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Canada

Plants > Invasive Species > Invasive Plants > Policy

Draft - RMD-10-04: Pest Risk Management Document for *Peganum harmala* (African-rue) in Canada

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(Draft)

Consultation Closed (2010-09-17)

Contact the Invasive Plants Section if you want copies of any of the detailed risk management documents or if you have questions or comments related to this consultation

Preface

As described by the International Plant Protection Convention (IPPC), Pest Risk Analysis (PRA) includes three stages: initiation, pest risk assessment and pest risk management. Initiating the PRA process involves identifying pests and pathways of concern and defining the PRA area. Pest risk assessment provides the scientific basis for the overall management of risk. Pest risk management is the process of identifying and evaluating potential mitigation measures which may be applied to reduce the identified pest risk to acceptable levels and selecting appropriate measures. Pest risk communication is an additional component of PRA that is common to all stages of the PRA process.

This Risk Management Document (RMD) includes a summary of the findings of a pest risk assessment and records the pest risk management process for the identified issue. It is consistent with the principles, terminology and guidelines provided in the IPPC standards for pest risk analysis.

Table of Contents

Executive Summary

This Risk Management Document (RMD) is part of a three step pest risk analysis process examining the risk associated with importation, cultivation and trade of *Peganum harmala*, commonly known as African-rue, in Canada. The RMD includes a summary of the findings of a pest risk assessment and identifies and evaluates potential mitigation measures which may be applied to reduce the identified pest risk to acceptable levels. It examines policy alternatives, identifies a recommended risk management approach and seeks input from a range of potentially affected stakeholders.

Peganum harmala is a perennial, herbaceous plant native to arid and semi-arid regions of northern Africa, the Middle East, Central Asia, southeast Europe and the Mediterranean. It is an introduced species in eight states in the southwestern United States (U.S.) and in Australia. It is

considered a weed of rangelands. *Peganum harmala* mainly grows in dry grasslands and saline waste areas, and is common along roadsides, field edges and run-down pastures. The species is not currently established in Canada but its introduction poses an economic risk because heavily infested rangelands could lose their forage value. It is toxic and unpalatable to grazing animals, and is toxic to humans. Once established, the weed is persistent, dominant and difficult to control. *Peganum harmala* is listed as one of the "worst weeds of the West."

Peganum harmala is not currently regulated by Canada or as a federal noxious weed in the U.S., but it is regulated by the states of Arizona, California, Colorado, New Mexico, Nevada and Oregon. A Canadian Weed Risk Assessment (C-WRA) of this species indicates that it could likely survive to NAPPFAST hardiness zone three. Its preference for drier areas would make its establishment in Canada most likely to occur in southern British Columbia (BC) and the southern prairies.

The main pathway for introduction of *Peganum harmala* into Canada is through the sale of seeds for medicinal and drug uses over the Internet. The plant is prohibited for sale and import into Canada under the *Controlled Drugs and Substances Act* (CDSA), but is still sold by small ethnobotanical companies in Canada. The level of risk associated with the sale of *Peganum harmala* seeds is difficult to determine since the quantity and destination of the seeds is unknown and interception of seeds at the border difficult. Seeds can also be moved in soil attached to vehicles and machinery. *Peganum harmala* is naturally dispersed by water flowing over soil, but this is unlikely to introduce the species into Canada, unless plants are growing on the border.

The plant is also naturally dispersed by animals feeding on and subsequently depositing its seeds. This is also unlikely to result in movement of *Peganum harmala* seeds into Canada given the toxicity and unpalatability of the plant.

The Canadian Food Inspection Agency (CFIA) recommends regulating *Peganum harmala* as a quarantine pest under the *Plant Protection Act*, placing this species on the List of Pests Regulated by Canada and regulating the plant as a prohibited noxious weed under the *Weed Seeds Order* of the *Seeds Act*. These are cost-effective measures to further prevent the introduction of *Peganum harmala* into Canada, will complement the measures already in place under the CDSA and will give CFIA the authority to respond to possible invasions of the pest into the country.

Stakeholder views on the recommended risk management option are herein being solicited.

1.0 Purpose

The purpose of this document is to examine, with affected stakeholders, the options for mitigating the risks associated with the introduction of *Peganum harmala* L. (African-rue) into Canada.

2.0 Scope

This Risk Management Document (RMD) examines the risks associated with the introduction of *Peganum harmala* into Canada and outlines potential risk management options. It focuses on the phytosanitary risks associated with the plant itself. Risk analysis of pests that may be associated with the plant is not within the scope of this document.

3.0 Definitions

Definitions for terms used in this document can be found in the Plant Health Glossary of Terms or the IPPC Glossary of Phytosanitary Terms.

4.0 Background

- The CFIA has initiated a "Least Wanted Invasive Plants" project in order to expand on its efforts to prevent the introduction and spread of invasive plants in Canada. The goal of this project is to identify Canada's "least wanted" plants and regulate them as quarantine pests under the *Plant Protection Act*. *Peganum harmala* is being considered for regulation as part of the Least Wanted Invasive Plants project.
- This project builds on past efforts to prevent the introduction of invasive plants and weeds into Canada under the *Plant Protection Act* and the *Weed Seeds Order* under the *Seeds Act*.
- Invasive plants are plant taxa that spread when introduced outside of their natural past or present distribution and cause serious and often irreversible damage to Canada's ecosystems, economy and society.
- A quarantine pest is a pest of potential economic importance, not yet present in Canada or present but not widely distributed and under official control.

The CFIA is carrying out this project as part of its commitment to limit the introduction and spread of invasive plants under An Invasive Alien Species Strategy for Canada (Government of Canada 2004). The Strategy aims to reduce the risk of invasive species to the environment, economy, and society, and to protect environmental values such as biodiversity and sustainability.

Peganum harmala is listed as one of the "worst weeds in the West" by the Centre for Invasive Plant Management (CIPM 2009).

The Weed Risk Assessment for *Peganum harmala* was initiated by the identification of a possible pest requiring phytosanitary measures.

5.0 Pest Risk Assessment Summary

The information in Section 5 is taken from the Pest Risk Assessment (PRA# 2009-20peha) conducted by K. Allison of the Plant and Biotechnology Risk Assessment Unit, CFIA, 2009.

5.1 Identity of Organism

NAME: *Peganum harmala* L. (*Nitrariaceae*; also sometimes placed in the *Peganaceae* or *Zygophyllaceae*) (USDA-ARS 2009)

SYNONYMS: None found (Tropicos 2009; USDA-ARS 2009)

ENGLISH COMMON NAMES: African-rue, Syrian-rue, wild rue, harmal

FRENCH COMMON NAME: rue sauvage (USDA-ARS 2009)

DESCRIPTION: *Peganum harmala* is an erect, stiff-stemmed, bushy perennial herbaceous plant. It grows to 30-80 cm in height. The leaves are alternate, dissected and 2-5 cm long. The flowers are white, solitary and about 2.5 cm in diameter. The fruit is a globose capsule, 7-12 mm long and 12 mm wide. The seeds are black and angular. The rootstock is thick and robust with a branching taproot (Parsons and Cuthbertson 1992). It is native to arid and semi-arid regions of North Africa, the Middle East and Central Asia (Abbott et al. 2007).

5.2 Organism Status

Peganum harmala is not reported to occur in Canada, and no evidence was found that it is cultivated in Canada (CFIA 2008a, Scoggan 1979). Based on this information, *Peganum harmala* is considered absent from the PRA area.

5.3 Current Regulatory Status

Peganum harmala is not currently regulated in Canada. It is not listed as a Federal noxious weed in the U.S., but is listed as a noxious weed in Arizona, California, Colorado, New Mexico, Nevada and Oregon (USDA, NRCS 2009).

5.4 Probability of Entry

Peganum harmala was introduced intentionally into the U.S. as a new plant to produce dye (Guclu and Ozbek 2007). Intentional introduction is the most likely pathway for entry to Canada as the seeds are readily available on the internet and it is also used medicinally.

Table 1: Summary of Pathways

Type of pathway	Specific pathways
Natural dispersal	Some seeds are moved with water flowing over soil (Parsons and Cuthbertson 1992). This is very unlikely to introduce the species into Canada, unless plants are growing right on the border. Animals can deposit the seeds after feeding on the plant (Parsons and Cuthbertson 1992). Given the toxic and unpalatable nature of the plants, this is unlikely to result in movement of the seeds into Canada.
Intentional introduction	It was said to have been introduced to New Mexico in the 1920's for use as a plant dye (Guclu and Ozbek 2007). Many websites offer the seed for sale. The plants are grown primarily for medicinal or drug use. De-hulled seeds yield an edible oil similar to cottonseed oil. The species could be added to the list of prohibited noxious weed seeds under the *Seeds Act*, but, with internet sales of small packets, this will be difficult to control.
Unintentional introduction	Seeds can be moved in mud attached to vehicles and machinery (Parsons and Cuthbertson 1992).

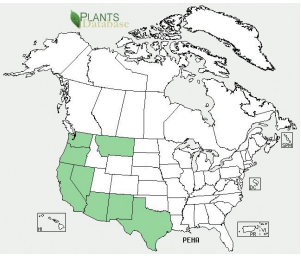
5.5 Probability of Establishment

Peganum harmala is native to northern Africa (Algeria, Egypt, Libya, Morocco, Tunisia, Mauritania), Asia (Kuwait, Saudi Arabia, Afghanistan, Cyprus, Egypt - Sinai, Iran, Iraq, Israel, Jordan, Lebanon, Syria, Turkey, Armenia, Azerbaijan, Georgia, Ciscaucasia, Dagestan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, western Mongolia, China - Xinjiang, Pakistan), and Europe (Moldova, Russian Federation (south), Ukraine, Bulgaria, Former Yugoslavia, Greece, Italy, Romania, Spain) (Pankhurst 1998, USDA-ARS 2009).

Peganum harmala was introduced to New Mexico in 1928 (Abbott et al. 2007, Guclu and Ozbek 2007) and has since spread to scattered locations across the southwest and Pacific states. See Figure 1 for the current range in North America. It should be noted that in all of these states relatively few counties actually have populations of the species. For example, plants have been reported from only two counties in Montana, one county in Oregon and one county in Washington (Rice 2003). The main area of establishment at present is concentrated in New Mexico, Texas and Arizona (Abbott et al. 2007).

Peganum harmala has been reported from NAPPFAST zone 3 in Montana. It is uncertain whether the species has survived there since specimens were collected in the mid-1980's. Even if it can survive in zone 3, which is questionable, it is very unlikely that it will grow in the wetter areas of eastern Canada. In North America, all populations are in dry environments. See figure 2 for a map of the potential range in Canada, based on NAPPFAST zones 3-9.

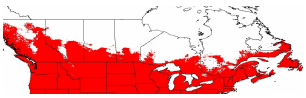
Click on Image for Larger View



Map - USDA, NRCS 2009

Figure 1. Range of *Peganum harmala* in North America

Click on Image for Larger View



Map - NAPPFAST zones 3-9

Figure 2. Potential range of *Peganum harmala* in Canada

5.6 Probability of Spread

Peganum harmala occurs mainly in dry grasslands and saline waste areas. It is also common along roadsides, field edges (Zhirong 1991), run-down pastures (Parsons and Cuthbertson 1992) and near livestock watering facilities (Abbott et al. 2007). It prefers disturbed environments, which are widely available in Canada. The species spreads primarily by seed. Most seeds fall close to the parent plant. Seeds can be moved with water flowing over soil. Animals can deposit the seeds in droppings after feeding on the plant. Pieces of the rootstock can root and sprout if the plants are

cultivated (Parsons and Cuthbertson 1992).

5.7 Potential Economic Consequences

Peganum harmala grows in dry rangelands (Parsons and Cuthbertson 1992). Once established, it is persistent, dominant and difficult to control. In disturbed rangeland in New Mexico, the species makes up most of the local vegetation (Abbott et al. 2007). Since the plants are very unpalatable and toxic, heavily infested rangelands lose much of their forage value.

5.8 Potential Environmental and Social Consequences

Peganum harmala contains at least 4 poisonous alkaloids and is toxic to people (Mahmoudian et al. 2002). It is also toxic to livestock including horses, sheep and cattle, and is almost certainly unsuitable as forage to native grazers as well (Abbott et al. 2007, Kingsbury 1964). It is extremely drought tolerant and can invade dry grasslands and desert rangelands (Parsons and Cuthbertson 1992), where it can become the dominant vegetation under suitable conditions (Abbott et al. 2007).

5.9 Uncertainty

There is considerable uncertainty around the estimate of climatic tolerance for *Peganum harmala*. The world range and the main range in the U.S. would suggest that the species would survive to about NAPPFAST zone 5 or 6. However, the records from Montana are in zone 3. The documented records of *Peganum harmala* are very scattered in the western U.S., so it is difficult to determine just where it will eventually grow. It has not been declared a noxious weed in Montana, which suggests that it has not demonstrated serious invasive tendencies there, even if the populations have persisted. It is quite possible that it has not persisted in that state, as the most recent collections to which references could be found were made in 1985 (Rice 1997-2008).

5.10 Conclusion

Based on the outcome of the pest risk assessment, *Peganum harmala* is likely to establish and become invasive in parts of Canada, particularly southern British Columbia, and possibly most of the southern prairies if it is introduced to these areas. It is recommended that the pest risk analysis process continue for this plant with the completion of a Risk Management Document.

5.11 Technical Issues for Consideration

There should be no issues connected with the identification of either the plants or the seeds of *Peganum harmala* by trained inspectors and analysts.

6.0 Risk Management Considerations

6.1 Introduction

In cases where different risk mitigation approaches are possible, the RMD provides a means of communicating and recording information. In this section, potential risk mitigation measures are provided for each pathway type outlined in Section 5.4, Table 1. The effectiveness and feasibility of those mitigation measures are discussed including impacts on the CFIA, practicality of implementation, impacts on Canadian stakeholders, impacts on trading relationships, and short-term and long-term sustainability.

This RMD documents the rationale in determining the regulatory status of the plant. It outlines the possible phytosanitary requirements for traded commodities. The commodities may be the plant under consideration for regulation itself (intentional introduction) or a product contaminated with the plant (unintentional introduction).

6.2 International Responsibilities, Government of Canada Priorities and CFIA Objectives

The CFIA plays an important role in protecting Canada's plant resource base from pests and diseases. The objectives of the Plant Protection Program within the CFIA are: (1) to prevent the introduction and spread within Canada of plant pests of quarantine significance, including invasive plants; (2) to detect and control or eradicate designated plant pests in Canada; and (3) to certify plant and plant products for domestic and export trade.

Canada is a contracting party to the International Plant Protection Convention (IPPC). Canada is a member of the World Trade Organization (WTO) and the IPPC is formally identified in the WTO Sanitary and Phytosanitary (SPS) Agreement as the international standard setting organization for phytosanitary measures. The IPPC is an international treaty to secure action to prevent the spread and introduction of pests of plants and plant products (including plants as pests), and to promote appropriate measures for their control. As the administrator of the *Plant Protection Act*, the CFIA is Canada's official National Plant Protection Organization responsible for implementing the standards of the IPPC in Canada.

The *Plant Protection Act* provides authority to prevent the importation, exportation and spread of pests injurious to plants, and provides for control and eradication methods and for the issuance of certificates.

In 1996, as a party to the United Nations Convention on Biological Diversity (CBD), Canada developed its own Canadian Biodiversity Strategy, which recognized the need to conserve biological diversity and promote the sustainable use of biological resources through increased understanding, legislation, incentives and other means. As party to these international and national instruments, Canada has a strong commitment to addressing the deleterious impacts of invasive plants.

6.3 Values at Risk

Rangelands are important ecosystems that provide an abundance and variety of products, such as browse and forage for both wild and domesticated animals and wood fibre. Rangelands also provide drinking water, habitat for wildlife, biodiversity, nutrient cycling and recreational opportunities (Horton, 1996). *Peganum harmala* has the ability to invade rangelands, threatening their native biodiversity and ecological capital.

One of the most common and profitable uses of rangeland is livestock grazing. Over 26 million hectares of Canada's land base consists of native rangeland used for this purpose. Rangeland provides 76% of Canada's forage resources (cultivated pastures and forage crops make up the other 24%). The majority of rangelands (96%) used for livestock production are situated in western Canada (McCartney and Horton 1997). The establishment of *Peganum harmala* is most likely to occur in British Columbia and the prairie regions, where 84% of the nation's beef cow herd is produced (McCartney and Horton 1997).

Furthermore, the mixed prairie region in the southern prairies, being the driest portion of the Northern Great Plains in Canada, is particularly favourable habitat for *Peganum harmala* (see

section 5.6 and 5.7). Grazing in the mixed prairie region generates approximately $270 million of economic activity per year and contributes to 15% of all beef cattle present on the Canadian prairies (Willms and Jefferson 1993).

6.4 Potential Mitigation Measures for Natural Means of Dispersal

Seeds of *Peganum harmala* are moved within water flowing over the soil (Parsons and Cuthbertson 1992), but this is an unlikely pathway for entry into Canada, unless plants are growing at the border. Animals can deposit the seeds after feeding on the plant. This is also an unlikely pathway for entry due to the toxic and unpalatable nature of the plants. Cattle, sheep and horses will avoid eating this plant (Parsons and Cuthbertson 1992). Two U.S. states bordering Canada are reported to have populations of *Peganum harmala*. One county in central Washington and two counties in Montana have the weed, but only the counties in Montana are bordering Canada (USDA, NRCS 2009). There is uncertainty as to whether the populations in Montana have survived. Although natural dispersal is currently an unlikely pathway of entry into Canada, regulation of *Peganum harmala* will require surveys that would detect any new incursions established through this pathway. Education and outreach programs, as well as pest identification training for inspectors, would also support the early detection and rapid response to new pest incursions that may result from natural dispersal events.

6.5 Potential Mitigation Measures for Intentional Introduction Pathways

6.5.1 Seed

6.5.1.1 Previous imports

The value of seeds of *Peganum harmala* coming into the country is unknown.

6.5.1.2 Potential risk mitigation measures

Two substances found within *Peganum harmala* (harmaline and harmalol) are regulated as controlled substances under Schedule 3 of the *Controlled Drugs and Substances Act* (1996, c.19) administered by Health Canada. According to s. 2.2 of the Act, a controlled substance includes any thing that contains a controlled substance and any thing that is intended for use in producing the substance. The substance may not be obtained by cultivating, propagating, or harvesting it from any living thing from which it may be extracted. The import, export, sale and production of harmaline, harmalol and plants that contain these substances is prohibited (CDSA, s. 4).

Regulating *Peganum harmala* under the *Plant Protection Act* and *Seeds Act* in addition to the measures already in place under the CDSA will provide another means to prevent the species from entering the country and additional enforcement measures if the species is intercepted at the border. Under the CDSA, only the chemicals contained within *Peganum harmala* are listed under Schedule III. If placed on the *Weed Seeds Order* and List of Pests Regulated by Canada, the plant name will be listed.

a. Regulate *Peganum harmala* as a prohibited noxious weed (Class 1) under the *Weed Seeds Order* of the *Seeds Act*[1].

- This species meets the definitions for Class 1[2] species under the *Weed Seeds Order*.

- This measure will complement measures already in place under the CDSA to regulate *Peganum harmala*. It will further ensure that seeds of the plant are not allowed entry into Canada.

b. Regulate as a quarantine pest under the *Plant Protection Act*. Add this species to the List of Pests Regulated by Canada (CFIA 2009) in order to:

- Further prevent the importation, movement, and cultivation of this species in Canada.
- Enable inspectors to take appropriate action for the purposes of eradicating the pest or preventing its spread. This could include: quarantine of commodities suspected of being infested with the pest; request for appropriate treatment to remove the pest; prohibit or restrict items coming from an infested area; or request that items suspected of being infested with the pest are disposed of by the party in possession of the items.

Regulatory actions under the *Plant Protection Act* could include the following:

- Prohibit importation of *Peganum harmala* seed and refuse to issue Permits to Import for seed of *Peganum harmala*.
- Require importers of plant material from the non-continental U.S. to apply for a Permit to Import with scientific name specified.
- These measures will enable CFIA to further ensure seeds of this plant do not enter Canada.
- Seed of horticultural plants is not within the scope of CFIA's draft directive D-08-04 on plants for planting (CFIA 2008b). Therefore, phytosanitary requirements will be specified under a new regulatory directive or D-08-04 will be revised.

6.5.1.3 Trade Implications

Regulating *Peganum harmala* under the *Seeds Act* and *Plant Protection Act* will cause no market value loss.

6.5.1.4 Cost-effectiveness and Feasibility

The CFIA Seed Program is already in place to prevent the entry of prohibited noxious weeds.

6.6 Potential Mitigation Measures for Non-intentional Introduction Pathways

6.6.1 Vehicles and Used Farm Machinery

6.6.1.1 Previous imports

- A considerable volume of vehicles cross the U.S.-Canada border every year.
- Information is not available on the volume of imports of used farm machinery.

6.6.1.2 Potential Risk mitigation measures

Enforcement of the Directive 95-26: "Phytosanitary requirements for soil and related matter, alone or in association with plants" (CFIA 2008c).

- In 2003, the Canada Border Services Agency (CBSA) assumed responsibility for the initial import inspection services in respect to the Acts and Regulations administered by the CFIA to the extent that they are applicable at Canadian border points. The inspection of goods that may be contaminated with soil are among the responsibilities that were transferred to the CBSA in 2003. The Food, Plant and Animals Programs Section of the CBSA is currently finalizing its Standard Operating Procedures (SOP) concerning the "Inspection of Imported Goods Potentially Contaminated with Soil." This SOP provides the CBSA's Border Services Officers with formal procedures for the inspection and disposition of goods that may be contaminated with soil, including used agricultural machinery and vehicles.

7.0 Pest Risk Management Options

7.1 Introduction Table 2 summarizes the risk management options considered for *Peganum harmala*

Table 2: Advantages and disadvantages of the pest risk management options

Options	Advantages	Disadvantages
1) Place *Peganum harmala* on the List of Pests Regulated by Canada AND Regulate *Peganum harmala* as a prohibited noxious weed under the *Weed Seeds Order* of the *Seeds Act* Implement Official Control measures if *Peganum harmala* is found in Canada.	Control over all of the pathways of introduction. Authority to respond to incursions by applying Official Control measures. Protection of the livestock industry that relies on rangeland grazing. Protection of biodiversity and ecosystem services provided by native rangeland.	Potential costs to the owner of the non-compliant good in the exporting country. Resources needed by CFIA for marketplace monitoring, surveillance, inspector training, communication material, sampling. Resources needed by CFIA to enforce the regulation if non-compliance found. If *Peganum harmala* is found in Canada, resources needed by CFIA to administer and enforce Official Control (eradication or containment measures). Potential costs to businesses and citizens affected by the trade impacts of regulation and official measures to control any infestations, as specified in the *Regulations* of the *Plant Protection Act*. Financial impacts are estimated to be minimal because *Peganum harmala*.
2) Status Quo - Do not place *Peganum harmala* on the List of Pests Regulated by Canada AND Do not regulate *Peganum harmala* as a prohibited noxious weed under the *Weed Seeds Order* of the *Seeds Act*.	No additional costs for the CFIA. No additional requirements for exporters to Canada.	No authority to apply official control measures to introduced or established populations. Potential loss of forage value for infested rangelands. No protection of native rangeland habitat and ecosystem services provided by them. Potential toxic effects to livestock and humans.
3) Do not place *Peganum harmala* on the List of Pests Regulated by Canada AND Add *Peganum harmala* to the list of prohibited noxious weeds under the *Weed Seeds Order* of the *Seeds Act*.	Control over the seed pathway as specified by the *Seeds Regulations*.	Only limited increase in protection of natural ecosystems. No authority to apply Official Control measures to introduced or established populations.

7.2 Preferred Option

The CFIA recommends Option 1.

- As a signatory party under the International Plant Protection Convention (IPPC), the Government of Canada has a right to prevent the entry into Canada of invasive plants that can cause serious damage or threaten biodiversity, and to officially control them if they are present. As a signatory party to the Convention on Biological Diversity, the Government of Canada shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.
- *Peganum harmala* presents a serious risk to the Canadian environment and economy, and to the biodiversity of native ecosystems
- Although the sale and import of *Peganum harmala* is prohibited under the *Controlled Drugs and Substances Act*, regulation under the *Plant Protection Act* will give CFIA the authority to respond to any future incursions.
- The proposed risk management option is cost-effective and the advantages clearly outweigh the disadvantages.

8.0 Risk Management Decision

8.1 Decision

The CFIA will make a decision after consulting with stakeholders and reviewing their comments. The CFIA will engage its federal, provincial and territorial partners, affected Canadian stakeholders, the scientific community and the general public in the consultation process.

8.2 Next Steps

The implementation of the regulation of *Peganum harmala* will require the following steps:

- World Trade Organization (WTO) notification;
- Canada Border Services Agency (CBSA) notification;
- changes to the List of Pests Regulated by Canada and the *Weed Seeds Order*;
- amendments to existing or development of new import directives; and
- amendments to the Automated Import Reference System (AIRS).

8.3 Re-evaluation of the Risk Management Decision

The CFIA will review the risk management decision at least every five years to ensure that the action being taken is still appropriate. The following cases could instigate a review of the risk management decision: (1) new information becomes available about the invasiveness of the species, (2) new incursions in Canada occur, (3) the species' world distribution changes, and (4) Canadian international trade patterns change. The extent of the review and potential amendments will be determined by the nature of the new material. In some instances, additional consultation with stakeholders will be required. Amendments are recorded in Appendix 1.

9.0 Communication Plan

If the CFIA, after consultation, decides to add *Peganum harmala* to the List of Pests Regulated by Canada, it will implement the following actions:

- post the Risk Management Decision document on the CFIA website;
- amend and post all relevant directives on the CFIA website;
- send a notification to the World Trade Organization 60 days before implementation of the regulation;
- amend the Automated Import Reference System (AIRS) to inform importers and the Canada Border Services Agency (CBSA) of the prohibition of entry for *Peganum harmala*;
- prepare and disseminate education and awareness materials.

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11.0 Endorsement

Approved by:

Chief Plant Health Officer

Date

NOTES:

[1] The *Seeds Act* provides authority for the testing, inspection, quality and sale of seeds in Canada.

[2] A prohibited noxious Class 1 species is not yet present in Canada, or is under official control as it has not yet reached its full ecological range. Official control is used to prevent further spread of the species and with the goal of eradicating the species. The species must be a weed whose presence in seed could affect the value and/or intended use of the seed; and/or could have potential impact on the economy, human and/or animal health. This determination would be based on a Pest Risk Assessment type process. The species must have identifiable seeds that can be visually distinguished from those of other species, or in rare instances, from entire genera.

Appendix 1

Amendment Record

Amendment Number/Document Version	Amended by	Date Amended	Purpose of Amendment

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