



# D-95-28: Plant Protection Import and Domestic Movement Requirements for Corn (*Zea mays*)

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**Effective Date: July 30, 2014**  
(5<sup>th</sup> Revision)

## Subject

This directive outlines the phytosanitary import and domestic movement requirements for corn (*Zea mays*).

*This revision was made to provide a link to the list of "[Pests Regulated by Canada](#)" as well as to add pests from this list that could potentially be associated with the commodities covered under this directive.*

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## Review

This directive will be updated as required. For further information or clarification, please contact the Canadian Food Inspection Agency (CFIA).

## Endorsement

Approved by: Chief Plant Health Officer

## Amendment Record

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

## Distribution

1. Directive mail list (Regions, PHRA (Plant Health Risk Assessment), USDA (United States Department of Agriculture))
2. Provincial Government, Industry (determined by Author)
3. National Industry Organizations (determined by Author)
4. Internet

## Introduction

The following factors were considered in arriving at the present policy:

To date, the CFIA (Canadian Food Inspection Agency) has regulated only two insect pests of corn, i.e. (that is to say) European corn borer, *Ostrinia nubilalis* (ECB), and Durra stem borer, *Sesamia cretica* (DSB). A Pest Risk Assessment completed in 1995 indicated that these should remain quarantine pests for Canada.

ECB (European corn borer) is found in Europe, Africa, western Asia, and North America. It is found in the United States (U.S.) in 42 states, including the major corn-producing states (Appendix 1). In Canada, it is found in all provinces except British Columbia. Therefore, the CFIA (Canadian Food Inspection Agency) regulates ECB (European corn borer) only for British Columbia.

DSB (Durra stem borer) is found in east Africa, the Near and Middle East, and in European and African countries on the Mediterranean Sea (Appendix 1). The pest is limited to areas where temperatures rarely fall below 0°C (Celsius). In Canada the pest would likely only survive in the southern coastal region of British Columbia. Therefore, the CFIA (Canadian Food Inspection Agency) regulates DSB (Durra stem borer) only for British Columbia.

Most shipments of corn entering Canada, particularly those intended for propagation (seed), originate

in the U.S. (United States) A Pest Risk Assessment identified a number of corn diseases that are found in the U.S. (United States) but that have not been reported in Canada (e.g. (for example) *Clavibacter michiganensis* subsp. (subspecies) *nebraskensis* and *Stenocarpella macrospora*). Nevertheless, for decades, corn has entered Canada from the U.S. (United States) without any recorded interceptions of these diseases. Therefore, unless future information reveals an increased risk of introduction, the CFIA (Canadian Food Inspection Agency) will not regulate any diseases of corn from the U.S. (United States) Head smut of corn, *Spacelotheca reiliana*, was deregulated in 1988.

In a recent Pest Risk Assessment conducted on corn seed from Hungary, the fungal pathogen *Acremonium maydis* (syn. (synonym) *Cephalosporium maydis*; syn. (synonym) *Harpophora maydis*) was identified as a potential quarantine concern for Canada. Although the overall risk of introduction in clean grain is low as the pathogen is rarely seed-borne and associated only with soil or debris, phytosanitary mitigation measures to reduce risk are available and should be considered. These include area freedom, freedom from soil and debris, laboratory testing and/or fungicide treatment.

A Pest Risk Assessment for corn on the cob was completed for Costa Rica, Mexico, Panama, Peru and Thailand. Other such assessments have been done on corn seed from various countries: Austria, Bolivia, Chile, Costa Rica, France, Germany, Hungary, Mexico, the Netherlands, and Peru as well as the U.S. (United States) state of Hawaii and territory of Puerto Rico.

## Scope

This directive is intended for the use of CFIA (Canadian Food Inspection Agency) inspection staff and the Canada Border Services Agency to prevent the introduction and spread of regulated pests into Canada. It is a guide to Canadian import and domestic movement requirements for use by importers, shippers, customs brokers and others involved in importing or moving corn in Canada.

## References

Canadian Grain Commission Official Grain Grading Guide 2006.

FAO (Food and Agriculture Organization), 2009 Glossary of Phytosanitary Terms, ISPM (International Standard for Phytosanitary Measures) No. (number) 5 (updated annually)

**This directive supersedes D-95-28: Plant Protection Import and Domestic Requirements Movement Requirements for Corn (*Zea mays*) (3<sup>rd</sup> Revision).**

## Definitions, Abbreviations and Acronyms

Definitions for terms used in the present document can be found in the Plant Health Glossary of Terms.

## 1.0 General Requirements

### 1.1 Legislative Authority

*Plant Protection Act*, S.C. (Statutes of Canada) 1990, c. (Chapter) 22

*Plant Protection Regulations, SOR (Statutory Orders and Regulations)/95-212*

*Canadian Food Inspection Agency Fees Notice, Canada Gazette: Part I (1) (as amended from time to time)*

## 1.2 Fees

The [CFIA \(Canadian Food Inspection Agency\)](#) is charging fees in accordance with the *Canadian Food Inspection Agency Fees Notice*. For information regarding fees associated with imported product, please contact the [National Import Service Centre \(NISC\)](#). Anyone requiring other information regarding fees may contact any [local CFIA \(Canadian Food Inspection Agency\) office](#) or visit our [Fees Notice Web Site](#).

## 1.3 Regulated Pests

- [Cuscuta spp. \(species\)](#), dodder
- [Orobanche spp. \(species\)](#), broomrape
- [Ostrinia nubilalis](#), European corn borer
- [Sesamia cretica](#), Durra stem borer
- [Striga spp. \(species\)](#), witchweed
- [Trogoderma granarium](#) Everts, khapra beetle

In addition to the pests listed above, which could be associated with the regulated commodities, consignments must be free from the other pests on the list of "[Pests Regulated by Canada](#)".

## 1.4 Regulated Commodities

- corn seed (e.g. (for example) field, sweet, popcorn)
- corn material (e.g. (for example) seed, grain, plants) derived from a plant with novel traits
- fresh corn on the cob (e.g. (for example) sweet corn and baby corn)
- fresh or dried corn stalks (whole or in part), leaves, cobs and husk
- corn seed or grain for cleaning, corn screenings

## 1.5 Commodities Exempt

The following commodities, from all sources, do not require any phytosanitary documentation (i.e. (that is to say) Permit to Import, Phytosanitary Certificate, Domestic Movement Certificate or other documentation):

- commercially clean dry bulk corn grain or corn grain products for non-propagative use (e.g. (for example) animal feed, popcorn grain for human consumption, corn grain for ethanol production or milling,)
- processed (ground, cooked, manufactured) corn products (e.g. (for example) corn meal, brewers' meal, corn flour, corn starch, popped corn and corn silage)
- Breeder, Foundation or Certified corn seed that has been certified by a member of an official certifying agency recognized by the [CFIA \(Canadian Food Inspection Agency\)](#) (e.g. (for example) the Association of Official Seed Certifying Agencies [AOSCA] or the Organisation for Economic Co-operation and Development [OECD] Seed Schemes) Certification documentation, (e.g. (for example) a copy of the seed tag or bulk seed certificate) must be presented at the time of entry into Canada

- artifacts, ornaments and toys made from corn stalks, leaves and/or husks that have been cleaned, bleached, dyed or shellacked
- small packets of corn seed (no greater than 500 g (grams)) that have been commercially packaged for retail sale as vegetable seed

## 1.6 Regulated Areas

- Corn seed: In Canada: all provinces except British Columbia; All countries except Argentina, Bolivia, Chile, Costa Rica, Mexico, New Zealand, Peru, South Africa and the U.S. (United States) state of Hawaii and territory of Puerto Rico.
- Fresh corn on the cob, sweet corn and baby corn: In Canada, all provinces except British Columbia; All countries except Costa Rica, Mexico, Panama, Peru and Thailand.
- Corn stalks (whole or in part) with or without leaves, cobs and husks: In Canada, all provinces except British Columbia; All countries except Argentina, Chile, Costa Rica, Mexico, New Zealand, Puerto Rico, South Africa and the U.S. (United States) state of Hawaii.
- Corn material (e.g. (for example) seed, grain, plants) derived from a plant with novel traits: All countries

## 2.0 Specific Requirements

The distribution of the ECB (European corn borer) and DSB (durra stem borer) can be found in Appendix 1.

A tabulated summary of import and domestic movement requirements for *Zea mays* is provided in Appendix 2.

## 2.1 Import Requirements

- Material must be clean and free from soil and regulated pests and regulated weeds.
- A Permit to Import may be issued to allow conditional entry of prohibited corn material for special purposes, such as scientific research, educational, processing, industrial, exhibition or use by the Plant Gene Resources of Canada.
- A Pest Risk Assessment must be completed for corn commodities from prohibited sources to be eligible for consideration for import.
- The National Plant Protection Organization of the exporting country must ensure that any corn commodity, except screenings and grain or seed for cleaning, must be clean and free of soil, weed seeds (*Cuscuta* spp. (species), *Orobanch* spp. (species), *Striga* spp. (species)) and other pests on Canada's regulated pest list.
- Any corn commodity derived from plants with novel traits not approved by CFIA (Canadian Food Inspection Agency) for unconfined release in Canada always requires a Permit to Import.
- Material with roots, with or without soil, imported from the continental U.S. (United States) into any province must be accompanied by a Phytosanitary Certificate with the additional declaration for freedom from soil-borne pests. See Directive D-95-26 for soil requirements.
- Import conditions in this directive pertain to the *Plant Protection Act* and *Regulations* only. It is the importer's responsibility to ensure that commodities covered by this directive also comply with the requirements of other acts and regulations, such as the *Seeds Act* and *Regulations*, *Feeds Act* and *Regulations*, *Health of Animals Act* and *Regulations* and the *Canada Agricultural Products Act* and *Regulations*.

## 2.2 Domestic Requirements

- A domestic Movement Certificate is based on one of the following options:
  - The material has been inspected and found free of viable stages of European corn borer.
  - Seed was passed through a 1.25 cm (centimetre) screen to exclude stem pieces that could harbour larvae or pupae of the European corn borer.
  - The seed must have been treated in a manner approved by the CFIA (Canadian Food Inspection Agency) to control the European corn borer (heat or chemical fumigation).
- When cleaned, packaged and labelled to Canadian grade standards, certified seed shipped to B.C. (British Columbia) from other provinces is exempt from a Movement Certificate.

## 3.0 Inspection Procedures

- Any corn shipment may be subject to inspection at entry.
- Inspection procedures for corn are found in the CFIA (Canadian Food Inspection Agency) Plant Health Import Inspection Manual.
- Breeder, Foundation and Certified corn seed must be examined for the breeder's declaration, labels or tags that convey the status of the seed.

## 4.0 Non-compliance

If the requirements for a shipment are not met, the material may be detained, refused entry, returned to origin, treated or destroyed. Expenses associated with such actions are borne by the importer. Refer to D-01-06: Canadian phytosanitary policy for the notification of non-compliance and emergency action.

## 5.0 Appendices

### Appendix 1: Distribution of the European Corn Borer and the Durra Stem Borer

#### A. European Corn Borer (*Ostrinia nubilalis*)

**Africa:** Algeria, Egypt, Libya, Morocco and Tunisia.

**Europe:** Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, Serbia and Montenegro, Spain, Sweden, Switzerland, Ukraine and the United Kingdom.

**Asia:** Georgia (Republic of), Iran, Israel, Lebanon, Syria and Turkey.

#### North America:

**United States:** Alabama, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island,

South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

**Canada:** all provinces except British Columbia.

### **B. Durra Stem Borer (*Sesamia cretica*)**

**Africa:** Algeria, Cameroon, Chad, Egypt, Eritrea, Ethiopia, Kenya, Libya, Mali, Morocco, Niger, Nigeria, Somalia, Sudan, Togo, and Tunisia.

**Asia:** China, India, Iran, Iraq, Israel, Jordan, Kyrgyzstan, Lebanon, Pakistan, Saudi Arabia, Syria, Tajikistan, Thailand, Turkey, Uzbekistan and Yemen.

**Europe:** Albania, Bulgaria, Croatia, France, Greece, Italy, Macedonia, the Russian Federation, Serbia and Montenegro, Slovenia, Spain.

## **Appendix 2: Import and Domestic Movement Requirements for *Zea mays***

### **Import and Domestic Movement Requirements for *Zea mays***

<b>Commodity</b>	<b>Canadian Province of Destination</b>	<b>Source Country/State</b>	<b>Import and/or Movement Requirements</b>
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Commodity	Canadian Province of Destination	Source Country/State	Import and/or Movement Requirements
<p>A. Processed (manufactured or cooked) corn products (e.g. (for example) corn meal, brewers' meal, corn flour, corn starch, popped corn and corn silage)</p> <p>Commercially clean dry bulk corn grain or corn grain products that are clearly not intended for planting (e.g. (for example) popcorn grain for human consumption, corn grain for ethanol production or animal feed)</p> <p>Artifacts, ornaments and toys made from corn stalks, leaves and/or husks that have been cleaned, bleached, dyed or shellacked</p> <p>Breeder, Foundation or Certified corn seed that has been certified by a member of an official certifying agency recognized by the <u>CFIA (Canadian Food Inspection Agency)</u> (e.g. (for example) the Association of Official Seed Certifying Agencies [AOSCA] or the Organisation for Economic Co-operation and Development [OECD] Seed Schemes). Certification documentation (e.g. (for example) a copy of the seed tag or bulk seed certificate) must be presented at the time of entry into Canada</p>	All provinces	All countries	None



Commodity	Canadian Province of Destination	Source Country/State	Import and/or Movement Requirements
B. Seed (propagation) [other than exempt seed described above]	All provinces except British Columbia	U.S. ( <u>United States</u> ) (continental), Austria, France, Germany and the Netherlands	none
B. Seed (propagation) [other than exempt seed described above]	All provinces except British Columbia	Hungary	Permit to Import
B. Seed (propagation) [other than exempt seed described above]	British Columbia	Austria, Germany, the Netherlands, France and <u>U.S. (United States) (continental) ECB (European corn borer) infested states</u> <sup>4</sup>	Phytosanitary Certificate <sup>2</sup>
B. Seed (propagation) [other than exempt seed described above]	British Columbia	U.S. ( <u>United States</u> ) (continental) <u>ECB (European corn borer) non-infested states</u>	Proof of origin required (e.g. (for example) <u>Phytosanitary Certificate</u> <sup>2</sup> or Certificate of Origin)
B. Seed (propagation) [other than exempt seed described above]	British Columbia	Hungary	Permit to Import and Phytosanitary Certificate <sup>2</sup>
B. Seed (propagation) [other than exempt seed described above]	All provinces	Argentina, Bolivia, Chile, Costa Rica, Mexico, New Zealand, Peru and South Africa; <u>U.S. (United States) state of Hawaii and territory of Puerto Rico</u>	none
B. Seed (propagation) [other than exempt seed described above]	All provinces	All other countries	<b>Prohibited</b> <sup>1</sup>

<b>Commodity</b>	<b>Canadian Province of Destination</b>	<b>Source Country/State</b>	<b>Import and/or Movement Requirements</b>
C. Screenings; seed or grain for cleaning in Canada	All provinces except British Columbia	<u>U.S. (United States)</u> (continental)	Permit to Import and Compliance Agreement (as per D-96-07:Screenings and Grain/Seed for Cleaning)
C. Screenings; seed or grain for cleaning in Canada	British Columbia	<u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) infested states</b> <sup>4</sup>	Phytosanitary Certificate <sup>2</sup> ; Permit to Import and Compliance Agreement (as per D-96-07: Screenings and Grain/Seed for Cleaning)
C. Screenings; seed or grain for cleaning in Canada	British Columbia	<u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) non-infested states</b>	Proof of origin (Phytosanitary Certificate <sup>2</sup> or Certificate of Origin); Permit to Import and Compliance Agreement (as per D-96-07: Screenings and Grain/Seed for Cleaning)
C. Screenings; seed or grain for cleaning in Canada	All provinces	All other countries and <u>U.S. (United States)</u> state of Hawaii and territory of Puerto Rico	<b>Prohibited</b> <sup>1</sup>
D. Corn on the cob (e.g. (for example) fresh sweet corn, fresh baby corn)	All provinces except British Columbia	<u>U.S. (United States)</u> (continental)	none
D. Corn on the cob (e.g. (for example) fresh sweet corn, fresh baby corn)	British Columbia	<u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) infested states</b> <sup>4</sup>	Phytosanitary Certificate <sup>2</sup>

<b>Commodity</b>	<b>Canadian Province of Destination</b>	<b>Source Country/State</b>	<b>Import and/or Movement Requirements</b>
D. Corn on the cob (e.g. (for example) fresh sweet corn, fresh baby corn)	British Columbia	<u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) non-infested states</b>	Proof of origin (Phytosanitary Certificate <sup>2</sup> or Certificate of Origin)
D. Corn on the cob (e.g. (for example) fresh sweet corn, fresh baby corn)	All provinces	Costa Rica, Mexico, Panama, Peru and Thailand	none
D. Corn on the cob (e.g. (for example) fresh sweet corn, fresh baby corn)	All provinces	All other countries and the <u>U.S. (United States)</u> state of Hawaii and territory of Puerto Rico	<b>Prohibited</b> <sup>1</sup>
E. Corn stalks (whole or in part), leaves, cobs and husks	All provinces except British Columbia	<u>U.S. (United States)</u> (continental)	none
E. Corn stalks (whole or in part), leaves, cobs and husks	All provinces except British Columbia	Austria, France, Germany and the Netherlands	Phytosanitary Certificate <sup>2</sup>
E. Corn stalks (whole or in part), leaves, cobs and husks	British Columbia	Austria, Germany, France and the Netherlands and <u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) infested states</b> <sup>4</sup>	Phytosanitary Certificate <sup>2</sup>
E. Corn stalks (whole or in part), leaves, cobs and husks	British Columbia	<u>U.S. (United States)</u> (continental) <b>ECB (European corn borer) non-infested states</b>	Proof of origin (Phytosanitary Certificate <sup>2</sup> or Certificate of Origin)


<b>Commodity</b>	<b>Canadian Province of Destination</b>	<b>Source Country/State</b>	<b>Import and/or Movement Requirements</b>
E. Corn stalks (whole or in part), leaves, cobs and husks	British Columbia	From Argentina, Chile, Costa Rica, Hawaii, Mexico, New Zealand, territory of Puerto Rico and South Africa	none
E. Corn stalks (whole or in part), leaves, cobs and husks	All provinces	All other countries	<b>Prohibited</b> <sup>1</sup>
F. Shipments within Canada of all regulated corn commodities	All provinces except British Columbia	All provinces	none
F. Shipments within Canada of all regulated corn commodities	British Columbia	All provinces except <u>BC (British Columbia)</u>	Movement Certificate <sup>3</sup>

<sup>1</sup> Importers may request that a Pest Risk Analysis be conducted by CFIA (Canadian Food Inspection Agency) for corn from unapproved sources to determine the potential for import in the future.

<sup>2</sup> If the material has been treated to render it free from regulated pests, the treatment details must appear on the Phytosanitary Certificate. Acceptable treatments for corn include heat and chemical fumigation. Please contact the CFIA (Canadian Food Inspection Agency) for treatment details.

<sup>3</sup> Refer to Section 2.2

<sup>4</sup> Refer to Appendix 1.

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