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(EFFECTIVE DATE)

**September 29, 2004
(1st Revision)**

Title: Phytosanitary Measures for *Chrysanthemum*, *Dendranthema*, and *Leucanthemella serotina* Plant Material to Prevent the Introduction of Chrysanthemum White Rust, *Puccinia horiana*, P. Henn.

File/Notre Référence

SUBJECT:

This directive describes the import requirements for *Chrysanthemum*, *Dendranthema*, and *Leucanthemella serotina* plant material, including *Dendranthema grandiflora*, the common chrysanthemums grown by florists, from all countries. These species are regulated because they are hosts of chrysanthemum white rust disease, *Puccinia horiana* P. Henn.

This directive has been revised to address exceptional circumstances where sufficient planting stock is not available from areas where chrysanthemum white rust does not occur, or from Canadian Food Inspection Agency (CFIA) approved facilities, to allow for the restocking of Canadian facilities following CFIA-ordered chrysanthemum white rust eradication.

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Review

This directive will be reviewed every 5 years or unless otherwise required. The next review date for this directive is September 29, 2009. The contact for this directive is Joanne Rousson. For further information or clarification, contact the Horticulture Section.

Endorsement

Approved by:

<hr/> <p>Director Plant Health Division</p>

Amendment Record

Amendments to this directive will be dated and distributed as outlined in the distribution below.

Distribution

1. Directive mail list (Regions, PHRA, USDA)
2. Provincial Government, Industry (via Regions)
3. National Industry Organizations (determined by Author)
4. Internet

Introduction

Chrysanthemum white rust is a serious fungal disease of chrysanthemums, especially of the common chrysanthemums of florists, *Dendranthema grandiflora*. The disease is spread by infected host materials in which the disease can remain systemic but not visible.

The introduction and spread of chrysanthemum white rust could lead to serious losses. The disease can spread rapidly throughout a greenhouse causing complete crop failure. Intensive management and continuous control measures are required where the disease is present. There is evidence that chrysanthemum white rust develops tolerance to certain pesticides used to control the disease. The introduction of the disease could also result in the loss of export markets for chrysanthemums to certain areas such as non-infested states of the United States (U.S.).

Chrysanthemum white rust probably originated in China and Japan where it was first reported in 1895. It spread from East Asia to Europe and South Africa in the 1960's. It has since spread throughout Europe and has reached South America and southeast Asia, New Zealand and Australia. Localized introductions have occurred in North America.

In California, eradication activities are being carried out where the disease is known to occur, i.e. in Contra Costa and Santa Cruz counties.

In Oregon and Washington states, all infected plants at infected nurseries were destroyed and some delimiting surveys carried out following the detection of the disease in the fall of 1995. The affected counties were Clackmas County in Oregon state, and Clallam County and Snohomish Counties in Washington state. There is concern, however, that infected mums, especially hardy garden mums from infested nurseries, may have been distributed to dealers in several other counties of Oregon and Washington and thus be present in residential properties in those counties.

In Ontario, Canada, an outbreak which occurred in a single commercial greenhouse was eradicated in 1990.

In British Columbia (B.C.), Canada, the disease was detected in 1993 in a limited number of backyard gardens. Trace back, inspection and plant removal activities were carried out. Surveys in Vancouver in 1995 and 1996 did not detect the disease.

As a result of introductions of the disease in the states of California, Oregon and Washington, phytosanitary certification of host material imported from these states is now required.

Scope This directive is to be used as a general guide for Canadian importers, foreign exporters, shippers and brokers, CFIA inspectors, Canadian Customs & Revenue Agency and National Plant Protection Organizations.

References Department of the Secretary of State of Canada. *The Canadian Style: A Guide to Writing and Editing*. Toronto, 1993.

This directive supersedes all previous documents on this subject, including D-97-05 (Original) dated July 14, 1997, D-90-04, dated January 19, 1990, T-90-06, dated October 26, 1990, and D-90-15, dated October 26, 1990 and memoranda dated January 22, 1990, February 9, 1990 and September 18, 1990 and the portion of D-83-2 dated January 10, 1983 dealing with chrysanthemum.

Definitions, Abbreviations and Acronyms

AIRS	Automated Import Reference System
Approved Growing Medium	Approved growing medium refers to a synthetic or naturally occurring substance or a mixture of such substances readily distinguishable from soil and rendered sterile for use as a rooting or propagating medium for production of plant seedlings or cuttings. Plants rooted in an approved growing medium and originating from an exporter approved in the Canadian Growing Media Program (CGMP) (policy directive D-96-20) are admissible into Canada.
CFIA	Canadian Food Inspection Agency
Growing Medium	Any material in which plant roots are growing or intended for that purpose (FAO, 1990)
IPPC	International Plant Protection Convention
NPPO	National Plant Protection Organisation
Permit to Import	Official document authorizing importation of a commodity in accordance with specified phytosanitary requirements (FAO 1990; revised FAO 1995)
Pest	Any thing that is injurious or potentially injurious, whether directly or indirectly, to plants or to products or by-products of plants, and includes any plant prescribed as a pest. (Plant Protection Regulations)
Phytosanitary Certificate	A certificate patterned after the model certificates of the IPPC (FAO, 1990).
Planting (Including replanting)	Any operation for the placing of plants in a growing medium, or by grafting or similar operations, to ensure their subsequent growth, reproduction, or propagation. (FAO 1990; revised CEPM 1999)
Plants	"plant" includes a part of a plant. (Plant Protection Act)

Plants for planting	Plants intended to remain planted, be planted or replanted (FAO, 1990)
Plants <i>in vitro</i>	A commodity class for plants growing in an aseptic medium in a closed container (FAO, 1990; revised CEPM, 1999; ICPM, 2002 formerly plants in tissue culture)
Quarantine Pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled. (FAO, 1990; revised FAO, 1995; IPPC 1997)
Regulated non-quarantine pests	Regulated non-quarantine pests are defined as pests that are not quarantine pests but are subject to phytosanitary measures because their presence in plants for planting results in economically unacceptable impacts.
Rooted Plant	Refers to the presence of living roots or root initials on plants and plant parts that allows anchorage, absorption and conduction of water and minerals within the plant material.
Unrooted Plant	Plants or plant parts that do not exhibit any roots or root initials.
Soil and related matter:	The loose surface of the earth in which plants grow, in most cases consisting of disintegrated rock with an admixture of organic matter. (NAPPO, 1999) Related matter is clay, silt, sand, soil minerals, humus, compost, earthworm castings, muck, plant litter and debris, either individually or in combination.
Sterile media	A substrate in which all organisms have been destroyed (NAPPO 1985).

1.0 General Requirements

1.1 Legislative Authority

The Plant Protection Act, s.c. 1990, c.22

The Plant Protection Regulations, SOR/95-212

Canadian Food Inspection Agency Fees Notice, Canada Gazette, Part 1 (05/13/2000)

1.2 Fees

The CFIA is charging fees in accordance with the *Canadian Food Inspection Agency Fees Notice*. For information regarding fees associated with imported product, please contact the Import Service Centres (ISC) at the following phone numbers: Eastern ISC 1-877-493-0468; Central ISC 1-800-835-4486; Western ISC 1-888-732-6222. Anyone requiring other information regarding fees may contact any local CFIA office or CFIA's website at: <http://www.cfia-acia.agr.ca>.

1.3 Regulated pests

Chrysanthemum white rust (*Puccinia horiana*) P. Henn.

1.4 Regulated Commodities

All plants, including "finished" pot mums and garden mums; plant parts, including cuttings for propagation; and tissue culture, of *Chrysanthemum* and *Dendranthema* species and of *Leucanthemella serotina* (= *Chrysanthemum uliginosum*).

Cut flowers may be inspected on an audit basis, but no phytosanitary documentation is required.

1.5 Commodities exempt

Seeds of *Chrysanthemum* and *Dendranthema* species and of *Leucanthemella serotina* (= *Chrysanthemum uliginosum*).

1.6 Regulated Areas

States in the continental U.S. where chrysanthemum white rust occurs or is suspected to occur (Appendix 1).

Off-continent U.S. (Hawaii, Puerto Rico, etc.)

All other countries.

2.0 Specific Requirements

2.1 Import Requirements

Chrysanthemum, *Dendranthema* and *Leucanthemella serotina* plant material shall not be imported, transported or otherwise moved into Canada except in accordance with the provisions given below:

2.1.1 From areas where chrysanthemum white rust occurs or is suspected to occur (see Appendix 1)

2.1.1.1 Cut flowers

Neither a Permit to Import issued under the *Plant Protection Regulations* nor a Phytosanitary Certificate is required. Cut flowers may be inspected on an audit basis.

2.1.1.2 All plants, including finished pot mums, garden mums, untreated cuttings, and tissue cultured plantlets

Importation of regulated commodities is permitted only from Canadian Food Inspection Agency (CFIA) approved growers who can demonstrate a production practice which excludes the risk of chrysanthemum white rust. The exported material must meet the requirements for export, as described in Appendix 2. The following documents are required:

Permit to Import:

A Permit to Import, issued under the *Plant Protection Regulations* must be obtained by the importer prior to importation.

Phytosanitary Certificate:

A Phytosanitary Certificate, issued by a state or federal plant protection organization within 14 days of shipment, must accompany the shipment to Canada. The Phytosanitary Certificate must bear the following additional declaration:

"The material was produced by an approved grower and is free of chrysanthemum white rust (Puccinia horiana)."

Note: The grower's premises and source of supply must be free of chrysanthemum white rust, as defined in Appendix 2. Exporters from areas outside the continental U.S. must also be approved in advance under the Canadian Growing Media Program.

2.1.1.3 Cuttings treated with myclobutanol

Cuttings treated with myclobutanol as a dip at the rate of 100 mg active ingredient per litre are permitted importation from approved growers, when accompanied by the following documents:

Permit to Import:

A Permit to Import, issued under the *Plant Protection Regulations* must be obtained by the importer prior to importation.

Phytosanitary Certificate:

A foreign Phytosanitary Certificate, issued by a state or federal plant protection organization within 14 days of shipment, must accompany the shipment to Canada. The Phytosanitary Certificate must bear the following additional declaration:

"The material was produced by an approved grower and treated for chrysanthemum white rust (Puccinia horiana)."

Details of the myclobutanol treatment must appear in the treatment box of the Phytosanitary Certificate.

Note: The grower's premises and source of supply must be free of chrysanthemum white rust, as defined in Appendix 2.

2.1.1.4 The importation of small amounts of chrysanthemum white rust host propagative material from non-approved sources may be considered where a grower has undertaken CFIA ordered eradication efforts and is unable to source replacement plants from approved sources or from areas free from CWR. This material is subject to post-entry quarantine at the CFIA Centre for Plant Health, Sidney, BC. Each request for importation will be evaluated individually with approval being subject to availability of CFIA laboratory resources to conduct the post entry quarantine. Costs associated with the importation, the post entry quarantine, and any quarantine actions for the shipment are the responsibility of the importer.

2.1.2 From areas where chrysanthemum white rust does not occur (see Appendix 1)

2.1.2.1 Cut flowers:

Neither a Permit to Import nor a Phytosanitary Certificate is required.

2.1.2.2 All plants including finished pot mums, garden mums, cuttings and tissue-cultured plantlets

Permit to Import:

A Permit to Import, issued under the *Plant Protection Regulations* must be obtained by the importer prior to importation.

Permits to Import will not be issued for material from any country other than the continental U.S. under this provision until satisfactory proof that the country is free of chrysanthemum white rust, such as negative results of an official survey, has been provided. This information must be provided, in advance of any shipments being sent, by the plant protection organization in the country of origin to CFIA's Plant Health Division.

Phytosanitary Certificate:

A Phytosanitary Certificate, issued by a state or federal plant health authority within 14 days of shipment, must accompany the shipment to Canada. The following additional declaration is required for material from non-infested counties in infested states:

"The material was produced in a county free of chrysanthemum white rust (Puccinia horiana)."

For material from the U.S., the county in which the material was produced must be named on the Phytosanitary Certificate.

No additional declaration is required for material from states which are entirely free of chrysanthemum white rust.

3.0 Inspection Procedures

All shipments are subject to inspection and sampling on arrival to determine if pests are present. Inspectors should:

1. ensure the importer has a valid Permit to Import.
2. ensure that a Phytosanitary Certificate with any required additional declarations specified under Section 2.1 has accompanied the shipment. Ensure, for treated cuttings, that details of the required treatment appear on the Phytosanitary Certificate;
3. inspect for chrysanthemum white rust according to the general instructions in the Plant Protection Import Inspection Manual, Sections 4.07 and 4.08.03.44. Plants should be inspected for symptoms of chrysanthemum white rust at time of importation;
4. examine shipments for freedom from pests, soil, sand, leaves, and plant debris;
5. take specimens of any plant pests found or plants exhibiting signs or symptoms of chrysanthemum white rust, and submit them for identification, according to the instructions in the Plant Protection Import Inspection Manual, Sections 4.02.04 and 4.11. Shipments containing suspect material should be detained under suitable storage pending identification of specimens.

4.0 Non-Compliance

Shipments found infected with chrysanthemum white rust at time of importation will be refused entry to Canada and ordered removed from Canada and returned to origin or rerouted to other destinations, or disposed of.

The discovery of chrysanthemum white rust in imported material will result in suspension of the source grower and/or the source country, until remedial action is taken at origin and the grower is re-approved for export by the Plant Health Division of CFIA.

The importer is responsible for any and all costs relating to removal or rerouting, quarantine, destruction, disposal, and disinfection, including costs incurred by CFIA to monitor actions taken.

The Plant Health Division of CFIA will advise the plant protection organization of the country of origin of any infections and of non-compliance with any conditions outlined in this directive.

5.0 Appendices

- Appendix 1: Regulated Areas where Chrysanthemum White Rust occurs or is suspected to occur.
- Appendix 2: Requirements for Approval of Growers to Export *Chrysanthemum*, *Dendranthema*, and *Leucanthemella serotina* material to Canada.

APPENDIX 1

**REGULATED AREAS WHERE CHRYSANTHEMUM WHITE RUST
OCCURS OR IS SUSPECTED TO OCCUR**

(www.inspection.gc.ca/english/plaveg/protect/dir/cwre.shtml)



Hummingbird DM
Document

APPENDIX 2

**REQUIREMENTS FOR APPROVAL OF GROWERS TO EXPORT
CHRYSANTHEMUM, *Dendranthema* and *Leucanthemella serotina*
MATERIAL TO CANADA**

This appendix lists the requirements for approval of growers for export to Canada of regulated commodities of chrysanthemum white rust. These requirements apply only to growers located in countries or U.S. counties infested or suspected to be infested with chrysanthemum white rust (regulated areas).

Exporters of chrysanthemums must be pre-approved by CFIA's Plant Health Division before exporting commercial shipments into Canada.

- 1.0** Exporting plant producers must first contact the plant protection organization in the exporting country to discuss prior approval procedures and to initiate a review.
- 2.0** The exporting plant protection organization must carry out an evaluation of the plant producer to ensure that the following requirements can be met:
 - 2.1 For export of finished pot mums and cuttings treated with myclobutanol:
 - 2.1.1 The **grower's premises** must be free of chrysanthemum white rust for at least one full year prior to export. Indicator plants placed inside the premises at least ninety (90) days prior to the end of the one year period and not sprayed with any fungicide must be free of the disease. The indicator plants must be maintained under conditions conducive to symptom development.
 - 2.1.2 The **grower's source of supply** must be free of chrysanthemum white rust, as defined above.
 - 2.1.3 Canada must be informed within five (5) days of the discovery of chrysanthemum white rust at the grower's premises or at the grower's source of supply.
 - 2.1.4 No trial shipments are required.
 - 2.2 **For export of garden mums and untreated cuttings:**
 - 2.2.1 The **grower's premises** must be free of chrysanthemum white rust for at least one full year prior to export. Indicator plants placed inside the premises at least ninety (90) days prior to the end of the one year period and not sprayed with any fungicide must be free of the disease. The indicator plants must be maintained under conditions conducive to symptom development.

- 2.2.2 The **grower's source of supply** must be free of chrysanthemum white rust, as defined above.
- 2.2.3 The **area surrounding the grower's premises** must be free of chrysanthemum white rust for at least one (1) year prior to export. The disease must be absent within five (5) kilometres of an open greenhouse (shadehouse), and within 1 km of a closed greenhouse, as established by official surveys.
- 2.2.4 Canada must be informed within five (5) days of the discovery of chrysanthemum white rust at the grower's premises, within 5 km of the grower's premises, or at the grower's source of supply.
- 2.2.5 **Trial shipments** must be sent to CFIA, Centre for Plant Health, Sidney, British Columbia or other testing facility approved by CFIA. The procedures below must be followed:
- 2.2.5.1 An importer must apply for a Permit to Import the trial shipments. The permit will be issued pursuant to Section 43 of the *Plant Protection Regulations*.
- 2.2.5.2 Two (2) trial shipments, each consisting of one hundred to three hundred (100 - 300) cuttings of the species or cultivars intended for export must be selected at the exporting facility under the supervision of the plant protection organization of the country.
- 2.2.5.3 The trial shipments must be sent directly from the country of origin to the CFIA-approved testing facility. Cuttings may be released to the importer after evaluation is completed if the disease is not detected.
- 2.2.5.4 All trial shipments must be sent pre-paid, and all costs associated with evaluation shall be borne by the exporter or the importer or their agent/broker and must be paid in full before evaluation is begun.
- 2.2.5.5 Each trial shipment must arrive at the CFIA-approved testing facility in its entirety with no parts or portions to follow. The two (2) shipments must be timed to arrive approximately one month apart.
- 2.2.5.6 Cuttings will be maintained at the CFIA-approved testing facility under conditions conducive to disease development, in quarantine for sixty (60) days.
- 2.3 **For export of Plants *in Vitro*:**
- 2.3.1 The **grower's premises** must be free of chrysanthemum white rust for at least one full year prior to export. Indicator plants placed inside the premises at least ninety (90) days prior to the end of the one year period and not sprayed with any fungicide must be free of the disease. The indicator plants must be maintained under conditions conducive to symptom development.

- 2.3.2 Plants *in vitro* must originate from **mother plants** which are free of chrysanthemum white rust.
- 2.3.3 Plants *in vitro* must be propagated *in vitro* in a **sterile medium** under sterile conditions.
- 2.3.4 Plants *in vitro* must be subjected to **regular inspection** for chrysanthemum white rust by the plant health authority during the production period and be determined free of chrysanthemum white rust at each inspection.
- 2.3.5 Plants *in vitro* must be produced in **closed transparent containers**.
- 2.3.6 Plants *in vitro* must be shipped in their closed or sealed aseptic transparent containers.
- 2.3.7 No trial shipments are required.
- 3.0** The plant protection organization of the exporting country must recommend, in writing to CFIA, the approval of the plant producer based on the producer's ability to meet the requirements as stated above.
- 4.0** If chrysanthemum white rust is not detected in any required trial shipments and if all other requirements are met, CFIA will approve the grower for exports of commercial shipments. If chrysanthemum white rust is detected in a trial shipment or during audit inspections no further trial shipments will be evaluated that year and the plant producer will not be approved. The exporter may reapply following one (1) year of freedom from chrysanthemum white rust.