Ministry for Primary Industries
Manatū Ahu Matua

Risk Management Proposal:

Amendments to *Importation of Nursery Stock* for *Orchid fleck dichorhavirus* on *Oncidium* and other orchid nursery stock

Prepared for public consultation
by Plant Germplasm Imports
Animal and Plant Health Directorate

April 2022

New Zealand Government

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Submissions

The New Zealand Ministry for Primary Industries (NZ MPI) invites formal comment on the amended import health standard *Importation of Nursery Stock* (155.02.06) (the standard) with measures to manage the orchid strain of *Orchid fleck dichorhavirus* (OFV) on *Oncidium* and other orchid genera. The amended standard is supported by this risk management proposal.

An import health standard "specifies requirements to be met for the effective management of risks associated with arrival of craft or risk goods" (section 24E, Biosecurity Act 1993). NZ MPI must consult with interested parties in accordance with section 23 of the Biosecurity Act 1993. NZ MPI therefore seeks formal comment on the following changes to the standard for OFV:

- growing season inspection in 2 post-entry quarantine; and
- testing of plant material with disease symptoms.

These changes apply to whole plants and cuttings of all orchid nursery stock hosts listed in this risk management proposal (RMP).

Please send your comments electronically and include the following:

- the title of this consultation document (Amendments to the *Importation of Nursery Stock* standard (155.02.06) for *Orchid fleck dichorhavirus* on orchid nursery stock hosts) in the subject line of your email;
- your name and title (if applicable);
- your organisation's name (if applicable); and
- technical information that supports your submission

To help us better understand your comments:

- Make your comments specific to a section/requirement of the standard.
- Provide reasons, data and supporting published references to support your comments.
- Use examples to illustrate your points.

Send submissions to PlantImports@mpi.govt.nz.

If you wish to send comments by post, please send them to the following address:

Plant Germplasm Imports
Animal and Plant Health Directorate
Ministry for Primary Industries
PO Box 2526
Wellington 6140
New Zealand

Submissions received by the close of business **9 May 2022** will be considered during the development of the final standard. Submissions received after the closing date may be held on file for consideration when the issued standard is next reviewed.

Official Information Act 1982

Please note that your submission is public information, and it is NZ MPI policy to publish submissions and the review of submissions on the NZ MPI website. Submissions may also be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as information being commercially sensitive or personal. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

International context for regulation of risk goods

The World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) sets in place rules that protect each country's sovereign right to take the measures necessary to protect the life or health of its people, animals, and plants, while at the same time facilitating trade. It embodies and promotes the use of science-based risk assessments to manage the risks associated with the international movement of goods. The SPS Agreement guides how New Zealand sets standards and makes decisions related to biosecurity. In particular, it is important to maintain the standards of transparency and scientific rigour required by the SPS Agreement and to make decisions as quickly as possible. This will encourage other countries to comply with the rules of the SPS Agreement and also demonstrate that New Zealand's strict controls are justified to countries that challenge them.

Domestic context for regulation of risk goods

The New Zealand biosecurity system is regulated through the Biosecurity Act 1993 (the Act). Section 22 of the Act describes an import health standard and requires all risk goods imported into New Zealand be managed by one. NZ MPI is the New Zealand government ministry responsible for maintaining biosecurity standards for the effective management of risks associated with the importation of risk goods into New Zealand (Part 3, Biosecurity Act 1993). MPI is committed to the principles of transparency and evidence-based technical justification for all phytosanitary measures, new and amended, imposed on importing pathways. MPI periodically reviews all import health standards, related documents and other standards so that the legal requirements are clear, and information is consistently presented and as easy as possible to understand.

1 General information

1.1 Purpose

(1) The purpose of this document is to outline a proposed amendment to the import health standard *Importation of Nursery Stock* (155.02.06) (the *Nursery Stock* standard) with measures to manage the orchid strain of *Orchid fleck dichorhavirus* (OFV) on 18 orchid genera.

1.2 Timing and consultation

(2) The proposed amendment to *Importation of Nursery Stock* was released for consultation on **11 April 2022** and will remain open for consultation until **5pm on 9 May 2022**.

1.3 Background for this proposal

(3) In January 2020, NZ MPI received a request to have additional *Oncidium* species and their hybrids added to the Plants Biosecurity Index (PBI) as available for import under the *Nursery Stock* standard.

(4) An NZ MPI risk analysis identified one pest, the orchid strain of OFV, that naturally infects *Oncidium* species and may not be managed by current import requirements.

(5) Currently, 30 *Oncidium* species are listed in the PBI as approved for import under the *Calanthe* schedule in the *Nursery Stock* standard.

(6) Once NZ MPI have received feedback on the amendment proposed in this document and made any changes to the standard as a result, additional *Oncidium* species will be added to the PBI as approved for import into New Zealand. A full list of all *Oncidium* species is provided in the appendix of this document.

(7) The orchid strain of OFV naturally infects 18 orchid genera available for import, including *Oncidium*. The measures in this RMP apply to whole plants and cuttings of all identified host genera.

(8) All evidence provided below was taken from the NZ MPI risk analysis (MPI, 2021), unless otherwise cited.

1.4 Risk assessment for OFV

1.4.1 General biology

(9) OFV is a viral plant pathogen that is found in the nucleus of the plant cell. It is not a systemic virus, rather the virus causes localised chlorotic and necrotic lesions on plant leaves. In severe cases, these lesions can result in the decline and death of infected plants.

(10) OFV is known to naturally infect species in 31 orchid genera. Of the known orchid host genera, 18 are listed in the PBI as available for import (table 1).

(11) The full host range of OFV may be determined by the host range of its mite vector *B. californicus*, so there is the possibility of new unidentified hosts, including New Zealand native orchid species.

(12) The virus has been reported to cause systemic leaf symptoms. However, this was in experimentally infected hosts and only occurred at high temperature (above 30°C).

(13) There are two known strains of OFV:

a. orchid (subgroups 1 and 2); and
b. citrus.

(14) Subgroup 1 of the orchid strain includes most isolates collected from Australia, Germany, South Africa, and the Americas. Subgroup 2 includes only five isolates from Germany, Costa Rica and East Asian countries.

(15) The citrus strain of OFV is not known to naturally infect orchid species. However, the orchid strain of OFV has been found infecting orange (*Citrus sinensis*) in South Africa, causing citrus leprosis symptoms on infected orange trees and fruit. The virus is currently a regulated virus on *Citrus* plants for planting imported into New Zealand.

(16) In addition to orchid genera, the virus can naturally infect *Cordyline, Liriope, Alcea* and *Citrus* species.

1.4.2 Potential impacts in New Zealand

(17) An incursion of OFV in New Zealand could cause the following impacts to the orchid flower industry:

a. A reduction in plant quality with potential for infected plants to need to be destroyed because there are no treatment options to eradicate OFV from plants.
    i. Meristem tissue culture has been reported to eliminate viral infection from high value plants, but it is expensive and laborious with variable success rates.
b. A reduction in the number and quality of flowers. Chlorotic and necrotic lesions and reddening of leaves diminish the appearance of the orchid plant and consequently can reduce the value and saleability.
c. A reduction to the fitness of the plant rendering it susceptible to secondary infections from fungal and bacterial pathogens.
d. Increased costs in pest management, surveillance, and export costs. Countries where OFV is absent or regulated are likely to increase phytosanitary measures for orchid exports.
    i. Over the last 10 years, New Zealand has exported 11 orchid genera. These include *Cymbidium, Dendrobium, Oncidium, Phalaeonpsis* and *Zygopetaluum.*
    ii. In 2019 the export value of Orchid cut flowers was NZD$10.9 million.
    iii. The virus is an A1 pest for the European Union. French Polynesia, India and Mauritius all have international quarantine regulations for OFV on plant material (ONZPR, 2021).
    iv. Countries where citrus leprosis, a disease on Citrus caused by OFV, is absent or regulated may also increase measures.

(18) OFV has the potential to cause unwanted impacts to Citrus sinensis production in New Zealand.

1.4.3 Transmission

(19) OFV is known to be transmitted by the false spider mite *Brevipalpus californicus*:

a. *B. californicus* is present in New Zealand.
b. The mite acquires the virus by feeding on infected tissue.
c. Transmission of OFV by *B. californicus* is persistent. Once acquired, the mite can continue to transmit the virus throughout its life.
d. While there is no evidence of other mite or insect vectors of OFV, New Zealand has two other species of *Brevipalpus* that are known to transmit other citrus leprosis viruses.

(20) There are no reports of mechanical transmission of OFV via tools during pruning and other cultivation practices.

Table 1: Orchid genera that can be naturally infected by the orchid strain of OFV. Genera highlighted in **bold** are available for import into New Zealand under the *Nursery Stock* standard as of March 2022.

Genus	Number of species available for import into NZ (Includes synonyms)	Import specification for nursery stock
Amblostoma	n/a	n/a
Angraecum	**26**	**L2 (Basic)**
Angulorea	n/a	n/a
Bulbophyllum	**41**	**L2 (Basic)**
Calanthe	**24**	***Calanthe***
Cattleya	**45**	***Calanthe***
Cymbidium	**34**	***Epipremnum***
Dendrobium	**242**	**L2 (Basic)**
Dendrochilum	**8**	**L2 (Basic)**
Diplocaulobium	n/a	n/a
Encyclia	**31**	**L2 (Basic)**
Epidendron	n/a	n/a
Hamelwellsara	n/a	n/a
Hormidium	n/a	n/a
Liparis	n/a	n/a
Maxillaria	**19**	**L2 (Basic)**
Miltonia	**15**	**L2 (Basic)**
Octomeria	n/a	n/a
Odontoglossum	**7**	***Calanthe***
Oncidium	**30**	***Calanthe***
Pescatorea	n/a	n/a
Phaius	**4**	***Calanthe***
Phalaenopsis	**46**	***Phalaenopsis***
Pleurothallis	n/a	n/a
Prostechea	n/a	n/a
Schomburgkia	**7**	***Calanthe***
Stanhopea	**13**	***Calanthe***
Tetragamestus	n/a	n/a
Trichopilia	**6**	**L2 (Basic)**
Wilsonara	n/a	n/a
Zygopetalum	**8**	**L2 (Basic)**

2 Proposed amendment

(21) NZ MPI proposes to manage the orchid strain of OFV on whole plants and with growing season inspection because:

a. OFV meets the criteria to be a regulated quarantine pest for New Zealand.
   i. The virus is not known to be present in New Zealand.
   ii. It is known to be associated with plants eligible for import into New Zealand and may enter of host plant material.
   iii. If established, OFV has the potential to cause unacceptable impacts to the orchid flower industry and the citrus industry in New Zealand.

b. Infected plant material is likely to express symptoms in post-entry quarantine (PEQ) and be detected by visual inspection.
   i. OFV infections are visually detectable on hosts within 2-3 weeks. The minimum PEQ period for whole plants and cuttings is 3 months.

c. OFV can be detected by PCR if symptoms develop.
    i. MPI's Plant Health and Environment Laboratory have a PCR assay for OFV detection.

(22) OFV will be added as a quarantine pest in the *Calanthe* schedule.

(23) Host genera that are currently imported under 'L2 (Basic)' and *Epipremnum* conditions, will be imported under a new schedule, *Dendrobium,* of the nursery stock standard (Table 2). OFV will be added as a quarantine pest in this new schedule.

(24) Measures will not apply to *Phalaenopsis* whole plants exported under the Taiwan Official Assurance Programme (OAP), because:
    a. OFV is not known to be present in Taiwan,
    b. the virus is managed by the requirements of the OAP.

(25) Measures will apply to *Phalaenopsis* whole plants that are not exported under the OAP.

(26) Measures will not apply to tissue culture (plants in vitro) because:
    a. NZ MPI considers that risk of OFV being introduced on tissue culture is low.
        i. The virus is not systemic, causing only localised infections in host plants.
        ii. At this stage, there is no evidence to suggest that symptoms will not be seen on infected plant material used for tissue culture production.
        iii. It is assumed that only healthy mother plants will be used for tissue culture propagation.

Table 2: Orchid genera that can be naturally infected by OFV and are eligible for import, and proposed update to import specifications for nursery stock in the Plants Biosecurity Index (PBI).

Genus	Current import specification for nursery stock	Proposed import specification for nursery stock
Angraecum	L2 (Basic)	*Dendrobium*
Bulbophyllum	L2 (Basic)	*Dendrobium*
Calanthe	*Calanthe*	*Calanthe*
Cattleya	*Calanthe*	*Calanthe*
Cymbidium	*Epipremnum*	*Dendrobium*
Dendrobium	L2 (Basic)	*Dendrobium*
Dendrochilum	L2 (Basic)	*Dendrobium*
Encyclia	L2 (Basic)	*Dendrobium*
Maxillaria	L2 (Basic)	*Dendrobium*
Miltonia	L2 (Basic)	*Dendrobium*
Odontoglossum	*Calanthe*	*Calanthe*
Oncidium	*Calanthe*	*Calanthe*
Phaius	*Calanthe*	*Calanthe*
Phalaenopsis	*Phalaenopsis*	*Phalaenopsis*
Schomburgkia	*Calanthe*	*Calanthe*
Stanhopea	*Calanthe*	*Calanthe*
Trichopilia	L2 (Basic)	*Dendrobium*
Zygopetalum	L2 (Basic)	*Dendrobium*

3 Rationale for the proposed amendment

(27) The orchid strain of OFV was identified as an unmanaged biosecurity risk on imported orchid genera. This RMP outlines an amendment to the *Nursery Stock* standard which will manage this risk.

(28) The intention of the amendment is to protect:

a. New Zealand orchid production,
b. *Citrus sinensis* production, and
c. New Zealand native orchids and *Cordyline* spp.

(29) Managing the risk of OFV will also allow:

a. the safe trade of *Oncidium* species, and
b. increase import opportunities for New Zealand *Oncidium* growers and collectors.

4 Feasibility of the proposed change to the standard

(30) The proposed measures are not expected to change the import process for whole plants and cuttings of *Oncidium* and other host genera into New Zealand, for the following reason:

a. Growing season inspection in post-entry quarantine is an existing requirement in the *Nursery Stock* standard for imported whole plants and cuttings of the host genera identified in this RMP.
b. Diagnostic testing will only be required if host plants exhibit symptoms of infection.
    i. MPI acknowledge that extra costs will be associated with diagnostic testing when required.
    ii. Infected plants may be required to be destroyed to prevent the spread of the virus. However, the best course of action will be determined on a case-by-case basis.
c. Since 2015, host plants have largely been imported as tissue culture (table 3).

Table 3: History of trade for orchid hosts of OFV (1 January 2015 – 28 October 2021)

Genera	Quantity (units)	Commodity type(s)
Angraecum	573	Tissue culture
Bulbophyllum	2321	Tissue culture
Calanthe	431	Tissue culture
Cattleya	3778	Tissue culture
Cymbidium	54427	Tissue culture
Dendrobium	7023	Tissue culture
Dendrochilum	40	Tissue culture
Encyclia	137	Tissue culture
Maxillaria	24	Tissue culture
Miltonia	8665	Tissue culture
Odontoglossum	6510	Tissue culture
Oncidium	18604	Tissue culture
Phaius	40	Tissue culture
Phalaenopsis	929501	Rooted cuttings Tissue culture
Schomburgkia	11	Tissue culture
Stanhopea	12	Tissue culture
Trichopilia	No history of import	

Zygopetalum	431	Tissue culture

5 References

Ministry for Primary Industries (MPI). 2021. Pest Risk Assessment: *Orchid fleck virus* associated with imported whole plants of *Oncidium* and other genera. Ministry for Primary Industries; Wellington, NZ.

Official New Zealand Pest Register (ONZPR). 2022. Official New Zealand Pest Register. https://pierpestregister.mpi.govt.nz/

Appendix

Table 1: Accepted *Oncidium* species as listed in Plants of the World Online (POWO)

Accepted species as listed on POWO	Currently eligible for import
Oncidium abortivoides M.W.Chase & N.H.Williams	
Oncidium abortivum Rchb.f.	Y
Oncidium abruptum Linden & Rchb.f. ex Kraenzl.	
Oncidium acinaceum Lindl.	
Oncidium × *acuminatissimum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium adamsii (Dodson) M.W.Chase & N.H.Williams	
Oncidium adelaidae Königer	
Oncidium × *adrianae* (L.Linden) M.W.Chase & N.H.Williams	
Oncidium alberti (P.Ortiz) M.W.Chase & N.H.Williams	
Oncidium albicans Königer	
Oncidium alexandrae (Bateman) M.W.Chase & N.H.Williams	
Oncidium allenii Dressler	
Oncidium altissimum (Jacq.) Sw.	Y
Oncidium alvarezii (P.Ortiz) M.W.Chase & N.H.Williams	
Oncidium amabile Rchb.f.	
Oncidium amazonicum (Schltr.) M.W.Chase & N.H.Williams	
Oncidium amoenum A.Rich. & Galeotti	
Oncidium × *andersonianum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium andradeanum Dodson & D.E.Benn.	
Oncidium × *andreetteanum* (Dalström & G.Merino) J.M.H.Shaw	
Oncidium anguloi P.Ortiz	
Oncidium angustisegmentum D.E.Benn. & Christenson	
Oncidium ansiferum Rchb.f.	Y
Oncidium anthocrene Rchb.f.	Y
Oncidium antioquiense Kraenzl.	
Oncidium arangoi (Königer) M.W.Chase & N.H.Williams	
Oncidium ariasii Königer	
Oncidium aristuliferum (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium armatum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium aspidorhinum (F.Lehm.) M.W.Chase & N.H.Williams	
Oncidium astranthum (Linden & Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium aurarium Rchb.f.	
Oncidium auriculatoides M.W.Chase & N.H.Williams	
Oncidium auriculatum (Rolfe) M.W.Chase & N.H.Williams	
Oncidium auroincarum (Dalström & Ruíz Pérez) J.M.H.Shaw	
Oncidium ayabacanum D.E.Benn. & Christenson	
Oncidium baccatum Garay & Dunst.	
Oncidium × *baronii* J.M.H.Shaw	
Oncidium baueri Lindl.	Y
Oncidium befortianum Königer	
Oncidium bennettii Christenson	
Oncidium bicallosoides M.W.Chase & N.H.Williams	
Oncidium blandum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium × *bockemuhliae* J.M.H.Shaw	

Accepted species as listed on POWO	Currently eligible for import
Oncidium boothianum Rchb.f.	
Oncidium brachyandrum Lindl.	
Oncidium bracteatum Warsz. & Rchb.f.	
Oncidium × *brandtii* (Kraenzl. & Wittm.) M.W.Chase & N.H.Williams	
Oncidium braunii Regel	
Oncidium brevicorne (Königer & J.Portilla) M.W.Chase & N.H.Williams	
Oncidium brevilabrum Rolfe	
Oncidium brownii (Garay) M.W.Chase & N.H.Williams	
Oncidium bryocladium Schltr.	
Oncidium bryolophotum Rchb.f.	
Oncidium buchtienoides M.W.Chase & N.H.Williams	
Oncidium bustosii Königer	
Oncidium cajamarcae Schltr.	
Oncidium calanthum Rchb.f.	
Oncidium callacallaense (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium caminiophorum Rchb.f.	
Oncidium caquetanum (Schltr.) M.W.Chase & N.H.Williams	
Oncidium cardioglossum (Pupulin) M.W.Chase & N.H.Williams	
Oncidium cardiostigma Rchb.f.	
Oncidium cariniferum (Rchb.f.) Beer	Y
Oncidium caucanum Schltr.	
Oncidium × *charlesworthii* H.J.Veitch	
Oncidium chasei (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium cheirophorum Rchb.f.	Y
Oncidium chrysomorphum Lindl.	
Oncidium ciliicolumna (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium cinnamomeum (R.Warner & B.S.Williams) M.W.Chase & N.H.Williams	
Oncidium cirrhosum (Lindl.) Beer	
Oncidium citrinum Lindl.	
Oncidium clovesianum (V.P.Castro & M.M.L.L.Cardoso) J.M.H.Shaw	
Oncidium colombianum (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium constrictum (Lindl.) Beer	
Oncidium contaypacchaense (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium × *cookianum* (Rolfe) M.W.Chase & N.H.Williams	
Oncidium coquianum Pupulin & Dalström	
Oncidium × *coradinei* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium crassidactylum (Dalström & Ruíz Pérez) J.M.H.Shaw	
Oncidium crassopterum Chiron	
Oncidium crescentilabium (C.Schweinf.) M.W.Chase & N.H.Williams	
Oncidium crinitum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium cristatellum Garay	Y
Oncidium cristatum (Lindl.) Beer	Y
Oncidium croatii (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium crocidipterum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium cruciferum Rchb.f. & Warsz.	Y
Oncidium cruentoides M.W.Chase & N.H.Williams	
Oncidium cuculligerum (Schltr.) M.W.Chase & N.H.Williams	

Accepted species as listed on POWO	Currently eligible for import
Oncidium cultratum Lindl.	
Oncidium curvipetalum (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium dactyliferum Garay & Dunst.	
Oncidium dactylopterum Rchb.f.	
Oncidium deburghgraeveanum (Dalström & G.Merino) J.M.H.Shaw	
Oncidium decorum Königer	
Oncidium deltoideum Lindl.	
Oncidium × *denisoniae* (Anon.) J.M.H.Shaw	
Oncidium dichromaticum Rchb.f.	
Oncidium × *dicranophorum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium digitoides M.W.Chase & N.H.Williams	
Oncidium dilatatum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium discobulbon Kraenzl.	
Oncidium dracoceps (Dalström) M.W.Chase & N.H.Williams	
Oncidium dulcineae (Pupulin & G.A.Rojas) M.W.Chase & N.H.Williams	
Oncidium echinops Königer	
Oncidium eliae (Rolfe) M.W.Chase & N.H.Williams	
Oncidium emaculatum Ravenna	
Oncidium endocharis Rchb.f.	
Oncidium ensatum Lindl.	
Oncidium epidendroides (Kunth) Beer	
Oncidium estradae Dodson	
Oncidium exalatum Hágsater	
Oncidium × *excellens* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium fasciferum Rchb.f. & Warsz.	
Oncidium filamentosum (Dalström & Ruíz Pérez) J.M.H.Shaw	
Oncidium flavobrunneum (Senghas) M.W.Chase & N.H.Williams	
Oncidium fleckiorum Königer	
Oncidium fuchsii Königer	
Oncidium furcatum (Dalström) J.M.H.Shaw	
Oncidium fuscatum Rchb.f.	Y
Oncidium galianoi (Dalström & P.Nuñez) M.W.Chase & N.H.Williams	
Oncidium garcia-barrigae (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium × *gardstyle* Braem & Campacci	
Oncidium gaviotaense (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium gayi J.M.H.Shaw	
Oncidium geertianum C.Morren	
Oncidium gentryi (Dodson) M.W.Chase & N.H.Williams	
Oncidium ghiesbreghtianum A.Rich. & Galeotti	
Oncidium gloriosum (Linden & Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium gramazuense (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium gramineum (Poepp. & Endl.) M.W.Chase & N.H.Williams	
Oncidium graminifolium (Lindl.) Lindl.	
Oncidium hallii (Lindl.) Beer	
Oncidium hapalotyle Schltr.	
Oncidium harryanum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium hastatum (Bateman) Lindl.	Y
Oncidium hastilabium (Lindl.) Beer	

Accepted species as listed on POWO	Currently eligible for import
Oncidium hauensteinii (Königer) M.W.Chase & N.H.Williams	
Oncidium heinzelii Königer	
Oncidium henning-jensenii Pupulin & Bogarín	
Oncidium hennisii (Rolfe) M.W.Chase & N.H.Williams	
Oncidium hermansianum (Königer) M.W.Chase & N.H.Williams	
Oncidium herrenhusanum Königer & Schlumpb.	
Oncidium heteranthum Poepp. & Endl.	Y
Oncidium heterodactylum Kraenzl.	
Oncidium heterosepalum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium hieroglyphicum Rchb.f. & Warsz.	
Oncidium × *hinnus* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium hintonii L.O.Williams	
Oncidium hirtziana J.M.H.Shaw	
Oncidium hirtzoides M.W.Chase & N.H.Williams	
Oncidium huebneri (Mansf.) M.W.Chase & N.H.Williams	
Oncidium hymenanthum (Schltr.) M.W.Chase & N.H.Williams	
Oncidium hyphaematicum Rchb.f.	Y
Oncidium ibis (Schltr.) M.W.Chase & N.H.Williams	
Oncidium imitans Dressler	
Oncidium incurvum Barker ex Lindl.	Y
Oncidium × *inopinatum* Christenson	
Oncidium inouei T.Hashim.	
Oncidium integrilabre (Pupulin) M.W.Chase & N.H.Williams	
Oncidium ionopterum Rchb.f.	
Oncidium iricolor Rchb.f.	
Oncidium isthmi Schltr.	Y
Oncidium ivoneae Königer	
Oncidium jarmilae Königer	
Oncidium javieri Archila	
Oncidium × *jereziorum* (Dalström & Deburghgr.) J.M.H.Shaw	
Oncidium juninense (Schltr.) M.W.Chase & N.H.Williams	
Oncidium karwinskii (Lindl.) Lindl.	
Oncidium kegeljanii (É.Morren) M.W.Chase & N.H.Williams	
Oncidium khoochongyeei J.M.H.Shaw	
Oncidium koechlinianum Collantes & G.Gerlach	
Oncidium koenigeri M.W.Chase & N.H.Williams	
Oncidium × *kraenzlinii* (O'Brien) M.W.Chase & N.H.Williams	
Oncidium laeve (Lindl.) Beer	
Oncidium lancifolium Lindl.	
Oncidium leeanum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium lehmannianum (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium lehmannii (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium leleui R.Jiménez & Soto Arenas	
Oncidium lentiginosum Rchb.f.	
Oncidium leopardinum Lindl.	
Oncidium lepidum Linden & Rchb.f.	
Oncidium lepturum Rchb.f.	
Oncidium leucochilum Bateman ex Lindl.	Y

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Oncidium leucomelas (Rchb.f.) Dressler & N.H.Williams	
Oncidium ligiae Königer	
Oncidium × *limbatum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium lindleyoides M.W.Chase & N.H.Williams	
Oncidium lineoligerum Rchb.f. & Warsz.	
Oncidium lisae Königer	
Oncidium llanachagaense (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium lucianianum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium × *ludwigianum* (Roeth) J.M.H.Shaw	
Oncidium × *lueroroides* M.W.Chase & N.H.Williams	
Oncidium luteopurpureum (Lindl.) Beer	
Oncidium luteum Rolfe	
Oncidium lutzii (Königer) M.W.Chase & N.H.Williams	
Oncidium lykaiosii R.Vásquez & Dodson	
Oncidium machupicchuense (D.E.Benn. & Christenson) M.W.Chase & N.H.Williams	
Oncidium macrobulbon (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium maculatum (Lindl.) Lindl.	
Oncidium × *maderoanum* J.M.H.Shaw	
Oncidium maduroi Dressler	
Oncidium magdalenae Rchb.f.	
Oncidium magnificum Senghas	
Oncidium maizifolium Lindl.	
Oncidium malleiferum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium mandritum (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium manningianum Königer	
Oncidium mantense Dodson & R.Estrada	
Oncidium manuelariasii M.W.Chase & N.H.Williams	
Oncidium marinii (Königer) M.W.Chase & N.H.Williams	
Oncidium × *marriottianum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium martinezii Königer	
Oncidium massangei É.Morren	
Oncidium mathieuanum Rchb.f. & Warsz.	
Oncidium medinense (Campacci) J.M.H.Shaw	
Oncidium mexicanum (L.O.Williams) M.W.Chase & N.H.Williams	
Oncidium micklowii (Dalström) M.W.Chase & N.H.Williams	
Oncidium microstigma Rchb.f.	
Oncidium millianum Rchb.f.	
Oncidium minaxoides M.W.Chase & N.H.Williams	
Oncidium mirandoides M.W.Chase & N.H.Williams	
Oncidium mirandum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium mixturum (Dalström & Sönnemark) M.W.Chase & N.H.Williams	
Oncidium morganii (Dodson) M.W.Chase & N.H.Williams	
Oncidium multistellare (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium × *mulus* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium × *murrellianum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium naevium (Lindl.) Beer	
Oncidium nebulosum Lindl.	

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Oncidium neovierlingii J.M.H.Shaw	
Oncidium nevadense (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium niesseniae Königer	
Oncidium nigratum Lindl. & Paxton	
Oncidium nobile (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium noezlianum (Mast.) M.W.Chase & N.H.Williams	
Oncidium oblongatum Lindl.	Y
Oncidium obryzatoides Kraenzl.	
Oncidium obryzatum Rchb.f. & Warsz.	Y
Oncidium obstipum Königer & Posada	
Oncidium odoratum (Lindl.) Beer	
Oncidium oliganthum (Rchb.f.) L.O.Williams ex Correll	Y
Oncidium orbatum Kraenzl.	
Oncidium ornithocephalum Lindl.	
Oncidium ornithopodum Rchb.f.	
Oncidium ornithorhynchum Kunth	Y
Oncidium orthostatoides D.E.Benn. & Christenson	
Oncidium orthotis Rchb.f.	
Oncidium oviedomotae Hágsater	
Oncidium oxyceras (Königer & J.G.Weinm.) M.W.Chase & N.H.Williams	
Oncidium panamense Schltr.	
Oncidium panchrysum Lindl.	
Oncidium panduratoides M.W.Chase & N.H.Williams	
Oncidium panduratum Rolfe	
Oncidium papilioides M.W.Chase & N.H.Williams	
Oncidium parviflorum L.O.Williams	
Oncidium × *pauwelsii* (Rolfe) J.M.H.Shaw	
Oncidium peltiforme Königer	
Oncidium pentadactylon Lindl.	
Oncidium pergameneum Lindl.	
Oncidium perpusillum (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium pichinchense (Dodson) M.W.Chase & N.H.Williams	
Oncidium pictum Kunth	
Oncidium picturatissimum (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium picturatum Rchb.f.	
Oncidium planilabre Lindl.	
Oncidium platychilum Schltr.	
Oncidium platynaris (Dalström) M.W.Chase & N.H.Williams	
Oncidium poikilostalix (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium polyadenium Lindl.	
Oncidium polycladium Rchb.f. ex Lindl.	
Oncidium pongratzianum Königer & J.Portilla	
Oncidium portillae Königer	
Oncidium portillaellum M.W.Chase & N.H.Williams	
Oncidium portilloides M.W.Chase & N.H.Williams	
Oncidium portmannii (Bockemühl) M.W.Chase & N.H.Williams	
Oncidium posadaroides M.W.Chase & N.H.Williams	
Oncidium posadarum Königer	

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Oncidium povedanum (P.Ortiz) M.W.Chase & N.H.Williams	
Oncidium praenitens (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium praestanoides M.W.Chase & N.H.Williams	
Oncidium × *praevisum* (Rolfe) J.M.H.Shaw	
Oncidium pseudounguiculatum (Pupulin & Dressler) M.W.Chase & N.H.Williams	
Oncidium punctulatum Dressler	
Oncidium putumayense (P.Ortiz) M.W.Chase & N.H.Williams	
Oncidium reflexum Lindl.	
Oncidium regentianum J.M.H.Shaw	
Oncidium reichenheimii (Linden & Rchb.f.) Garay & Stacy	
Oncidium renatoi (Königer) M.W.Chase & N.H.Williams	
Oncidium retusum Lindl.	
Oncidium reversoides M.W.Chase & N.H.Williams	
Oncidium reversum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium rhynchanthum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium rionegrense Archila & Chiron	
Oncidium rodrigoi Königer	
Oncidium × *rolfei* J.M.H.Shaw	
Oncidium romanii Königer	
Oncidium roseoides M.W.Chase & N.H.Williams	
Oncidium rutkisii Foldats	
Oncidium sarahforsythiae J.M.H.Shaw	
Oncidium sathishkumarii J.M.H.Shaw	
Oncidium savegrensis (Pupulin) M.W.Chase & N.H.Williams	
Oncidium saxicola Schltr.	
Oncidium sceptrum (Rchb.f. & Warsz.) M.W.Chase & N.H.Williams	
Oncidium schildhaueri Königer	
Oncidium schillerianum Rchb.f.	
Oncidium schroederianum (O'Brien) Garay & Stacy	
Oncidium sengerorum (Königer) J.M.H.Shaw	
Oncidium sergii (P.Ortiz) M.W.Chase & N.H.Williams	
Oncidium sessile Lindl. & Paxton	
Oncidium silvanoi Königer	
Oncidium sipaliwinense (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium sotoanum R.Jiménez & Hágsater	
Oncidium spectatissimum (Lindl.) M.W.Chase & N.H.Williams	
Oncidium sphacelatum Lindl.	Y
Oncidium stelligerum Rchb.f.	
Oncidium × *stellimicans* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium stenobulbon Kraenzl.	
Oncidium stenoglossum (Schltr.) Dressler & N.H.Williams	
Oncidium storkii Ames & C.Schweinf.	
Oncidium strictum (Cogn.) M.W.Chase & N.H.Williams	
Oncidium subnivalis (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium subuligerum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium surinamense (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium tectum Rchb.f.	
Oncidium tenellum F.Gérard	

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Oncidium tenuifolium (Dalström) M.W.Chase & N.H.Williams	
Oncidium tenuipes Kraenzl.	
Oncidium tenuirostre (Kraenzl.) M.W.Chase & N.H.Williams	
Oncidium tenuoides M.W.Chase & N.H.Williams	
Oncidium tetrotis Rchb.f. & Warsz.	
Oncidium tigratum Rchb.f. & Warsz.	Y
Oncidium tigrinum Lex.	Y
Oncidium tigroides (C.Schweinf.) M.W.Chase & N.H.Williams	
Oncidium tipuloides Rchb.f.	
Oncidium toachicum Dodson	
Oncidium trachycaulon Schltr.	
Oncidium trimorion (Königer) M.W.Chase & N.H.Williams	
Oncidium trinasutum Kraenzl.	
Oncidium tripudians (Rchb.f. & Warsz.) M.W.Chase & N.H.Williams	
Oncidium tsubotae Königer	
Oncidium uncinatum (Pupulin, G.Merino & J.Valle) J.M.H.Shaw	
Oncidium undatiflorum (Ruiz & Pav.) Pupulin	
Oncidium unguiculatum Lindl.	
Oncidium unguiculoides M.W.Chase & N.H.Williams	
Oncidium universitas-cuencae Königer & D.Vázquez	
Oncidium uribei (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium vallecaucanum (Szlach. & Kolan.) J.M.H.Shaw	
Oncidium velleum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium vernixium Linden & Rchb.f.	
Oncidium vierlingii (Senghas) M.W.Chase & N.H.Williams	
Oncidium vulcanicum (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium wallisii (Linden & Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium wallisoides M.W.Chase & N.H.Williams	
Oncidium warszewiczii Rchb.f.	
Oncidium × *wattianum* (Rolfe) J.M.H.Shaw	
Oncidium weddellii Lindl.	
Oncidium weinmannianum (Königer) M.W.Chase & N.H.Williams	
Oncidium wentworthianum Bateman ex Lindl.	Y
Oncidium × *wilckeanum* (Rchb.f.) M.W.Chase & N.H.Williams	
Oncidium wyattianum (A.G.Wilson) M.W.Chase & N.H.Williams	
Oncidium xanthornis Rchb.f. ex Kraenzl.	
Oncidium zelenkoanum Dressler & Pupulin	
Oncidium zimmermanniana (Königer) J.M.H.Shaw	