



D-22-02

Phytosanitary requirements for the domestic movement of *Prunus* spp. plant material to prevent the spread of plum pox virus (PPV) within Canada

Effective date: Month DD, 2022

(Original)

Subject

This directive describes the domestic movement requirements for all *Prunus* spp. plant material as it relates to plum pox virus (PPV) within Canada. In addition, this directive outlines the restrictions on the sale and propagation of regulated *Prunus* species plant material within established quarantine areas in Canada and describes the CFIA inspection and monitoring activities conducted to enforce these requirements.

The domestic requirements within this directive supersede all domestic requirements found within [D-99-07: Policy for Importation from the United States and Domestic Movement of Plum Pox Virus \(PPV\) susceptible *Prunus* Propagative Plant Material](#) and all previous versions of directive D-99-07.

The following changes to the domestic policy requirements are reflected within this directive:

- The removal of domestic restrictions on seed of susceptible host species, as the current scientific information on virus transmission no longer supports regulation of this pathway.
- [Section 5](#) has been updated to change the minimum record retention period from one year to two years for facilities participating in formal agreements to move dormant nursery stock and greenhouse-grown seedlings out of the PPV quarantine area.
- [Section 5](#) has been updated to clarify requirements that facilities must meet for CFIA to permit the movement of dormant nursery stock and greenhouse-grown seedlings from the quarantine area.
- The lists of PPV-D susceptible and PPV-D non-susceptible species found in [Annex 2](#) and [Annex 3](#) have been updated to follow *Prunus* subdivisions presented in the USDA's Germplasm Resources Information Network (GRIN) Taxonomy (USDA-ARS 2022).
- Minor administrative changes to improve the format and clarity of the text.

The import requirements for propagative fruit tree material (including *Prunus* spp.) formerly found within policy directive D-99-07 can now be found in D-22-01: Phytosanitary requirements for the importation of propagative fruit tree material from all countries.

Table of Contents

- 1.0 Legislative authority
- 2.0 Definitions, abbreviations and acronyms
- 3.0 Introduction
- 4.0 Scope
 - 4.1 Regulated pest
 - 4.2 Regulated articles
 - 4.3 Articles that are exempt
 - 4.4 Regulated areas
- 5.0 Domestic movement requirements
- 6.0 Specific requirements within PPV quarantine areas
 - 6.1 Propagation of regulated articles
 - 6.2 Sale of regulated articles
 - 6.3 CFIA Inspection Procedures
 - 6.4 CFIA Monitoring Procedures
- 7.0 Non-compliance
- 8.0 References
 - 8.1 Fees
 - 8.2 Supporting documents

Annex 1: List of plum pox virus (PPV) Quarantine Areas in Canada

Annex 2: List of regulated *Prunus* species susceptible to the Dideron strain of plum pox virus (PPV-D)

Annex 3: List of Non-regulated *Prunus* species not susceptible to the Dideron strain of plum pox virus (PPV-D)

1.0 Legislative authority

[Plant Protection Act](#) (S.C. 1990, c. 22)

[Plant Protection Regulations](#) (SOR/95-212)

[Plum Pox Virus Infested Places Order](#)

[Canadian Food Inspection Agency Fees Notice](#), *Canada Gazette, Part I* (as amended from time to time)

[Agriculture and Agri-Food Administrative Monetary Penalties Act](#) (S.C. 1995, c. 40)

[Agriculture and Agri-Food Administrative Monetary Penalties Regulations](#) (SOR/2000-187)

2.0 Definitions, abbreviations and acronyms

Definitions of terms used in this document can be found in:

- the [International Standard for Phytosanitary Measures 5: Glossary of phytosanitary terms](#)
- the [North American Plant Protection Organization Glossary of Phytosanitary Terms](#)
- the Canadian Food Inspection Agency's (CFIA's) [Plant Health Glossary of Terms](#)

For the purposes of this directive, “propagation” refers to the act of grafting, budding, rooting, planting, or any other related process which results in the multiplication of, or increase in the number of individual plants, or the introduction of new germplasm to an existing plant.

3.0 Introduction

Plum pox virus (PPV) is a virus that affects both ornamental and fruit-producing *Prunus* species. Symptoms of the virus may include chlorotic ring spots on leaves and fruit, decrease in fruit yield, and early fruit drop.

The two main pathways through which PPV is spread are aphid feeding and propagation activities using infected material. Once a tree has become infected, the only way to destroy the virus and prevent its spread is to remove and destroy the infected tree and its roots.

PPV was first detected in Canada in 2000, in stone fruit production areas in Ontario and Nova Scotia. Following eradication activities between 2000 to 2011, the only remaining PPV quarantine area is in southern Ontario, as outlined in the *List of Plum Pox Virus (PPV) quarantine areas in Canada* in [Annex 1](#).

Prohibiting propagation of *Prunus* spp. host material within the quarantine area helps to limit the spread of PPV within this zone, while restrictions on the domestic movement of host material mitigate the risk of introducing PPV into non-infested areas within Canada.

The genus *Prunus* falls within the family Rosaceae and can be further divided into subgenera, which are smaller, more closely related groups which share common characteristics. There are also several strains of PPV that infect different *Prunus* species falling within these subgenera. The strain that has been detected in Canada and the United States is the Dideron strain (PPV-D), which is known to naturally infect three subgenera of the genus *Prunus*: *Amygdalus*, *Emplectocladus*, and *Prunus*. The Dideron strain is not known to naturally infect species within the subgenera *Cerasus*. The species listed in [Annex 2](#) are naturally susceptible to PPV-D and are therefore considered regulated species which are subject to the requirements outlined within this directive, whereas the non-susceptible species listed in [Annex 3](#) are exempt. Note that isolated detections of the Winona strain (PPV-W) and the recombinant strain (PPV-Rec) have also been found in Canada; however, the infected trees were subsequently removed and destroyed and the surrounding areas have been intensively surveyed with no further detections. PPV-D is the only strain that remains present in North America (Hajizadeh et al. 2019).

4.0 Scope

4.1 Regulated pest

Plum pox virus – plum pox, PPV, Sharka disease

4.2 Regulated articles

All propagative plant material of regulated *Prunus* species listed in [Annex 2](#) of this directive (including but not limited to):

- trees
- cuttings
- tissue cultured plantlets
- fresh branches
- budwood
- scionwood
- rootstock

Any *Prunus* species not listed in [Annex 2](#) or [Annex 3](#) of this directive shall be considered a regulated article and will be subject to the requirements specified within this directive, unless and until the CFIA has formally determined its susceptibility to PPV-D and included it within the appropriate Annex.

Note: These articles may also be subject to other requirements in addition to those specific to the scope of this directive. Please consult the list of all [Plant Health directives](#) and the CFIA's [Automated Import Reference System](#) (AIRS) for more information.

4.3 Articles that are exempt

The following articles of regulated *Prunus* spp. listed in [Annex 2](#) are exempt from the requirements of this directive:

- pollen
- seed
- fresh fruit for consumption,
- and dead and dried branches and logs

All propagative and non-propagative plant material of non-regulated *Prunus* species listed in [Annex 3](#) are exempt from the requirements of this directive.

4.4 Regulated areas

See the *List of Plum Pox Virus (PPV) Quarantine Areas in Canada* found in [Annex 1](#) for a map and description of the affected locations.

5.0 Domestic movement requirements

As per the [PPV Infested Places Order](#), all regulated *Prunus* material is prohibited from moving out of an established PPV quarantine area to all other areas of Canada.

There are no movement restrictions on regulated *Prunus* material originating outside of a PPV quarantine area, but once this material has been moved into a PPV quarantine area from a non-infested area, it is considered a regulated article and is subject to the requirements specified in this directive.

The CFIA may permit dormant nursery stock originating from outside of the quarantine area and greenhouse-grown seedlings of regulated *Prunus* species to be moved out of the quarantine area, provided the requirements outlined in Table 1 have been met.

Table 1: Requirements for movement of regulated articles from a PPV quarantine area

Regulated article	Movement requirements
Dormant nursery stock originating outside of a PPV quarantine area	Prohibited, unless the following conditions are met: <ul style="list-style-type: none"> • <i>A Notice of Prohibition or Restriction of an Activity</i> specifying the required conditions must be issued by CFIA prior to movement of the material into the PPV quarantine area.

	<ul style="list-style-type: none"> • The material must originate from a PPV non-infested area and must enter, be maintained, and leave the quarantine area in a dormant state. • Dormant stock must be contained within a CFIA-approved cold storage facility and remain physically segregated from other regulated material from different origins and from non-regulated material to the satisfaction of a CFIA Inspector. • Dormant stock must be labelled in a manner to ensure identity and traceability of the material to the satisfaction of a CFIA Inspector. • Movement of the material out of the quarantine area must be completed by May 15th of each year. • Records for all incoming material, storage, sales, and movement of regulated material are to be maintained for two years and shall be made available to CFIA upon request. • A CFIA-issued Domestic Movement Certificate stating: <p style="margin-left: 40px;">“This material complies with plum pox virus requirements for movement of susceptible <i>Prunus</i> spp. material outside of the quarantine area, as per D-22-02 and the <i>Plum Pox Infested Places Order</i>.”</p> <p>is required prior to movement of each shipment out of a quarantine area.</p>
<p>Greenhouse-grown seedlings originating from within a PPV quarantine area</p>	<p>Prohibited, unless the following conditions are met:</p> <ul style="list-style-type: none"> • A <i>Notice of Prohibition or Restriction of an Activity</i> specifying the required conditions must be issued by CFIA prior to seedling production and movement of material out of a PPV quarantine area. • All material must be grown/stored within a CFIA-approved greenhouse, with appropriate safeguarding and segregation measures in place to the satisfaction of a CFIA Inspector. • Material must be labelled in a manner to ensure identity and traceability of the material to the satisfaction of a CFIA Inspector. • Movement of the material out of the quarantine area must be completed by May 15th of each year.

	<ul style="list-style-type: none"> • Records for incoming material, sales and/or movement of regulated material are to be maintained for two years and be made available to CFIA upon request. • A CFIA-issued Movement Certificate stating: <p style="margin-left: 40px;">“This material complies with plum pox virus requirements for movement of susceptible <i>Prunus</i> spp. material outside of the quarantine area, as per D-22-02 and the <i>Plum Pox Infested Places order</i>.”</p> <p style="margin-left: 40px;">is required prior to movement of each shipment out of a quarantine area.</p>
--	--

Note: This directive describes only the phytosanitary requirements related to PPV. Please consult the list of [Plant Health directives](#) for additional requirements which may apply.

6.0 Specific requirements within PPV quarantine areas

6.1 Propagation of regulated articles

Propagation of all regulated *Prunus* species (as listed in [Annex 2](#)) located within an established PPV quarantine area is prohibited. Prohibiting propagation within an established quarantine area assists in controlling the spread of PPV by restricting the use of potentially infected plant material as a propagation source in order to limit the further spread of the virus through this pathway.

The CFIA may permit propagation of regulated articles for research purposes, provided the facility demonstrates that they can meet all necessary requirements and approval is granted by CFIA in writing prior to any propagation activities. Contact your [local CFIA office](#) for more information.

6.2 Sale of regulated articles

Plant material of regulated *Prunus* species, such as trees and shrubs, that are not propagated in the quarantine area may be sold within the quarantine area, provided that the following conditions are met:

- A *Notice of Prohibition or Restriction of an Activity* specifying the required conditions must be issued to the vendor by the CFIA prior to any sales.
- All sales of regulated material must be made to customers verified to be residing within the quarantine area.

- Detailed sales records, including the quantity and species of the regulated material, and the location (address and city) to which the regulated material was distributed, must be kept for two years and made available to the CFIA upon request.

6.3 CFIA Inspection Procedures

The CFIA conducts routine inspections of properties located within PPV quarantine areas to verify compliance with the requirements outlined within this directive. Inspections will be based on risk and compliance history of specific locations, and may include both residential and commercial properties. These properties may be inspected for propagation activities such as grafting, budding, or growing trees from seed.

Retail, wholesale, and landscape companies operating within a PPV quarantine area may also be inspected to verify compliance under domestic movement requirements and conditions for the sale of regulated material within the quarantine area. Verification may include inspection of material present on site and review of sales records and inventories.

Any non-compliances identified during the inspection process will be dealt with as outlined in [Section 7](#).

6.4 CFIA Monitoring Procedures

The CFIA conducts annual monitoring activities to assess the PPV quarantine area and maintain Pest Free Areas through collection of samples of select PPV-susceptible species to determine the presence of PPV. As per the guidelines listed in the North American Plant Protection Organization's [Regional Standard for Phytosanitary Measures \(RSPM\) 18: Guidelines for Phytosanitary Actions Following Detection of Plum Pox Virus](#), the sample risk categories include, but are not limited to, the following:

- Commercial orchards along the periphery of the quarantine area;
- Commercial orchards up to 10 km outside of the quarantine area;
- Residential locations along the periphery of the quarantine area; and
- Residential locations up to 1.5 km outside of the quarantine area.

7.0 Non-compliance

Any non-compliant products that are moved out of the quarantine area are to be returned to the quarantine area or destroyed in a manner approved by the CFIA. The person in possession, care or control of the shipment is responsible for any and all costs relating to the movement and/or disposal of the non-compliant material, including fees for CFIA oversight of these activities.

Those who do not comply with the prohibitions and movement restrictions outlined in this directive may be subject to further regulatory controls and/or enforcement actions. Violations may be subject to penalties as described within the *Agriculture and Agri-Food Administrative Monetary Penalties Act* and Regulations.

8.0 References

8.1 Fees

The CFIA charges fees in accordance with the *Canadian Food Inspection Agency Fees Notice*. For information regarding fees, contact your [local CFIA office](#) or visit the CFIA's [Fees Notice](#) website.

8.2 Supporting documents

- Canadian Food Inspection Agency. 2019. [Plum Pox Virus Fact Sheet](#)
- D-22-01: Phytosanitary requirements for the importation of propagative fruit tree material from all countries
- Hajizadeh, M., Gibbs, A.J., Amirnia, F., and Glasa, M. 2019. The global phylogeny of Plum pox virus is emerging. *Journal of General Virology*. 100: 1457-1468.
- International Plant Protection Convention (IPPC). 1995. [International Standard for Phytosanitary Measures \(ISPM\) No. 4: Requirements for the establishment of pest free areas](#).
- North American Plant Protection Organization (NAPPO). 2004. Regional Standard for Phytosanitary Measures [\(RSPM\) 18: Guidelines for Phytosanitary Action Following Detection of Plum Pox Virus in NAPPO Member Countries](#).
- USDA-ARS. 2022. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. [Online] Available: http://www.arsgrin.gov/cgi-bin/npgs/html/tax_search.pl [2022].

Annex 1: List of plum pox virus (PPV) Quarantine Areas in Canada

Please refer to the [Plum Pox Virus Infested Places Order](#) for a listing and map of the PPV quarantine areas in Canada.

Annex 2: List of regulated *Prunus* species susceptible to the Dideron strain of plum pox virus (PPV-D)

The following *Prunus* species falling within the subgenera *Amygdalus*, *Prunus*, and *Emplectocladus* (including species commonly referred to as peaches, plums, apricots, nectarines, and almonds) are considered to be naturally susceptible to PPV-D and are therefore subject to the domestic restrictions in Canada outlined within this directive:

<i>Amygdalus</i>	<i>Prunus</i>	
<i>Prunus arabica</i>	<i>Prunus americana</i>	<i>Prunus mandshurica</i>
<i>Prunus argentea</i>	<i>Prunus angustifolia</i>	<i>Prunus maritima</i> (Syn. <i>P. gravesii</i>)
<i>Prunus</i> × <i>arnoldiana</i>	<i>Prunus armeniaca</i>	<i>Prunus mexicana</i>
<i>Prunus bucharica</i>	<i>Prunus bifrons</i>	<i>Prunus microcarpa</i>
<i>Prunus davidiana</i>	<i>Prunus</i> × <i>blireana</i>	<i>Prunus mume</i>
<i>Prunus dulcis</i>	<i>Prunus bokhariensis</i>	<i>Prunus nigra</i>
<i>Prunus fenzliana</i>	<i>Prunus brigantina</i>	<i>Prunus</i> × <i>orthosepala</i>
<i>Prunus</i> × <i>gigantea</i>	<i>Prunus cerasifera</i> (Syn. <i>P. myrobalana</i> , <i>P. monticola</i>)	<i>Prunus prostrata</i>
<i>Prunus kansuensis</i>	<i>Prunus</i> × <i>cistena</i>	<i>Prunus pumila</i> (Syn. <i>P. besseyi</i>)
<i>Prunus mira</i>	<i>Prunus cocomilia</i> (Syn. <i>P. pseudoarmeniaca</i>)	<i>Prunus rivularis</i> (Syn. <i>P. munsoniana</i> , <i>P. reverchonii</i>)
<i>Prunus mongolica</i>	<i>Prunus consociiflora</i>	<i>Prunus salicina</i> (Syn. <i>P. gymnodonta</i>)
<i>Prunus pedunculata</i> (Syn. <i>P. pilosa</i>)	<i>Prunus</i> × <i>dasycarpa</i>	<i>Prunus sibirica</i>
<i>Prunus persica</i>	<i>Prunus domestica</i>	<i>Prunus simonii</i>
<i>Prunus</i> × <i>persicoides</i> (Syn. <i>P. × amygdalopersica</i>)	<i>Prunus</i> × <i>dunbarii</i>	<i>Prunus spinosa</i> (Syn. <i>P. kurdica</i>)
<i>Prunus petunnikowii</i>	<i>Prunus glandulosa</i>	<i>Prunus subcordata</i>
<i>Prunus</i> × <i>skinneri</i>	<i>Prunus gracilis</i>	<i>Prunus tomentosa</i>
<i>Prunus spinosissima</i>	<i>Prunus hortulana</i>	<i>Prunus umbellata</i> (Syn. <i>P. alleghaniensis</i>)
<i>Prunus tangutica</i>	<i>Prunus humilis</i>	<i>Prunus ursina</i>
<i>Prunus tenella</i> (Syn. <i>P. sweginzowii</i>)	<i>Prunus jacquemontii</i>	<i>Prunus ussuriensis</i>
<i>Prunus texana</i>	<i>Prunus japonica</i>	<i>Prunus</i> × <i>utahensis</i>
<i>Prunus triloba</i> (Syn. <i>P. baldschuanica</i>)	<i>Emplectocladus</i>	
<i>Prunus</i> × <i>vavilovii</i>		
<i>Prunus webbii</i>	<i>Prunus fasciculata</i>	

Annex 3: List of Non-regulated *Prunus* species not susceptible to the Dideron strain of plum pox virus (PPV-D)

The following *Prunus* species falling within the subgenus *Cerasus* (including species commonly referred to as cherries) are not considered to be naturally susceptible to PPV-D and are therefore exempt from the domestic restrictions outlined within this directive.

<i>Cerasus</i>		
<i>Prunus apetala</i>	<i>Prunus hirtipes</i>	<i>Prunus pseudocerasus</i>
<i>Prunus avium</i>	<i>Prunus ilicifolia</i>	<i>Prunus rufa</i>
<i>Prunus buergeriana</i>	<i>Prunus incana</i>	<i>Prunus rufoides</i> (Syn. <i>P. dielsiana</i>)
<i>Prunus campanulata</i>	<i>Prunus incisa</i>	<i>Prunus sargentii</i>
<i>Prunus canescens</i>	<i>Prunus itosakura</i>	<i>Prunus</i> × <i>schmittii</i>
<i>Prunus caroliniana</i>	<i>Prunus jamasakura</i>	<i>Prunus serotina</i>
<i>Prunus cerasoides</i>	<i>Prunus</i> × <i>juddii</i>	<i>Prunus serrula</i>
<i>Prunus cerasus</i>	<i>Prunus</i> × <i>lauchiana</i>	<i>Prunus serrulata</i>
<i>Prunus clarifolia</i> (Syn. <i>P. litigiosa</i> , <i>P. pilosiuscula</i>)	<i>Prunus laurocerasus</i>	<i>Prunus setulosa</i>
<i>Prunus conadenia</i> (Syn. <i>P. macradenia</i>)	<i>Prunus leveilleana</i>	<i>Prunus speciosa</i>
<i>Prunus concinna</i>	<i>Prunus lusitanica</i>	<i>Prunus spinulosa</i>
<i>Prunus cornuta</i>	<i>Prunus maackii</i>	<i>Prunus ssiiori</i>
<i>Prunus cyclamina</i>	<i>Prunus mahaleb</i>	<i>Prunus</i> × <i>subhirtella</i> (Syn. <i>P.</i> × <i>changyangensis</i>)
<i>Prunus</i> × <i>dawyckensis</i>	<i>Prunus maximowiczii</i>	<i>Prunus</i> × <i>syodoi</i> (Syn. <i>P.</i> × <i>hillieri</i>)
<i>Prunus emarginata</i>	<i>Prunus mugus</i>	<i>Prunus tatsienensis</i>
<i>Prunus</i> × <i>eminens</i>	<i>Prunus nipponica</i>	<i>Prunus undulata</i> (Syn. <i>P. wallichii</i>)
<i>Prunus</i> × <i>fontanesiana</i>	<i>Prunus obtusata</i> (Syn. <i>P. vaniotii</i>)	<i>Prunus virginiana</i>
<i>Prunus fruticosa</i>	<i>Prunus padus</i>	<i>Prunus wilsonii</i> (Syn. <i>P. sericea</i>)
<i>Prunus</i> × <i>gondouinii</i> (Syn. <i>P. effusa</i>)	<i>Prunus pensylvanica</i>	<i>Prunus</i> × <i>yedoensis</i>
<i>Prunus grayana</i>	<i>Prunus pleiocerasus</i>	<i>Prunus zippeliana</i>