NEW ZEALAND

Also note:

In order to meet the Environmental Protection Authority's requirements the scientific name (i.e. genus and species) of the commodity must be included in the phytosanitary certificate.

3 EXPLANATION OF PEST CATEGORIES

The New Zealand Ministry for Primary Industries has categorised organisms associated with plants and plant products into regulated and non-regulated organisms as described below. Organisms (including weeds) associated with each commodity will appear on a separate pest list which will be attached to each import health standard as an Appendix. Weeds may be in the form of seeds or other plant parts.

3.1 REGULATED ORGANISMS

Regulated organisms are those organisms for which phytosanitary actions would be undertaken if they were intercepted/detected. These will include new organisms as defined by the Hazardous Substances and New Organisms Act 1996. Regulated organisms are sub-divided into the following groups:

3.1.1 Quarantine: Risk group 1 pests

Risk group 1 pests are those regulated pests (FAO Glossary of Phytosanitary Terms, 1996) which on introduction into New Zealand could cause unacceptable economic impacts on the production of a commodity/commodities and/or the environment.

3.1.2 Quarantine: Risk group 2 pests

Risk group 2 pests are those regulated pests which on introduction into New Zealand could cause a major disruption to market access (some importing countries require specific pre-export phytosanitary treatments) and/or significant economic impacts on the production of a particular commodity/commodities and/or the environment.

3.1.3 Quarantine: Risk group 3 pests

Risk group 3 pests (e.g. economically significant species of fruit flies) are those regulated pests which on entry into New Zealand would cause a major disruption to market access for a wide range of New Zealand commodities and/or have significant economic impacts on their production and/or the environment (some importing countries prohibit the entry of the host commodity). An official surveillance system is required for such pests in New Zealand.

3.1.4 Regulated non-quarantine pests

A regulated non-quarantine pest (denoted by "reg." on the pest list) is a pest whose presence in a consignment of plants for planting, affects the intended use of those plants with an economically unacceptable impact and is therefore regulated within the territory of the importing contracting party (Revised IPPC definition, Rome 1997). These pests would be under official control by the use of a Government operated or audited certification scheme.

3.1.5 Regulated non plant pests

Regulated non plant pests are those organisms which, although not pests of plants or plant products, may be associated with plants or plant products in international trade, and may have an affect on human or animal health (e.g. black widow spider) and thus fall under the jurisdiction of other New Zealand government departments. The categorisation of these organisms and their associated import restrictions will be applied in accordance with the requirements of the relevant departments.

3.1.6 Vectors of associated quarantine pests

In the context of this import health standard, vectors are those organisms which are able to transmit regulated pests into New Zealand. To prevent the transmission of vectored quarantine organisms to susceptible commodities in New Zealand, it is necessary to prevent the entry of their vectors. Vectors (denoted by "vect." on the pest list) will be categorised as risk group 1 even if they are present in New Zealand, unless they are risk group 2 pests in their own right. If the vectored organism is not present in the exporting country then the associated vector(s), if present in New Zealand, will be categorised as a non-regulated non-quarantine pest(s).

3.1.7 Vectored organisms

Vectored organisms (denoted by "VO" on the pest list) are those regulated pests that are able to enter New Zealand via a vector associated with the imported commodity.

3.1.8 Strains of pests

Where there is documented evidence that a pest associated with the imported commodity has a different host range, different pesticide resistance, vectors a different range of organisms, or is more virulent than that of the same species present in New Zealand, then the different strain (denoted by "strain" on the pest list) of that pest will be categorised accordingly as a risk group 1 or 2 regulated pest.

3.1.9 Unidentifiable organisms

Should identification of an organism not be possible within the required time frame, the organism will be categorised as a regulated pest (either risk groups 1, 2, or 3) until such time as shown otherwise.

3.1.10 Unlisted organisms

Should an organism be intercepted that is not included on the pest list for that commodity, it will be categorised into the appropriate risk group and action taken accordingly.

3.2 NON-REGULATED ORGANISMS

Non-regulated organisms are those organisms for which phytosanitary actions would not be undertaken if they were intercepted/detected. These would include new organisms which could not establish in New Zealand. Non-regulated organisms are sub-divided into the following groups:

3.2.1 Non-regulated non-quarantine pests

Non-regulated non-quarantine pests are either already present in New Zealand and are not under official control or, could not establish in New Zealand.

3.2.2 Non-regulated non plant pests

Non-regulated non plant pests are not pests of plants and are not of concern to the Ministry for Primary Industries or any other New Zealand government department.

3.3 CONTAMINANTS (INCLUDING SOIL)

Consignments contaminated with soil, or other potential carriers of regulated pests (e.g. leaf litter) will not be permitted entry if the level of contamination is above the acceptable tolerance.

4 APPLICATION OF PHYTOSANITARY MEASURES

A number of different phytosanitary measures may be applied to pests in each risk group, depending on the commodity and the type of pest. These measures include:

4.1 QUARANTINE: RISK GROUP 1 PESTS

Phytosanitary measures required for risk group 1 pests may include:

- inspection and phytosanitary certification of the consignment according to appropriate procedures by the national plant protection organisation of the exporting country,
- testing prior to export for regulated pests which cannot be readily detected by inspection (e.g. viruses on propagating material from accredited facilities), and verified by an additional declaration, to that given on the phytosanitary certificate,
- inspection/testing of the consignment by the New Zealand Ministry for Primary Industries prior to biosecurity clearance, to ensure the specified pest tolerance has not been exceeded.

4.2 QUARANTINE: RISK GROUP 2 PESTS

Phytosanitary measures required for risk group 2 pests may include all the requirements for risk group 1 pests and may also require pre-export pest control activities to be undertaken by the contracting party, and confirmed by additional declarations to the phytosanitary certificate.

4.3 QUARANTINE: RISK GROUP 3 PESTS

Phytosanitary measures applied to risk group 3 pests may include all the requirements for risk group 1 pests plus:

- the application of a pre-export treatment which has been developed in accordance with an approved New Zealand Ministry for Primary Industries standard,
- an official bilateral quarantine arrangement between the New Zealand Ministry for Primary Industries and the Australia national plant protection organisation which includes descriptions of each approved treatment system(s),
- specific additional declarations on the phytosanitary certificate.

4.4 REGULATED NON-QUARANTINE PESTS

Phytosanitary measures applied to regulated non-quarantine pests will generally be the same as for risk group 1 pests, or according to the contingencies implemented for that pest if detected in New Zealand.

4.5 NON-REGULATED NON-QUARANTINE PESTS

No phytosanitary measures are applied to non-regulated non-quarantine pests.

5 GENERAL CONDITIONS FOR FRESH FRUIT/VEGETABLES

Commodity sub-class: fresh fruit/vegetables includes fresh fruit and vegetables for consumption.

Only inert/synthetic material may be used for the protection, packaging and shipping materials of fresh fruit/vegetables.

All host material (fruit/vegetables) of fruit fly species (Diptera: Tephritidae) of economic significance shall only be imported under the terms of a bilateral quarantine arrangement (e.g. agreement, workplan) between the New Zealand Ministry for Primary Industries' Director, Plants Biosecurity and the head of the supply country's national plant protection organisation.

6 SPECIFIC CONDITIONS FOR CUCUMBERS FROM AUSTRALIA

This import health standard covers the requirements for the entry of cucumbers, commodity sub-class: fresh fruit/vegetables from Australia only.

6.1 PRE-EXPORT REQUIREMENTS

6.1.1 Inspection of the consignment

The New Zealand Ministry for Primary Industries requires that the Australia national plant protection organisation sample and inspect the consignment according to official procedures for all visually detectable regulated pests (as specified by the New Zealand Ministry for Primary Industries), with a 95% confidence level, that not more than 0.5% of the units in the consignment are infested (this equates to an acceptance level of zero units infested by quarantine pests in a sample size of 600 units).

6.1.2 Testing of the consignment

Testing of the consignment prior to export to New Zealand for quarantine pathogens which are not visually detectable is not generally required for fresh cucumbers from Australia.

6.1.3 Documentation

Bilateral quarantine arrangement: Required

Cucumbers, commodity sub-class: fresh fruit/vegetables, may only be imported into New Zealand from Australia under the terms of the bilateral quarantine arrangement.

Phytosanitary certificate: Required.

Import permit/Authorisation to import: Exempt under Gazette Notice: No. AG12, 13 July 1995.

6.1.4 Phytosanitary certification

A completed phytosanitary certificate issued by the Australia national plant protection organisation must accompany all cucumbers, commodity sub-class: fresh fruit/vegetables exported to New Zealand.

Before an export phytosanitary certificate is to be issued, the Australia national plant protection organisation must be satisfied that the following activities required by the New Zealand Ministry for Primary Industries have been undertaken.

The cucumbers have:

- been inspected in accordance with appropriate official procedures and found to be free of visually detectable regulated pests specified by the New Zealand Ministry for Primary Industries.

AND

- undergone an agreed treatment that is effective against species in Quarantine: Risk group 3.

AND

- undergone appropriate pest control activities that are effective against:

Bemisia tabaci
Phyllophaga sp.
Tetranychus kanzawai
Thrips palmi [vect.]

OR

been sourced from an area free (verified by an official detection survey) from the following:

Bemisia tabaci
Phyllophaga sp.
Tetranychus kanzawai
Thrips palmi [vect.]

AND

- been produced in a pest free place of production for *Cucumber green mottle mosaic virus* (CGMMV).

Note: Combinations of treatments and area freedom are permissible for the aforementioned risk group 2 regulated pests.

6.1.5 Additional declarations to the phytosanitary certificate

If satisfied that the pre-export activities have been undertaken, the Australia national plant protection organisation must confirm this by providing the following additional declarations to the phytosanitary certificate:

The cucumbers in this consignment have:

- been inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests specified by the New Zealand Ministry for Primary Industries.

AND

- undergone appropriate pest control activities that are effective against those Risk group 2 regulated pests specified by NZ MPI.

OR

been sourced from an area free from those Risk group 2 regulated pests specified by NZ MPI.

AND

- been produced in a pest free place of production for *Cucumber green mottle mosaic virus* (CGMMV).

AND

- been treated in accordance with
 - Appendix 2; OR,
 - Appendix 10 and Appendix 11; OR
 - Appendix 12

of the Arrangement between the New Zealand Ministry for Primary Industries and the Australia national plant protection organisation concerning the access of host material of fruit fly species of economic significance into New Zealand from Australia.

6.2 TRANSIT REQUIREMENTS

The cucumbers must be packed and shipped in a manner to prevent contamination by regulated pests.

The package should not be opened in transit. However, where a consignment is either stored, split up or has its packaging changed while in another country (or countries) *en route* to New Zealand, a "Re-export Certificate" is required. Where a consignment is held under bond, as a result of the need to change conveyances, and it is kept in the original shipping container, a "Re-export Certificate" is not required.

6.3 INSPECTION ON ARRIVAL

The New Zealand Ministry for Primary Industries will check the accompanying documentation on arrival to confirm that it reconciles with the actual consignment.

The New Zealand Ministry for Primary Industries requires, with 95% confidence, that not more than 0.5% of the units (for cucumbers, a unit is one fruit) in a consignment are infested with visually detectable regulated pests. To achieve this, the New Zealand Ministry for Primary Industries will sample and inspect 600 units with an acceptance level of zero infested units (or equivalent), from the (homogeneous) lot.

6.4 BIOSECURITY/QUARANTINE DIRECTIVE

The commodity may be directed to a facility for further treatment if required.

6.5 TESTING FOR REGULATED PESTS

The New Zealand Ministry for Primary Industries may, on the specific request of the Director, Plants Biosecurity, test cucumbers (commodity subclass: fresh fruit/vegetables) from Australia for regulated pests.

6.6 ACTIONS UNDERTAKEN ON THE INTERCEPTION/DETECTION OF ORGANISMS/CONTAMINANTS

If regulated pests are intercepted/detected on the commodity, or associated packaging, the following actions will be undertaken as appropriate:

6.6.1 Quarantine: Risk group 1 pests

If a risk group 1 pest is intercepted, the importer will be given the option of:

- treatment (where possible) of the consignment at the importer's risk,
- re-sorting (specific conditions apply) of the consignment,
- reshipment of the consignment,
- destruction of the consignment.

6.6.2 Quarantine: Risk group 2 pests

If a risk group 2 pest is intercepted, the importer will be given the option of:

- treatment (where possible) at the discretion of the Director, Plants Biosecurity and immediate feedback to the national plant protection organisation of the exporting country with a request for corrective action,
- reshipment of the consignment,
- destruction of the consignment.

6.6.3 Quarantine: Risk group 3 pests

Actions for the interception of risk group 3 pests will include:

- reshipment of the consignment OR destruction of the consignment,

AND

- the suspension of trade, until the cause of the non-compliance is investigated, identified and rectified. The appropriate actions may be audited by the New Zealand Ministry for Primary Industries. Once the requirements of the New Zealand Ministry for Primary Industries have been met to the satisfaction of the Director, Plants Biosecurity, and supporting evidence is provided and verified by the Australia national plant protection organisation, the trade suspension will be lifted.

OR

- **No action if irradiation has been certified to be used as a pre-export measure.**

6.6.4 Regulated non-quarantine pests

Actions for the interception/detection of regulated non-quarantine pests will be in accordance with the contingencies implemented for that pest if detected in New Zealand.

6.6.5 Regulated non plant pests/unwanted organisms

Actions for the interception/detection of regulated non plant pests/unwanted organisms will be in accordance with the actions required by the relevant government department.

6.6.6 Non-regulated non-quarantine pests

No action is undertaken on the interception of non-regulated non-quarantine pests.

6.6.7 Non-regulated non plant pests/organisms

No action is undertaken on the interception of non-regulated non plant pests/organisms.

6.6.8 Contaminants

Lots with more than 25 grams of soil per 600 unit sample shall be treated, reshipped or destroyed.

Interception of extraneous plant material (e.g. leaves, twigs) in the 600 unit sample will result in the lot being held until an assessment has been made in comparison with the risk of importing the part(s) of the plant species concerned.

6.7 BIOSECURITY CLEARANCE

If regulated pests are not detected or are successfully treated following interception/detection biosecurity clearance will be given.

6.8 FEEDBACK ON NON-COMPLIANCE

The Australia national plant protection organisation will be informed by the New Zealand Ministry for Primary Industries' Director, Plants Biosecurity of the interception (and treatment) of any regulated pests, "unlisted" organisms, or non-compliance with other phytosanitary requirements.

Appendix

Pest List Commodity Sub-class: Fresh Fruit/Vegetables Cucumber, *Cucumis sativus* from Australia

REGULATED PESTS (actionable)

Quarantine: Risk group 3 pests

Insect

Insecta

Diptera

Tephritidae

Zeugodacus cucumis (syn. *Bactrocera cucumis*)

cucumber fruit fly

Ceratitis capitata

Mediterranean fruit fly

Quarantine: Risk group 2 pests

Insect

Insecta

Coleoptera

Scarabaeidae

Phyllophaga sp.

crown girdler

Homoptera

Aleyrodidae

Bemisia tabaci

sweet potato whitefly

Thysanoptera

Thripidae

Thrips palmi [vect.]

palm thrips

Mite

Arachnida

Acarina

Tetranychidae

Tetranychus kanzawai

kanzawa mite

Virus

-

Virgaviridae

Tobamovirus

Cucumber green mottle mosaic virus (CGMMV)

-

Quarantine: Risk group 1 pests

Insect

Insecta

Coleoptera

Cerambycidae

Apomecyna histrio

cucurbit stemborer

Chrysomelidae

Aulacophora foveicollis

red pumpkin beetle

Aulacophora hilaris

pumpkin beetle

Monolepta australis

red-shouldered leaf beetle

Coccinellidae

Epilachna boisduvali

epilachna beetle

Epilachna vigintioctomaculata

leaf feeding coccinellid

Henosepilachna cucurbitae

cucurbit ladybird

Henosepilachna suffusa

-

Curculionidae

Listroderes difficilis

vegetable weevil

Diptera

Sciaridae

Bradysia impatiens

fungus gnat

Tephritidae

Dacus axanus

fruit fly

Dacus petioliforma

fruit fly

Hemiptera

Coreidae

Amblypelta nitida

fruit-spotting bug

Fabriciella australis

squash bug

Dinidoridae

Megymenum insulare

cucurbit shield bug

Lygaeidae

Nysius vinitor

Rutherglen bug

Miridae

Creontiades dilutus

green mirid

Halticellus tibialis

plant bug

Homoptera

Aphididae

Aphis gossypii [vect.]

cotton aphid

Myzus persicae [vect.]

green peach aphid

Cicadellidae

Empoasca spp.

green leafhoppers

Diaspididae

Lepidosaphes beckii

purple scale

Pseudococcidae

Dysmicoccus brevipes

pineapple mealybug

Ferrisia virgata

striped mealybug

Planococcus minor

Pacific mealybug

Lepidoptera

Noctuidae

Anadevidia peponis

cucumber looper

Helicoverpa assulta

cape gooseberry budworm

Spodoptera exigua

beet army worm

Pyralidae

Diaphania indica

melon moth

Hellula undalis

oriental cabbage webworm

Orthoptera

Acrididae

Phaulacridium vittatum

wingless grasshopper

Thysanoptera

Thripidae

Frankliniella occidentalis [vect.]

western flower thrips

Thrips hawaiiensis

Hawaiian flower thrips

Thrips tabaci [vect.]

onion thrips

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|-------------|
| Mite |
|-------------|

Arachnida

Acarina

Acaridae

Tyrophagus dimidiatus

mushroom mite

Tetranychidae

Eutetranychus orientalis

pear leaf blister mite

Tetranychus desertorum

desert spider mite

Tetranychus lombardini

southern lobed mite

Tetranychus neocaledonicus

Mexican spider mite

Fungus

Ascomycota

Phyllachorales

Phyllachoraceae

Glomerella cingulata var. *minor*

anthracnose

(anamorph *Colletotrichum gloeosporioides* var. *minor*)

Unknown Ascomycota

Hyponectriaceae

Monographella cucumerina

--

(anamorph *Microdochium tabacinum*)

Mitosporic Fungi (Hyphomycetes)

Hyphomycetales

Dematiaceae

Cladosporium cucumerinum

--

Moniliaceae

Verticillium albo-atrum [severe strain]

progressive wilt

Tuberculariales

Tuberculariaceae

Fusarium oxysporum f. sp. *melonis*

--

Oomycota

Pythiales

Pythiaceae

Pythium aphanidermatum

cottony leak

Pythium mamillatum

root rot

Pythium myriotylum

rhizome and root rot

Zygomycota: Zygomycetes

Mucorales

Choanephoraceae

Choanephora cucurbitarum

blight

Virus

-

-

-

tobacco ringspot nepovirus [strain] [VO]

-

tomato spotted wilt tospovirus [strain] [VO]

-

Regulated non-quarantine pests

None

Regulated non plant pests

None

Draft for consultation

NON-REGULATED PESTS (non-actionable)

Non-regulated non-quarantine pests

Insect

Insecta

Coleoptera

Curculionidae

Asynonychus cervinus
Listroderes obliquus
Naupactus leucoloma

Fuller's rose weevil
vegetable weevil
whitefringed weevil

Collembola

Sminthuridae

Bourletiella hortensis
Sminthurus viridis

garden springtail
lucerne flea

Dermaptera

Forficulidae

Forficula auricularia

European earwig

Diptera

Anthomyiidae

Delia platura

seedcorn maggot

Hemiptera

Pentatomidae

Nezara viridula

green vegetable bug

Homoptera

Aleyrodidae

Bemisia argentifolii
Trialeurodes vaporariorum

poinsettia whitefly
greenhouse whitefly

Aphididae

Acyrtosiphon pisum
Aphis craccivora
Aphis spiraeicola
Aulacorthum solani
Brevicoryne brassicae
Lipaphis erysimi
Macrosiphoniella sanborni
Macrosiphum euphorbiae
Rhopalosiphum rufiabdominalis

pea aphid
cowpea aphid
spirea aphid
foxglove aphid
cabbage aphid
turnip aphid
chrysanthemum aphid
potato aphid
rice root aphid

Coccidae

Saissetia coffeae

hemispherical scale

Pseudococcidae

Planococcus citri

citrus mealybug

Lepidoptera

Noctuidae

Chrysodeixis eriosoma
Helicoverpa armigera
Spodoptera litura

green garden looper
tomato fruitworm
cluster caterpillar

Thysanoptera

Thripidae

Heliothrips haemorrhoidalis

greenhouse thrips

Mite

Arachnida

Acarina

Acaridae

Tyrophagus longior
Tyrophagus putrescentiae

seed mite
mould mite

| | |
|----------------------------------|------------------------|
| Eupodidae | |
| <i>Halotydeus destructor</i> | oriental mite |
| <i>Penthaleus major</i> | winter grain mite |
| Tarsonemidae | |
| <i>Polyphagotarsonemus latus</i> | broad mite |
| Tetranychidae | |
| <i>Panonychus citri</i> | citrus red mite |
| <i>Tetranychus cinnabarinus</i> | carmine spider mite |
| <i>Tetranychus ludeni</i> | bean spider mite |
| <i>Tetranychus urticae</i> | twospotted spider mite |

Fungus

Ascomycota

Dothideales

Pleosporaceae

Pleospora tarda (anamorph *Stemphylium botryosum*) black mould

Unknown Dothideales

Didymella bryoniae (anamorph *Phoma cucurbitacearum*) cucumber stem rot

Erysiphales

Erysiphaceae

Erysiphe cichoracearum
(anamorph *Oidium asteris-puniceii*) powdery mildew

Hypocreales

Hypocreaceae

Gibberella acuminata (anamorph *Fusarium acuminatum*) fusarium storage rot
Gibberella fujikuroi (anamorph *Fusarium fujikuroi*) fusarium rot
Gibberella gordonii (anamorph *Fusarium heterosporum*) mould
Gibberella intricans (anamorph *Fusarium equiseti*) root and stem dry rot
Gibberella zeae (anamorph *Fusarium graminearum*) mould

Leotiales

Sclerotiniaceae

Botryotinia fuckeliana (anamorph *Botrytis cinerea*) grey mould
Sclerotinia minor sclerotinia rot
Sclerotinia sclerotiorum cottony rot

Phyllachorales

Phyllachoraceae

Glomerella lagenaria
(anamorph *Colletotrichum orbiculare*) --

Saccharomycetales

Dipodascaceae

Dipodascus geotrichum (anamorph *Geotrichum candidum*) sour rot

Basidiomycota: Basidiomycetes

Ceratobasidiales

Ceratobasidiaceae

Thanatephorus cucumeris (anamorph *Rhizoctonia solani*) rhizoctonia rot

Stereales

Atheliaceae

Athelia rolfsii (anamorph *Sclerotium rolfsii*) Rolf's disease

Mitosporic Fungi (Coelomycetes)

Sphaeropsidales

Sphaerioidaceae

Lasiodiplodia theobromae fruit and stem-end rot
Macrophomina phaseolina ash stem blight
Phomopsis sclerotoides --
Septoria cucurbitacearum --

Unknown Coelomycetes

Unknown Coelomycetes

Colletotrichum coccodes anthracnose

Mitosporic Fungi (Hyphomycetes)

Hyphomycetales

Dematiaceae

Alternaria cucumerina

--

Corynespora cassiicola

leaf spot

Epicoccum nigrum

black mould

Moniliaceae

Verticillium dahliae

verticillium wilt

Tuberculariales

Tuberculariaceae

Fusarium culmorum

dry rot

Fusarium oxysporum f. sp. *cucumerinum*

fusarium rot

Fusarium oxysporum f. sp. *niveum*

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Fusarium pallidoroseum

fusarium rot

Fusarium poae

fusarium rot

Fusarium roseum

fusarium rot

Fusarium solani f. sp. *cucurbitae*

--

Unknown Hyphomycetes

Unknown Hyphomycetes

Trichothecium roseum

pink rot

Oomycota

Peronosporales

Peronosporaceae

Pseudoperonospora cubensis

downy mildew

Pythiales

Pythiaceae

Phytophthora drechsleri

--

Pythium irregulare

pythium root and stem rot

Pythium oligandrum

--

Pythium ultimum

leak

Zygomycota: Zygomycetes

Mucorales

Mucoraceae

Rhizopus arrhizus

wet rot

Rhizopus stolonifer

rhizopus soft rot

Bacterium

-
-

Enterobacteriaceae

Erwinia carotovora subsp. *carotovora*

bacterial soft rot

Pseudomonadaceae

Pseudomonas syringae pv. *lachrymans*

angular leaf spot

Xanthomonas campestris pv. *cucurbitae*

bacterial leaf spot

Non-regulated non plant pests

None