



WEED SEEDS ORDER REVIEW

PROPOSAL FOR CHANGE

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Please respond by January 15, 2010

1.0 PURPOSE

The purpose of this document is to seek broad stakeholder feedback on a proposed revision to the *Weed Seeds Order* of the *Seeds Act*. This consultation document incorporates feedback and science advice received thus far, and formulates the basis of a new *Weed Seeds Order*. The results of this consultation, including comments received, will be incorporated into the Regulatory Impact Analysis Statement and the regulatory change process leading to pre-publication in *Canada Gazette*, Part I.

Your participation in this consultation will help the Canadian Food Inspection Agency (CFIA) better understand your views and concerns. The ability of the CFIA to maintain an efficient, effective and responsive plant program regulatory framework is largely dependant on a strong consultative framework. Feedback is solicited from traditional seed program stakeholders and also invited from Canadians with specific expertise in weed and invasive plants, and with crop-type and regional perspectives.

2.0 BACKGROUND

The *Seeds Act* and *Regulations* govern the testing, inspection, quality and sale of seed to facilitate the availability of pure, effective seed for Canadian consumers and export markets. The *Weed Seeds Order* is a Ministerial order made under the *Seeds Act*.

Depending on your familiarity with the Seed Program and the *Weed Seeds Order* you may wish to access the following resources.

1. *Seeds Act* and *Regulations*
<http://www.inspection.gc.ca/english/plaveg/seesem/seeseme.shtml>
2. *Weed Seeds Order*
<http://www.inspection.gc.ca/english/plaveg/seesem/seeseme.shtml>
3. "SCOPING THE ISSUES", CANADIAN SEED INSTITUTE *WEED SEEDS ORDER (WSO)* WORKSHOP. October 29, 2008.
<http://www.nationalforumonseed.com/News/news-e.html>
4. "INITIATING CHANGE" CANADIAN SEED INSTITUTE *WEED SEEDS ORDER (WSO)* WORKSHOP II. March 11, 2009.
<http://www.nationalforumonseed.com/News/news-e.html>

The *Weed Seeds Order* (WSO) classifies weed species within six classes for the purposes of establishing purity standards for seed in Canada. The WSO plays a critical role in the prevention of intentional (as a crop) and unintentional (as a seed contaminant) introductions of new weeds into Canada and contributes to the CFIA's mandate of protecting the plant resource base.

Class 1, Prohibited Noxious weed species, are prohibited from all imported and domestic seed in Canada. Classes 2-6 are permitted in seed in restricted quantities which are outlined within Schedule I of the *Seeds Regulations*. Classification of weed species regulates their movement, thereby helping to slow the spread of weedy species within Canada.

The *Seeds Act* has listed weed species since 1905. The regulation of seed for purity is an important aspect of seed standards and most countries regulate seed for purity in a similar manner.

RATIONALE FOR CHANGE

The CFIA is proposing a revision of the WSO at this time for several reasons.

Control of the introduction of new weeds is important to Canada's economy and environment. Established weed species increase the cost of crop production. Weedy species introduced into natural areas can reduce biodiversity and habitat. Weeds present as contaminants of seed represent a high risk pathway, as they are placed in an optimum environment for survival.

Prevention of the introduction of new weed species is the most desirable form of control. New species intentionally or unintentionally established in Canada may result in decreased markets for Canadian products. Many of Canada's trading partners are increasing, or in the process of increasing, regulation of weeds as there is an increasing global consideration of plants as pests.

The CFIA must ensure Canadian compliance with international obligations. Therefore, the definition of Class 1 Prohibited Noxious weed species must be aligned with the International Plant Protection Convention's (IPPC) definition of a quarantine pest. Each species listed as a Prohibited Noxious weed must meet the definition of a quarantine pest. Also, stakeholders have expressed a desire for the clarification of the definitions for all the classes of weed species within the WSO. These definitions are CFIA policy and will remain outside of regulations.

Over time, the biological distributions of species change and new potential species of concern are identified. As a result, it is necessary to review the WSO periodically and make necessary changes in order to ensure that the Order remains effective at prohibiting species of concern and controlling the spread of weed species through seed. The WSO was last updated in 2005; therefore, a review of the WSO is needed in order to remove species that no longer meet the definition of a Prohibited Noxious weed species, add new species of concern to the WSO and review the classifications of all species currently listed in the WSO. Changes are required to the current status of listed species as some have been listed for decades and some are now considered crops in regions of the country.

The WSO may be considered to have primarily an agricultural context; however, the *Seeds Act* applies to all seeds and non-agricultural products must comply with its regulations. Seed products marketed as wildflower mixtures, wildlife baiting mixtures and land reclamation mixtures, for example, are subject to the *Seeds Regulations* and the WSO. Species listed in the WSO must continue to address the threat of weeds and invasive plants in these market segments.

PROCESS

The WSO is being updated in order to reflect current species' distributions, add new species of concern to the WSO, fulfill a commitment by the CFIA under the Invasive Alien Species program, and review the classifications of the current species. The CFIA will continue to work

with stakeholders on the proposed revisions and will continue to solicit the support of the provinces to co-ordinate the WSO with the provincial and regional weed lists.

There have been two Canadian Seed Institute workshops held (October 2008 and March 2009) to gather information and stakeholder feedback on the WSO. The meeting reports, and background information provided at the workshops, can be found on the National Forum on Seed website at:

<http://www.nationalforumonseed.com/News/news-e.html>

Several of the species proposed for inclusion in the WSO are also proposed for regulation by the CFIA under the *Plant Protection Act* and *Regulations* as quarantine pests. A separate and distinct consultation in this regard will be undertaken by the CFIA and may occur in a similar timeframe to this WSO consultation. The *Weed Seeds Order* will however, remain the primary regulatory tool for weeds via the seed pathway.

3.0 WEED SEEDS ORDER DEFINITIONS

The following definitions were used when proposing the placement of species within the classes of the WSO:

1. Prohibited Noxious

The species is not yet present in Canada, or is present and is under official control¹ 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 lot; and/or could have potential impact on the economy, human health 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.

Rationale:

Suggestions on proposed WSO Class definitions have been made during consultations conducted thus far. All suggestions were given full consideration. Below is the rationale for the inclusion or exclusion of the suggestions made regarding the Prohibited Noxious weed class:

1. The suggestion was made to further define the term “official control”. During consultations to date, the IPPC definition of “official control”² has been included as a footnote to the Prohibited Noxious weed definition. As “official control” is already defined by the IPPC, it was determined that defining the term directly in the definition of the Prohibited Noxious weed class would make the definition too lengthy and confusing. Therefore, the definition remains as a footnote to ensure that it is readily available as a reference.
2. The suggestion was made to include the environment when describing the potential impact. Rather than include the environment in the definition for Prohibited Noxious weeds, it is being proposed to include a reference to the economy within the definition. The IPPC includes effects on the environment within their interpretation of potential economic importance. Therefore, the definition for Prohibited Noxious weeds will reference that the species “could cause a potential impact to the economy...” The interpretation of economy will include impacts on the environment.
3. The suggestion was made to change the sentence from “could have potential impact” to “would have potential impact” in order to indicate a higher standard of proof. The reasoning behind this suggestion was understood; however, it was felt that the change in

¹ Official control includes control by the federal government or by a government-authorized agency or organization.

² The active enforcement of mandatory phytosanitary regulations and the application of mandatory phytosanitary procedures with the objective of eradication or containment of quarantine pests or for the management of regulated non-quarantine pests. ISPM No 5.

wording would limit the scope of the *Weed Seeds Order*. For Prohibited Noxious weeds, the impact is usually predicted as the species is not yet present in Canada (or present, but under official control). With some species, the predicted impact of the species may be serious enough to consider regulating the species based on the scientific prediction that the species “could” have an impact. Therefore, it is most appropriate to state that the species “could have potential impact.”

4. The suggestion was made to clarify within the definition that the impact would be a negative impact. Although the intent of the definition is that the impact would be negative, it is felt that this meaning can be understood by the proposed wording for the definition without adding the word negative.

5. Concern was raised about including the word “visual” when describing that the seed must be “visually distinguishable...” Some stakeholders felt that including this word limits present and future options such as chemical analyses and bar coding. Although many different options are available for identifying seeds to the species level, the CFIA is usually restricted to visual identification in its day-to-day operations. Graders and inspectors may be required to identify weed seeds using only their eyesight and a simple hand lens. In these situations, it would not be feasible to send samples of all seed for laboratory analysis. Another consideration is time, if laboratory testing (i.e. chemical analyses and/or barcoding) is required for all certificates of analysis this would significantly increase the cost and time for industry and for the CFIA. Therefore, it was decided to maintain the requirement that seeds be “visually distinguishable”. However, since these definitions are written in policy, and not regulation, the definitions can be revisited should the need arise and/or if circumstances change.

6. Stakeholders felt that the definition would be improved by changing the order of the sentences in the definition. The CFIA felt this was an excellent suggestion and as a result has re-organized the components of the definition. This organization allows the class specific information to be at the beginning of the definition and requirements that are the same for all classes to be placed at the end.

2. Primary Noxious

The species is present in Canada and has not reached its full ecological range. The species must be a weed whose presence in seed could affect the value and/or intended use of that seed lot; and/or could have a potential impact on the economy, human health 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.

Rationale:

The main difference between the Prohibited Noxious weed class and the Primary Noxious weed class is the distribution of the weed species. With Primary Noxious weeds, the weed species is present in Canada, has not reached the limits of its ecological range and is not under official control. Prohibited Noxious weeds are either not present in Canada, or are present and under official control with the intent of containing the distribution or eradicating the species.

During the consultations to date, many of the comments and suggestions that were raised regarding the Prohibited Noxious definition were also made regarding the Primary Noxious weed definition. These suggestions included: reorganizing the order of the definition, changing the definition to state “negative impact” and removing the word “visually” from the requirement for the species to have seeds that are visually distinguishable from other species. The rationale for the decisions regarding these comments can be found within the rationale for the definition of Prohibited Noxious weeds. Below is the rationale for the inclusion or exclusion of another comment made regarding the definition for the Primary Noxious weed class:

1. The suggestion was made to include a statement within the definition that states that the species “Would be difficult to eradicate or control by good cultural practices once established in cultivated fields.” As one of the purposes of classifying a species as a Primary Noxious weed is to control the spread of the species through seed, the decision was made to not include this proposed statement regarding ability to control or eradicate. Although some species may be easily controlled or eradicated through certain cultural practices, it is still possible for the species to become a problem. Firstly, not all growers follow the same cultural practices, what may be considered easily controlled for some growers may be a serious problem for others. Secondly, although a species may be managed through cultural practices, it still may be best to minimize spread through seed in order to minimize control costs and spread outside of cultivated fields. The ability to control/manage a weed species may be considered as part of the overall risk of the species; however, it will not be included as a criterion within the Primary Noxious weed definition.

3. Secondary Noxious and Noxious

The species is relatively common and widespread in Canada. The species must be a weed whose presence in seed could affect the value and/or intended use of the seed lot. The species must have identifiable seeds that can be visually distinguished from those of other species, or in rare instances, from entire genera.

Rationale:

The proposed definition that was presented for consultation included the requirement that “the species are relatively easy to eradicate or control in cultivated fields.” Some stakeholders felt that this requirement within the definition was not appropriate as it was difficult to define the term “easy” and that it was a relative term. Some stakeholders felt that if a species was not easy to control then it would automatically have to be classified as a Primary Noxious weed, which may not be appropriate.

The previous definition that had been proposed during consultations was also felt to be too vague by some stakeholders. Some stakeholders also felt that there should be mention of the distribution of the species in terms of it being widely distributed or widespread. During our consultations, stakeholders proposed a revised definition for the Secondary Noxious and Noxious weed classes. This definition has been further revised and is the version being proposed in this document.

4.0 STRUCTURE OF THE WSO

The current WSO contains six different classes of weed seeds:

Class 1: Prohibited Noxious

- Applies to all tables of Schedule I to the *Seeds Regulations*.
- Section 7(1)(a) of the *Seeds Regulations* states “seed shall not contain prohibited noxious weed seeds”.

Class 2: Primary Noxious

- Applies to all tables except Tables XIV³ and XV⁴

Class 3: Secondary Noxious

- Applies to all tables except Tables XIV and XV

Class 4: Secondary Noxious

- Applies only to Table XII⁵

Class 5: Noxious

- Applies to Tables XIV and XV

Class 6: Other weed seeds

- Seeds of all other species not listed as crop kinds in Schedule I to the *Seeds Regulations*

The CFIA has presented stakeholders with different options for the structure of the WSO at consultations held to date. The four options proposed were:

1. Status quo
2. Merging the current classes 4 and 5 to make a WSO with only 5 different classes,
3. Reducing the WSO to only 3 classes by removing all Secondary Noxious and Noxious classes of weed species, or
4. Another option proposed through consultation that would better meet the needs of the stakeholders.

There was some level of support for all options proposed, although one option was not clearly favoured. Some felt that status quo would be best because there has been many years experience with this structure and format. Others felt that the second option was best because it simplifies the system and would require less training for those already in the industry. Other stakeholders felt that the third option was best because it was easy to understand and would bring Canada closer in line to the US system.

Throughout the consultations, the CFIA heard that there may still be a need for crop specific weed listings (such as the current Classes 4 and 5 regarding Tables XII, XIV and XV) as well as a need to ensure that the WSO is clearly communicated and up-to-date. Any change to the structure of the WSO requires consultation and may also require changes to the *Seeds Regulations*.

Schedule I of the *Seeds Regulations*, commonly referred to as the Grade Tables, references the terms Primary Noxious, Secondary Noxious and Noxious rather than the Class numeral. If any

³ Table XIV – Lawn or turf mixtures of two or more kinds of seeds

⁴ Table XV – Ground cover mixtures composed of seed of two or more kinds other than cereal mixtures, forage mixtures, and lawn or turf mixtures.

⁵ Table XII – Single ingredient turf grass

of these terms cease to be used, a Regulatory amendment to the Grade Tables may be required.

It is important to note that Primary Noxious applies to all Tables of Schedule I except for Table XIV (Lawn or turf mixtures of two or more kinds of seeds) and Table XV (Ground cover mixtures composed of seed of two or more kinds other than cereal mixtures, forage mixtures, and lawn or turf mixtures). As species are removed from Prohibited Noxious (applies to all seed and all Grade Tables) and reclassified as Primary Noxious, they are no longer regulated in the Table XIV and Table XV crop types. A regulatory amendment may be required to make this change if stakeholders feel this is the correct direction to follow.

The CFIA seeks feedback from stakeholders on the current 6 class structure of the *Weed Seeds Order*.

5.0 WEED SEEDS ORDER TO GRADE TABLE CROSS REFERENCE

The table below illustrates the relationship between Schedule I Grade Tables and the *Weed Seeds Order* classes.

TABLE	CROP TYPE	Standard			WSO Applicable Class	Other Weed Standards
		Primary	Primary plus secondary	Total weeds		
I,II,III,IV,	Cereals, Flax, Sorghum, Hemp	X	X	X	1,2,3	
V	Bean, soybean, sunflower	--	--	X	1,2,3	
VI	Hybrid corn, hybrid sunflower	--	--	X	1,2,3	
VII	Canola, mustard	X	X	X	1,2,3	
VIII	Alfalfa, clover, millet, vetch	X	X	X	1,2,3	
IX	Clover, timothy	X	X	X	1,2,3	
X	Bird's-foot Trefoil	X	X	X	1,2,3	
XI	Forage grass	X	X	X	1,2,3	
XII	Single ingredient Turfgrass	X	X	X	1,2,3,4	
XIII	Forage Mixtures	X	X	X	1,2,3	
XIV	Lawn/Turf Mixtures	--	--	X	1,5	1.Noxious weeds excluding couchgrass 2. couchgrass
XV	Ground cover Mixtures	--	--	X	1,5	
XVI	Beet	X	X	X	1,2,3	Maximum standard for Mayweed
XVII	Cantaloupe, watermelon	X	X	X	1,2,3	
XVIII	Non agricultural field crop - Bean, Corn, Sunflower	--	--	X	1,2,3	
XIX	Broccoli, cabbage etc.	X	X	X	1,2,3	
XX	Misc. vegetables	X	X	X	1,2,3	

6.0 PROPOSED SPECIES PLACEMENT AND RATIONALES

The WSO (2005) currently lists 20 species in Class 1 (Prohibited Noxious), 18 species in Class 2 (Primary Noxious), 17 species in Class 3 (Secondary Noxious), 5 species in Class 4 (Secondary Noxious) and 10 species in Class 5 (Noxious).

This consultation document contains species profiles for 104 species. The intent is not necessarily to include all of these species or to dramatically change the size of the WSO, but to provide stakeholders with the opportunity to comment on all species considered and identify which species they feel are most important to include in the WSO.

Species are suggested for listing because they fit or continue to fit the definition of Prohibited, Primary, Secondary or Noxious as outlined above.

Listed species are selected because movement and spread occurs via the seed pathway. Certain species may also reproduce by other means i.e. vegetative, but are listed on the WSO, as some percentage of reproduction is by seed.

Stakeholders should consider that delisting a species may have repercussions as overall purity standards of seed may decline, and trading partners may look to Canada as a dumping ground for seed with lower purity standards. Placement of species within the WSO can affect the grade applied to particular lots of seed. A listing of impurities (weed seeds and other crops) found in seed over the 2001-2008 time period is included in this document.

Other considerations include demonstration of herbicide resistance and particular concern for certain production practices such as organic, or reduced tillage systems. Affects on human and animal health are noted. Areas requiring further research are also noted. Much of the species specific information was obtained from Pest Risk Assessment documents written by CFIA botanists.

Descriptions of current and proposed WSO species follows. Respondents are also strongly encouraged to review species specific information within the Canadian Seed Institute Workshop reports as posted at <http://www.nationalforumonseed.com/News/news-e.html> as well as conducting their own species specific research.

Latin Name: *Aegilops cylindrica* Host

English Common Name: Jointed goatgrass

French Common Name:

Proposed Classification: 1

Current Classification: 1

Rationale:

Aegilops cylindrica is an annual grass (Poaceae) and is native to Western Asia and Eastern Europe. In Canada, *A. cylindrica* has two populations in Ontario which are undergoing eradication. *A. cylindrica* has been regulated as a weed in Canada since 2005, when it was added to the WSO as a Prohibited Noxious weed. *A. cylindrica* is a serious weed in the western U.S., where it was introduced as a contaminant in winter wheat seed from Russia. *A. cylindrica* is regulated as a noxious weed in AZ, CA, CO, ID, NM, OR and WA and is present in at least four states adjacent to the Canadian border (WA, ID, MT and NY). In the U.S., this species infests more than 5 million acres of winter wheat and 2.5 million acres of fallow land, and costs producers an estimated \$150 million a year. This species is difficult to control in winter wheat, as the two species have similar growth habits and a similarity in their genetics make it possible for the two plants to hybridize. Herbicide control of *A. cylindrica* in winter wheat is ineffective, with the exception of herbicide-tolerant winter wheat varieties. *A. cylindrica* could potentially establish up to Canada Plant Hardiness Zone 2b, which includes the majority of Canada's agricultural land. The presence of *A. cylindrica* in Canadian seed or grain could have negative trade impacts with Mexico, certain U.S. states, Australia, China and possibly other countries. As *A. cylindrica* is under eradication in Ontario, it still meets the definition of a Prohibited Noxious weed. Therefore it is proposed that *A. cylindrica* remain listed as a Prohibited Noxious weed.

Latin Name: *Alopecurus myosuroides*

English Common Name: Slender foxtail

French Common Name:

Proposed Classification: 1

Current Classification: N/A

Rationale:

Alopecurus myosuroides is an erect, winter annual, tufted grass which propagates only by seed. The main pathway for entry into Canada, based on monitoring of seed lots, is as a contaminant in grass seed lots. In monitoring conducted between 2001 and 2007, *A. myosuroides* was detected in 3 imported seed samples. In Canada, *A. myosuroides* has been reported as introduced in contaminated seed at research stations in BC and MB, but it has never become established. This species is regulated in the state of WA. *A. myosuroides* is likely to survive to NAPFAST hardiness zone 6, which would include coastal and extreme southern BC, extreme south western Ontario and the coasts of NS and Newfoundland. The seeds are easily identified and are readily separable from seeds of other *Alopecurus* species. The level of risk for introduction of *A. myosuroides* associated with imports of grass seed, hay and straw into Canada is relatively high since they originate primarily from areas where the species is present. *A. myosuroides* is likely to become weedy or invasive in parts of southern Canada, particularly in winter cereals in southwestern ON. *A. myosuroides* is considered a serious weed of winter cereals in Europe and the states of OR and WA. Herbicide-resistant populations of *A. myosuroides* are reported in Europe. Based on the outcome of the Weed Risk Assessment conducted by the CFIA, it is proposed to list *A. myosuroides* as a Prohibited Noxious weed.

Latin Name: *Bothriochloa ischaemum*

English Common Name: Yellow bluestem

French Common Name: Chiendent à balai, barbe-de-Dieu, pied-de-poule

Proposed Classification: 1

Current Classification: N/A

Rationale:

Bothriochloa ischaemum is an erect, perennial C₄ bunchgrass. *B. ischaemum* is native to central, southern and eastern Europe, large areas of temperate Asia and to a lesser extent, tropical Asia. It was intentionally introduced into the United States in the early 1900s as a soil stabilizer, and as a forage and hay crop. *B. ischaemum* is not regulated at the federal or state level in the U.S. This species is not reported to occur in Canada and no evidence that it is cultivated in Canada was found. The most likely pathway of entry for *B. ischaemum* into Canada is by intentional introduction. *B. ischaemum* currently dominates most central Texas grasslands and is considered a problem by many land managers. Efforts are now being made in the U.S. to curb its planting in favour of native grasses and to control this troublesome species in native vegetation.

The results of the Weed Risk Assessment were that *B. ischaemum* has the potential to establish and become weedy or invasive across much of Canada (NAPFAST zones 2 and higher). Therefore, based on these results, it is proposed that *B. ischaemum* be included as a Prohibited Noxious weed.

Latin Name: *Centaurea iberica*

English Common Name: Iberian star thistle

French Common Name: *Centaurea iberica*

Proposed Classification: 1

Current Classification: N/A

Rationale:

Centaurea iberica is a biennial herbaceous plant, but may behave as an annual or short-lived perennial in some environments. There are no records of *C. iberica* being found in imported seed lots in Canada for the past 10 years, but two samples of imported clover seed from the USA were contaminated with “starthistle” seeds. The main pathway for introduction of *C. iberica* into Canada is considered to be as a contaminant in seed lots. *C. iberica* is likely hardy to NAPFAST Hardiness Zone 6, which would include coastal and southernmost BC, extreme south western Ontario and small areas on the coasts of the Maritime provinces, including Newfoundland. This species displaces valuable forage species in pastures and rangelands and its sharp spines deter grazing animals which restricts access for livestock and reduces the value of hay. The presence of *C. iberica* in Canada could affect trade of forage seed with the states of AZ, CA, NV and OR, where it is regulated. Based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed that *C. iberica* be listed as a Prohibited Noxious weed.

Latin Name: *Centaurea solstitialis*

English Common Name: Yellow starthistle

French Common Name: Centaurée du solstice

Proposed Classification: 1

Current Classification: 1

Rationale:

Centaurea solstitialis is a winter annual herbaceous plant, rarely a biennial or short-lived perennial. Yellow starthistle is poisonous to livestock (horses). *C. solstitialis* has been reported to occur in Canada, but there is no evidence of persistent populations and no evidence was found that it is cultivated in Canada. Therefore, this species is considered absent. Based on the current range of

established populations in the USA, it appears that this species would survive to NAPPFAST Zone 5. *C. solstitialis* was added to the WSO in 1986 as a Prohibited Noxious weed.

Based on the outcome of the pest risk assessment, *C. solstitialis* is considered likely to establish and become invasive in parts of Canada, including southern BC, if it is introduced to these areas. It is proposed that *C. solstitialis* remain listed as a Prohibited Noxious weed.

Latin Name: *Crupina vulgaris* Cass.

English Common Name: Common crupina

French Common Name:

Proposed Classification: 1

Current Classification: 1

Rationale:

Crupina vulgaris is a winter annual weed of the aster family (Asteraceae) and is native to the Mediterranean region of Europe. Since its introduction in the United States in 1968 in Washington, Idaho, Oregon and California, its populations have been increasing. Based on current distribution, *Crupina vulgaris* could establish in Canada in USDA Plant Hardiness Zones 4 to 8. *C. vulgaris* has been regulated as a weed in Canada since 1986, when it was added to the WSO as a Prohibited Noxious weed. Depending on the level of infestation and the potential range of the species, *C. vulgaris* could have serious negative economic impacts on at least two major industries in Canada, forage and livestock production. The marketing of seed commodities could also be affected due to its designation as a federal noxious weed in the United States. *Crupina vulgaris* contributes to the degradation of native and managed plant communities and increases the risk of soil erosion.

As it is not yet present in Canada and a pest risk assessment has shown that it is a potential threat to Canada, it is proposed that *C. vulgaris* remain listed as a Prohibited Noxious weed.

Latin Name: *Cuscuta* spp.

English Common Name: Dodder

French Common Name:

Proposed Classification: 1

Current Classification: 1

Rationale:

Cuscuta spp. are annual parasitic vines of the morning glory family (Convolvulaceae). The genus is widespread around the world and most of the exotic species are now of very sporadic occurrence in Canada. Exotic species could be considered to be “not widely distributed and under official control” and therefore qualify as quarantine pests to Canada. Further definition to the species level is needed. *Cuscuta* spp. is a regulated pest of many grain trading nations.

Latin Name: *Echinochloa colona*

English Common Name: Jungle rice

French Common Name: échinochloé cultivé

Proposed Classification: 1

Current Classification: N/A

Rationale:

Echinochloa colona is an annual grass in the tribe Paniceae. *E. colona* grows in cultivated fields, waste ground and along ditches. *E. colona* is most likely to enter Canada as a contaminant of seed and grain lots, but seeds of *Echinochloa* are difficult to identify to species, so it is probably that such contaminant seeds would be misidentified as barnyard grass. *E. colona* is likely to survive to USDA Plant Hardiness Zone 6b, therefore corn and soybean production in a small area of south western ON would be

the one area of concern. *E. colona* is propagated primarily by seed. Multiple herbicide resistance has been observed in this species within several herbicide groups.

The seeds of *E. colona* can be identified by seed analysts under the microscope. The regulation of this species has the potential to greatly increase the number of submissions of *Echinochloa* seeds, common contaminants of seed, to the CFIA seed laboratory for identification.

Latin Name: *Echium plantagineum*

English Common Name: Paterson's curse

French Common Name: Vipérine faux-plantain

Proposed Classification: 1

Current Classification: N/A

Rationale:

Echium plantagineum is an annual or biennial broadleaved weed. It has been widely introduced around the world as a garden plant and pasture species. Some of the major issues surrounding *E. plantagineum* include its ability to dominate pastures in its exotic range, toxicity to livestock and potential control issues including herbicide resistance. *E. plantagineum* has demonstrated herbicide resistance in Australia. *E. plantagineum* has shown the ability to flower and set seed up to Zone 2 or 3 in field trials. CFIA conducted public consultations on *E. plantagineum* using a document which included the PRA for *E. plantagineum*, management options and finally resulted in the decision to strictly prohibit the importation of *Echium plantagineum* into Canada. The recommendation was also made to regulate *E. plantagineum* as a Prohibited Noxious weed.

Latin Name: *Eriochloa villosa* (Thunb.) Kunth

English Common Name: Woolly cup grass

French Common Name:

Proposed Classification: 1

Current Classification: 1

Rationale:

Eriochloa villosa is an annual grass (Poaceae), is native to Eastern Asia and is introduced in the USA. Four known populations in Canada are in Quebec and are under official control for eradication. Controlling *E. villosa* populations in the field requires a combination of chemical, mechanical and cultural control methods. The potential range of this species includes the corn and soybean growing areas in Canadian Plant Hardiness Zones 3-8. *E. villosa* reduces crop yield in corn, soybean and cereals. *E. villosa* has been regulated as a Prohibited Noxious weed since 2005, when it was added to the WSO. As *E. villosa* is undergoing eradication efforts in Quebec, it is proposed that *E. villosa* remain listed as a Prohibited Noxious weed.

Latin Name: *Halogeton glomeratus* (M. Bieb.) C.A. Mey.

English Common Name: Halogeton

French Common Name:

Proposed Classification: 1

Current Classification: 1

Rationale:

Halogeton glomeratus is an herbaceous, semi-succulent annual of the goosefoot family (Chenopodiaceae). It is native to cold desert regions of central Asia and is widely established in the western USA. *H. glomeratus* is listed as noxious in AZ, CA, CO, HI, ID, NM, NV, OR, UT, WA and WY. The main pathways of introduction are thought to be through human travelling and through the import and movement of live sheep and other livestock. *H. glomeratus* is poisonous to livestock due to its

high concentrations of oxalates. *H. glomeratus* is thought to negatively impact soil processes in several ways, thereby further degrading disturbed or overgrazed ranges and pastures and inhibiting their recovery. *H. glomeratus* has been regulated as a Prohibited Noxious weed since 1960. This species is not present in Canada. This species is considered to be hardy in USDA hardiness zones 3 and higher. It is proposed that *H. glomeratus* remain listed as a Prohibited Noxious weed.

Latin Name: *Milium vernale*

English Common Name: Spring Millet grass

French Common Name: Millet de printemps

Proposed Classification: 1

Current Classification: 1

Rationale:

Milium vernale is an annual grass which reproduces only by seed. This species is not regulated as a federal noxious weed in the U.S. but it is listed as a noxious weed in ID. *M. vernale* was first detected in North America in 1987, when it was found infesting winter wheat and other crops in north-central Idaho. Although the infested area has increased since it was first detected, it has not been reported within North America outside of Idaho. Due to its presence in Idaho, a possible pathway of introduction into Canada is as a seed contaminant in grain or in seed lots from Idaho. It is probable that *M. vernale* would survive to USDA Plant Hardiness Zone 5, which includes coastal and southern BC, south western ON and the Maritimes.

M. vernale is considered likely to become weedy or invasive in the winter wheat growing areas of southern Canada. Based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed to add this species as a Prohibited Noxious weed.

Latin Name: *Nassella trichotoma* (Nees) Hack. Ex Arechav.

English Common Name: Serrated tussock

French Common Name: Stipe à feuilles dentées

Proposed Classification: 1

Current Classification: 1

Rationale:

Nassella trichotoma is a perennial grass which is native to eastern South America. There are no established populations known in North America. *N. trichotoma* is listed by the U.S. as a Federal Noxious Weed and has been regulated in Canada as a Prohibited Noxious weed since 2005. The potential range of this species in Canada would likely be confined to Canadian Plant Hardiness Zone 8, possibly extending into Zone 7. In pasture, this species reduces the carrying capacity due to its low nutritive value and poor palatability to livestock. *N. trichotoma* is a risk to native grasslands as it has the potential to become established in those areas. The main pathway for introduction of *N. trichotoma* into Canada is considered to be as a contaminant of seed.

As *N. trichotoma* is not yet present in Canada and a pest risk assessment has shown that it is a potential threat, it is proposed that *N. trichotoma* remain listed as a Prohibited Noxious weed.

Latin Name: *Paspalum dilatatum*

English Common Name: Dallis grass

French Common Name: Paspale dilaté

Proposed Classification: 1

Current Classification: N/A

Rationale:

Paspalum dilatatum is a perennial, C₄ grass. In parts of the southern USA, *P. dilatatum* is a perennial weed problem on lawns, golf courses and other turf areas. Control in turf is very difficult. This

species is considered a weed of 14 crops in 28 countries. *P. dilatatum* is not currently regulated as either a U.S. federal or state noxious weed. It is probable that the most likely pathway for introduction into Canada is as contaminants in grass seed.

P. dilatatum is considered likely to establish and become invasive in parts of Canada, including southern and coastal BC and possibly southern Ontario and parts of the Maritime provinces, if it is introduced to these areas. Therefore, based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed to include *P. dilatatum* as a Prohibited Noxious weed.

Latin Name: *Peganum harmala*

English Common Name: African-rue

French Common Name: Rue de Syrie, pégane, harmel

Proposed Classification: 1

Current Classification: N/A

Rationale:

Peganum harmala is an erect, stiff-stemmed, bushy perennial herbaceous plant. It is not known to be present or cultivated in Canada. This species reproduces through seed and by natural spread. *P. harmala* was first planted in the United States in 1928 in NM for dye production. It is regulated in AZ, CA, CO, NM, NV and OR. *P. harmala* has been reported from NAPPFAST zone 3 in Montana. The main area of establishment at present is concentrated in NM, TX and AR. Once *P. harmala* is established, it is persistent, dominant and difficult to control. *P. harmala* is considered likely to establish and become invasive in parts of Canada, especially drier areas in southern BC and possibly most of the southern prairies, if introduced. Intentional introduction is the most likely pathway for entry to Canada as the seeds are readily available on the internet.

It is toxic and unpalatable to grazing animals, and is toxic to humans. Two substances found within *P. harmala* (harmaline and harmalol) are regulated as controlled substances under Schedule 3 of the *Controlled Drugs and Substances Act* (CDSA) administered by Health Canada. According to s. 22 of the CDSA, 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 (s. 4). Regulating *P. harmala* under the *Weed Seeds Order* in addition to 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 *P. harmala* are listed under Schedule III. If placed on the WSO, the plant name will be listed.

Therefore, based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed that *P. harmala* be listed as a Prohibited Noxious weed.

Latin Name: *Persicaria perfoliata*

English Common Name: Devil's-tail tearthumb (Mile-a-minute weed)

French Common Name: Renouée du Turkestan

Proposed Classification: 1

Current Classification: N/A

Rationale:

Persicaria perfoliata is an annual or perennial weed that is native to cool temperate regions of eastern Asia. This species reproduces by seed only. It is not considered an agricultural weed, but has caused economic damages and losses to trees and shrubs in orchards, nurseries, Christmas tree plantations (and potentially other commercial forest sites), and regeneration sites. The spiny, thicket-forming nature of *P. perfoliata* could also make natural areas unpleasant for tourists and thereby bring about reductions in

the tourism industry in infested areas. Potential indirect economic impacts include cost of control to a variety of sectors, including seed or grain contamination. In the literature, this species is considered to be hardy to USDA Plant Hardiness Zone 6.

Based on a CFIA pest risk assessment, it is proposed that *P. perfoliata* be listed as a Prohibited Noxious weed.

Latin Name: *Pueraria montana*

English Common Name: Kudzu

French Common Name: Kudzu, vigne japonaise, vigne kudzu

Proposed Classification: 1

Current Classification: N/A

Rationale:

Pueraria montana is a perennial, deciduous, semi-woody vine. *P. montana* is notorious in the United States where it is referred to as the “plant that ate the south”. It shades and crushes its competitors, killing native vegetation and forming kudzu monocultures. In the US, this species is listed as a noxious weed in CT, FL, IL, KS, KY, MA, MS, MO, OR, PA, TX, WA and WV. It has also been nominated as one of the “World’s Worst” invaders. *P. montana* is not native or naturalized in Canada and there is a known plantation of *P. montana* in Toronto, which is maintained by a researcher under carefully controlled conditions. One incursion of *P. montana* was discovered in southwestern Ontario in September 2009. Based on U.S. naturalized range of *P. montana*, it is thought that this species could survive in southern and coastal BC, southwestern ON and the Maritimes. In November 2005, *P. montana* was found within the city of Albany, NY, which is approximately 320 km from the Canadian border. The main pathway for entry into Canada is considered to be intentional movement and planting by humans. *P. montana* also has medicinal, culinary, forage and bioenergy uses that may make it an attractive species for cultivation, regulation of this species as a Prohibited Noxious weed would limit these uses. *P. montana* is an alternate host for soybean rust.

Although seed is not a major pathway for *P. montana*, the results of the pest risk assessment indicated that the prevention of *P. montana* should be stressed as it is very difficult to control once established. Well established stands of *P. montana* can take up to ten years to eliminate, and require persistent elimination of all root material.

Therefore, it is proposed that *P. montana* be listed as a Prohibited Noxious weed.

Latin Name: *Senecio inaequidens*

English Common Name: Narrow-leaved ragwort, South African ragwort

French Common Name: Sénéçon du Cap, sénéçon sud-africain

Proposed Classification: 1

Current Classification: N/A

Rationale:

Senecio inaequidens is a broadleaved, herbaceous short-lived perennial shrub. This species is not thought to be present or cultivated in Canada. This species is a prolific seed producer and is designated a federal noxious weed in the United States. *S. inaequidens* is considered likely to become weedy or invasive in parts of Canada, including southern and coastal British Columbia, extreme southern Ontario and parts of the Maritimes, if it were to be introduced. *S. inaequidens* contains pyrrolizidine alkaloids that are toxic to both livestock and humans. This species prefers warm, dry disturbed sites with well-drained soils. This species is considered a weed of crops and pastures in Europe. Herbicide resistance of *S. inaequidens* has been reported from Germany. Based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed that *S. inaequidens* be listed as a Prohibited Noxious weed.

Latin Name: *Solanum elaeagnifolium*

English Common Name: Silverleaf nightshade

French Common Name: Morelle jaune, Morelle à feuilles de chalef

Proposed Classification: 1

Current Classification: N/A

Rationale:

Solanum elaeagnifolium is an erect, deep-rooted, shrub-like perennial herb. It is a weed of crops, pastures and disturbed areas in its native and introduced ranges worldwide. *S. elaeagnifolium* is not reported to occur in Canada and no evidence was found that it is cultivated in Canada. *S. elaeagnifolium* is regulated as a noxious weed in the following 19 U.S. states: AL, AR, AZ, CA, CO, FL, GA, HI, ID, KS, LA, MI, NM, NV, OK, OR, SC, TX and WA. This species invades cultivated and agricultural land and occurs along roadsides and in rangelands. All parts of the plant, but particularly the berries, are poisonous to livestock. The most likely pathway of entry for this species into Canada is through unintentional introduction as a contaminant of fodder or crop seed. *S. elaeagnifolium* has the potential to become weedy or invasive in parts of BC, southern ON and the Atlantic provinces. The introduction of this species may reduce the yields of forages, corn, wheat, cultivated pastures, vegetables (e.g. potato, asparagus, and tomato), grapes and some fruit trees (e.g. peaches).

Based on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed that *S. elaeagnifolium* be listed as a Prohibited Noxious weed.

Latin Name: *Xanthium sibiricum*

English Common Name: Siberian cocklebur

French Common Name: Lampourde

Proposed Classification: 1

Current Classification: N/A

Rationale:

Xanthium sibiricum is a member of the aster family whose habitat is farmlands, wastelands and crop fields. The main pathways of introduction for this species are as a seed and grain contaminant and through human mediated transport. *X. sibiricum* is not yet present in North America. The potential impacts of this species are not fully understood since the species is not present in NA; however all *Xanthium* species that are present in NA are considered weeds. In China, this species damages cotton, pulses and other crops

As this species is not yet present in Canada and could affect the value and/or intended use of seed, then this species meets the definition of a Prohibited Noxious weed.

Latin Name: *Zygophyllum fabago*

English Common Name: Syrian bean-caper

French Common Name: Fabagelle, faux câprier

Proposed Classification: 1

Current Classification: N/A

Rationale:

Zygophyllum fabago is a much-branched herbaceous plant with a deep, well-developed tap root which spreads primarily by seeds. This species can form large dense colonies that exclude native plants and animals. The thick, waxy leaves allow the plants to survive long periods of drought and the extensive root system provides a competitive advantage over native species. As *Z. fabago* can form dense masses that displace beneficial species on rangelands, this species' biggest economic threat is to ranchers. Control with herbicides is difficult because of the waxy leaf surfaces and extensive root system. The plants of this species are not palatable to livestock. *Z. fabago* is reported to be used as a medicinal herb. It is not

known to occur in Canada. *Z. fabago* is not regulated as a federal noxious weed in the U.S., but it is listed as a noxious weed in CA, ID, NV, OR and WA. The species is thought to have been imported to the U.S. in contaminated alfalfa seed.

The current range of this species in the USA suggests that the species would be hardy to NAPPFast zone 5. Therefore, *Z. fabago* is considered to be likely to establish and become invasive in parts of Canada, including southern BC, if it is introduced. Based, on the results of the Weed Risk Assessment conducted by the CFIA, it is proposed that *Z. fabago* be listed as a Prohibited Noxious weed.

Latin Name: *Abutilon theophrasti*

English Common Name: Velvetleaf

French Common Name: Abutilon

Proposed Classification: 2

Current Classification: 2

Rationale:

Abutilon theophrasti is an annual herb of the mallow family which is native from the Mediterranean area to central Asia. *A. theophrasti* is present in BC, AB, SK, MB, ON, QC, NB, NS and PE and spreads only by seed. In monitoring conducted between 2001 and 2007, one sample was found to contain *A. theophrasti* in 2005.

A. theophrasti was first listed on the WSO in 1986 as a Primary Noxious weed, where it remains currently.

Latin Name: *Acroptilon repens*

English Common Name: Russian Knapweed

French Common Name: Centaurée de Russie

Proposed Classification: 2

Current Classification: 1

Rationale:

Acroptilon repens is an herbaceous perennial of the aster family which is native to Eurasia which reproduces mainly by vegetative shoots from rhizomes but also produces small quantities of viable seed. This species is present throughout the west and central USA. *A. repens* is a noxious weed in Alberta and is a quarantine weed in Australia, New Zealand and Russia. *A. repens* is present in Canada (BC, AB, SK, MB, ON) and is not under official control, therefore does not meet the definition of a quarantine pest. *A. repens* has been listed as a Prohibited Noxious weed on the WSO since 1960. In monitoring conducted between 2001 and 2007, no seeds of this species were detected in samples of either domestic or imported seed. *A. repens* has been reported as difficult or challenging to control in organic production systems. Although this species is present in Canada, there is still the desire to control the spread. The spread of this species through seed can be slowed by reclassifying *A. repens* to a Class 2 Primary Noxious weed species.

Latin Name: *Alliaria petiolata*

English Common Name: Garlic mustard

French Common Name: Alliaire officinale

Proposed Classification: 2

Current Classification: N/A

Rationale:

Alliaria petiolata is an annual, winter annual or biennial, most commonly found in moist woodlands, ditches and fencerows. Seeds are shed in June, and remain dormant for up to 20 months. *A. petiolata* disperses only by seed. *A. petiolata* is present in BC, ON, QC, NB, NS and PE. *A. petiolata* is listed as a noxious weed in AL, CT, MA, MN, NH, OR, VT, and WA. The current distribution suggests that *A. petiolata* is hardy to at least NAPPFAST zone 4. This would predict a potential range in Canada that includes coastal and southern BC, southern AB, southern ON and QC, and most of the Maritime Provinces. During consultations, stakeholders indicated that Garlic mustard was primarily a weed in forests, rather than a seed contaminant. In monitoring conducted between 2001 and 2007, *A. petiolata* was not detected in any domestic or imported seed samples.

Latin Name: *Amaranthus tuberculatus* (*Amaranthus rudis*)

English Common Name: Tall water-hemp

French Common Name: Acnide tuberculé

Proposed Classification: 2

Current Classification: N/A

Rationale:

Amaranthus tuberculatus is an annual herbaceous plant, with both male and female plants. *A. tuberculatus* disperses by seed and grows in wet areas, such as margins of rivers, ponds, marshes, lakes, and creeks, disturbed habitats, such as agricultural fields, roadsides, and railroads. It is currently very limited in distribution in south-western Ontario. The current range of *A. tuberculatus* suggests that the species is hardy to NAPFAST plant hardiness zone 4. This would predict a potential range that includes coastal and southern BC, small areas in extreme southern AB and SK, southern ON and QC, and most of the Maritime Provinces. In monitoring conducted between 2001 and 2007, *A. tuberculatus* was not detected in domestic and imported seed samples. Seed identification may be difficult and require good microscopes and specialized training as most *Amaranthus* seeds are similar in appearance. *A. tuberculatus* has demonstrated herbicide resistance in ON.

Latin Name: *Ambrosia trifida*

English Common Name: Giant ragweed

French Common Name: Grande herbe à poux

Proposed Classification: 2

Current Classification: 2

Rationale:

Ambrosia trifida is an annual herb of the aster family and is native to North America. *A. trifida* is present in AB, SK, MB, ON, QC, NB, NS and PE and is spread by seed. *A. trifida* is designated as a noxious weed in CA, DE, IL and NJ. In monitoring conducted between 2001 and 2007, 17 domestic seed samples, 1 imported seed sample and 1 unspecified seed sample were found to contain *A. trifida*. *A. trifida* was listed as a federally regulated weed in Canada beginning in 1905. In 1960, *A. trifida* was included as a Primary Noxious weed on the WSO, where it is currently listed. Confirmation of glyphosate tolerant *A. trifida* was reported in Ontario in 2009. As *A. trifida* can be difficult to control and due to herbicide tolerance, it is proposed that *A. trifida* remain listed as a Primary Noxious weed.

Latin Name: *Ammi majus*

English Common Name: Bishop's weed

French Common Name: Ammi élevé, Ammi commun

Proposed Classification: 2

Current Classification: N/A

Rationale:

Ammi majus is a glabrous annual, biennial or perennial herb of the parsley family. It is widely cultivated as an ornamental, for the cut-flower trade, and is used medicinally as a source of xanthotoxin. It is toxic to mammals causing photosensitization. There have been no reports of *A. majus* in Canada; however, it may be sold as an ornamental in Ontario. It is unclear to what extent it may be present in Canada in cultivation. *A. majus* is reported as an agricultural weed in Europe, is reported as a principal weed in Argentina, a common weed in Morocco, Egypt, Israel, Lebanon and Iraq and an agricultural weed in the U.S. and Uruguay.

A. majus is not reported from Canada, although it may be present in cultivation. Its known distribution suggests it would find suitable climatic and ecological conditions in Canada. It is proposed that this species be listed as a Primary Noxious weed species.

Latin Name: *Bassia scoparia*

English Common Name: Kochia

French Common Name:

Proposed Classification: 2

Current Classification: N/A

Rationale:

Bassia scoparia is a bushy, annual herbaceous plant. *B. scoparia* is listed as a noxious weed in MB and the Peace River district in BC and is listed as a noxious weed in CT, OH, OR and WA. This species is most common in semiarid grass lands in the Prairie Provinces and is tolerant of elevated salt levels that would not permit the growth of crop plants. Based on the current range in Canada, *B. scoparia* is hardy to at least NAPFAST plant hardiness zone 3, which would include most of southern Canada, including parts of all provinces. The seeds of *B. scoparia* are identified, with some care, by trained analysts. *B. scoparia* is a common and economically important weed in crops and disturbed areas across the prairies and Great Plains of central Canada. This species can be toxic to livestock if consumed in large quantities. Herbicide resistance is an increasing problem with control of *B. scoparia* and there are a number of herbicide-resistant types. No-till systems are more susceptible to *B. scoparia* infestation than conventional tillage systems.

Latin Name: *Bidens pilosa*

English Common Name: Spanish needles, Hairy beggarticks

French Common Name: herbe à aisuilles, bident poilu

Proposed Classification: 2

Current Classification: N/A

Rationale:

Bidens pilosa is an erect, annual herb of the Aster family. This species has been reported to occur in ON and QC; however, these populations are not believed to have persisted and no further collections have been made. Therefore, this species is not considered to be present in Canada. The most likely pathway of entry of *B. pilosa* into Canada is unintentional seed or commodity contamination. The outcome of the risk assessment was that *B. pilosa* has the potential to become weedy or invasive in Vancouver island and coastal BC, and possibly southern ON and parts of the Atlantic provinces. This is a taxonomically difficult genus and identification may be an issue. Further investigation and consultation with the CFIA Seed Laboratory may be necessary to determine if this species can be reliably identified and distinguished from other closely related species.

Latin Name: *Bromus japonicus*

English Common Name: Japanese brome

French Common Name: Renouée japonaise

Proposed Classification: 2

Current Classification: N/A

Rationale:

Bromus japonicus grows as winter annuals, spring annuals or, rarely, biennials. *B. japonicus* grows in fields, waste places, and road verges. *B. japonicus* spreads by seed only and is present in BC, AB, SK, MB, ON, QC and YK. In monitoring conducted between 2001 and 2007, *B. japonicus* was detected in 14 domestic seed samples, 11 imported seed samples and 3 seed samples of unspecified origin.

Seeds can be very difficult to identify to species. *B. japonicus* hybridizes with some other *Bromus* species which makes identification even more difficult.

Latin Name: *Bromus secalinus*

English Common Name: Cheat

French Common Name: brome faux-seigle, brome des seigles, brome sécalin

Proposed Classification: 2

Current Classification: N/A

Rationale:

Bromus secalinus is an annual or winter annual grass. It is common in recently burned rangeland, winter crop, disturbed areas, abandoned fields, eroded areas, and overgrazed grass lands. Seeds are dispersed short distances by wind, but the awns can attach to fur or clothing. *B. secalinus* is present in BC, AB, ON, QC, NB, NS, NF and YK. *B. secalinus* is listed in the U.S. as a noxious weed in the state of AR. Internationally, *B. secalinus* is regulated in India and *Bromus* spp. is regulated in Algeria. The historical and present distribution of *B. secalinus* suggests that the species is hardy to NAPPFAST zone 3. This would give a potential Canadian range that includes all of the densely-populated regions of Canada. In monitoring conducted between 2001 and 2007, *B. secalinus* was detected in 1 domestic seed sample and 2 imported seed samples. *B. secalinus* is similar in its growth and timing to winter wheat which makes control difficult.

Latin Name: *Carduus nutans*

English Common Name: Nodding thistle

French Common Name: Chardon penché

Proposed Classification: 2

Current Classification: 1

Rationale:

Carduus nutans is an herbaceous biennial of the aster family and is native to Eurasia. This species reproduces only by seed which is dispersed by wind, water, wildlife and livestock. *C. nutans* is a restricted weed in Alberta and a quarantine weed in Australia and New Zealand. This species is considered widespread in Canada (BC, AB, SK, MB, ON, QC, NB, NS, NF); however there is still a desire to control the spread as its presence can have significant impacts. *C. nutans* has been regulated as a Prohibited Noxious weed on the WSO since 1986. In monitoring conducted between 2001 and 2007, *C. nutans* was not detected in samples of either domestic seed or imported seed.

As *C. nutans* is widespread and is not under official control, this species does not meet the definition of a Class 1 Prohibited Noxious weed species. Therefore, it is proposed to reclassify *C. nutans* as a Class 2 Primary Noxious weed species.

Latin Name: *Centaurea diffusa*

English Common Name: Diffuse Knapweed

French Common Name: Centaurée diffuse

Proposed Classification: 2

Current Classification: 1

Rationale:

Centaurea diffusa is an herbaceous annual or biennial of the aster family and is native to Eurasia and reproduces solely from seed. *C. diffusa* is a restricted weed in Alberta and a quarantine weed in India. *C. diffusa* is present in BC, AB, SK, ON, and YK and is not under official control; therefore this species would no longer meet the definition of a Prohibited Noxious weed species. *C. diffusa* has been regulated

as a Prohibited Noxious weed on the WSO since 1986. In monitoring conducted between 2001 and 2007, no *C. diffusa* was detected in samples of either domestic or imported seed.

C. diffusa is not known to be present in Quebec or the Maritimes; therefore there is a desire to control the spread to these areas. In order to slow the spread, it is being proposed for reclassification as a Primary Noxious weed species.

Latin Name: *Centaurea stoebe*

English Common Name: Spotted knapweed

French Common Name: Centaurée maculée

Proposed Classification: 2

Current Classification: 1

Rationale:

Centaurea stoebe is an herbaceous biennial of the aster family and is native to Eurasia. It reproduces solely from seed. *C. stoebe* is a restricted weed in Alberta and is a quarantine weed in India. This species is present in BC, AB, ON, QC, NB, NS, and YK, but is not known to be present in Saskatchewan or Manitoba. *C. stoebe* has been regulated as a Prohibited Noxious weed on the WSO since 1986. In monitoring conducted between 2001 and 2007, *C. stoebe* was not detected in samples of either domestic or imported seed.

There is a desire to control the spread of *C. stoebe*; therefore, it is proposed to reclassify the species as a Primary Noxious weed species. Since *C. stoebe* is present in Canada and is not under official control, it would no longer meet the definition of a Prohibited Noxious weed species.

Latin Name: *Centaurea virgata* var. *squarrosa*

English Common Name: Square rose knapweed

French Common Name: *Centaurea virgata* var. *squarrosa*

Proposed Classification: 2

Current Classification: N/A

Rationale:

Centaurea virgata var. *squarrosa* is a perennial species and is very similar in appearance to diffuse knapweed. This species spreads by seed, which readily attach to animal fur and vehicle tires. *C. virgata* var. *squarrosa* is listed as a noxious weed in AZ, CA, CO, NV, OR, UT and WY. In UT, this species is considered a threat for several reasons, including the fact that it destroys wildlife habitat and livestock forage, it produces a natural herbicide that kills beneficial plants around it. In monitoring conducted between 2001 and 2007, *Centaurea virgata* var. *squarrosa* was not detected in any domestic or imported seed samples.

Latin Name: *Conium maculatum*

English Common Name: Poison hemlock

French Common Name: Ciguë maculée

Proposed Classification: 2

Current Classification: 1

Rationale:

Conium maculatum is an herbaceous biennial of the parsley family and is poisonous to livestock and humans. All plant parts are poisonous. It reproduces strictly via seeds. *C. maculatum* is a noxious weed in Ontario and is a quarantine weed in New Zealand. It is regulated in the U.S. states of Colorado, Idaho, Iowa, Nevada, New Mexico, Ohio, Oregon and Washington. This species no longer meets the definition of a Prohibited Noxious weed species as it is present in BC, AB, SK, ON, QC, NB, and NS and is not under official control. *C. maculatum* has been regulated as a Prohibited Noxious weed on the WSO since 1986. In monitoring conducted between 2001 and 2007, *C. maculatum* was not detected in samples

of either domestic or imported seed. *C. maculatum* has been found in two grain imports sampled since February 2008.

It is proposed that *C. maculatum* be reclassified as a Primary Noxious weed species.

Latin Name: *Convolvulus arvensis*

English Common Name: Field bindweed

French Common Name: Liseron des champs

Proposed Classification: 2

Current Classification: 2

Rationale:

Convolvulus arvensis is a perennial herbaceous vine of the morning glory family which is native to North Africa and Eurasia. *Convolvulus arvensis* is widely established in North America and spreads by seed and asexually from roots. It is present in BC, AB, SK, MB, ON, QC, NB, NS and PE. In monitoring conducted between 2001 and 2007, *Convolvulus arvensis* was found in 10 domestic and imported seed samples. *Convolvulus arvensis* has been regulated as a weed in Canada since 1905. In 2005, *Convolvulus arvensis* was reclassified within the WSO from a Prohibited Noxious weed to a Primary Noxious weed. *Convolvulus arvensis* is considered one of the most difficult or challenging species to control in conventional, organic, and no-till systems

It is proposed that it remains listed as a Primary Noxious weed on the WSO.

Latin Name: *Datura stramonium*

English Common Name: Jimsonweed

French Common Name: Stramoine commune

Proposed Classification: 2

Current Classification: 1

Rationale:

Datura stramonium is an herbaceous annual of the nightshade family, is native to Asia, is poisonous to humans and livestock and reproduces only by seed. *D. stramonium* is a noxious weed in Manitoba and a quarantine weed in Australia and South Africa. *D. stramonium* no longer qualifies as a Prohibited Noxious weed species as it is present in BC, SK, ON, QC, NB, NS, and PE and is not under official control. *D. stramonium* has been regulated as a Prohibited Noxious weed since 1986. In monitoring conducted between 2001 and 2007, *D. stramonium* was not detected in samples of domestic or imported seed.

It is proposed that *D. stramonium* be reclassified as a Primary Noxious weed species.

Latin Name: *Euphorbia esula*

English Common Name: Leafy spurge

French Common Name: Euphorbe ésole

Proposed Classification: 2

Current Classification: 1

Rationale:

Euphorbia esula is a perennial herb of the spurge family, is native to Eurasia and is a serious weed of pastures, rangelands and roadsides. *E. esula* reproduces by seeds and vegetatively by rhizomes. *E. esula* is poisonous to livestock. This species is a noxious weed in BC, AB, SK, MB, NS and ON and is a quarantine weed in New Zealand. *E. esula* has been regulated as a Prohibited Noxious weed since 1960. In monitoring conducted between 2001 and 2007, *E. esula* was not detected in samples of either domestic or imported seed. *E. esula* no longer meets the definition of Prohibited Noxious weed species as it is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, and YK and is not under official control. *E. esula* has been reported as difficult or challenging to control in organic production systems.

Although widespread in Canada, it is considered a serious weed whose dispersal through seed should be controlled. Therefore, it is proposed that *E. esula* be reclassified as a Primary Noxious weed species.

Latin Name: *Galega officinalis*

English Common Name: Goat's-rue

French Common Name: galéga officinal

Proposed Classification: 2

Current Classification: N/A

Rationale:

Galega officinalis is a stout, erect, glabrous perennial herb. It has been grown for medicinal use, as a forage crop and as a honey plant. *G. officinalis* was introduced in North America as a medicinal herb and for forage crop trials. This species contains a poisonous alkaloid, galegin, which gives the plants a bitter taste, making them unpalatable to cattle and horses. *G. officinalis* has been reported to occur in localized areas in Ontario and Quebec. Plants of this species prefer stream banks and other moist areas in full sun. *G. officinalis* is listed as a federal noxious weed by the USDA and as noxious or quarantine weed in twelve states in the USA. The current range of this species suggests that plants can survive to NAPPFAST zone 5, which would include coastal, southern and interior BC, small areas of the Peace region of Alberta as well as parts of southern AB and SK, southern ON and QC and most of the Maritime Provinces.

As this species is present in Canada and is not under official control, it does not qualify as a Prohibited Noxious weed. It is therefore proposed to include *G. officinalis* as a Primary Noxious weed.

Latin Name: *Galium aparine*

English Common Name: Cleavers

French Common Name: Gaillet gratteron

Proposed Classification: 2

Current Classification: 2

Rationale:

Galium aparine is an annual herbaceous vine of the madder family and is a world-wide weed of uncertain origin. *G. aparine* is a common annual weed of cereal crops, canola and flax. It is impossible to mechanically separate *G. aparine* seed from canola seed and planting of contaminated canola seed is the primary method of spread. In cereal and flax crops, *G. aparine* reduces yields, causes lodging and interferes with harvesting operations. *G. aparine* spreads by seed only and is present in BC, AB, SK, MB, ON, QC, NB, NS, NF and NT. In monitoring conducted between 2001 and 2007, *G. aparine* was detected in 190 domestic seed samples, 7 imported seed samples and 24 unspecified samples. *G. aparine* has been regulated in Canada as a weed since 1960 when it was added to the WSO as a Secondary Noxious weed (Class 3). In 1986, *G. aparine* was reclassified within the WSO from a Secondary Noxious weed to a Primary Noxious weed, where it remains currently.

It is proposed that *G. aparine* remains listed as a Primary Noxious weed.

Latin Name: *Galium spurium*

English Common Name: False cleavers

French Common Name: Gaillet bâtard

Proposed Classification: 2

Current Classification: 2

Rationale:

Galium spurium is an annual herbaceous vine of the madder family which is native to North Africa and Eurasia. *G. spurium* is a common annual weed of cereal crops, canola and flax. It is impossible to mechanically separate *G. spurium* seed from canola seed and planting of contaminated canola seed is the

primary method of spread. *G. spurium* spreads by seed only and are present in BC, AB, SK, MB, ON, QC, NB, NS, NF and NT. *G. spurium* reduces the yields, causes lodging and interferes with harvesting operations in cereal and flax crops. In monitoring conducted between 2001 and 2007, *G. spurium* was found in 53 domestic seed samples and 7 unspecified seed samples. *G. spurium* has been reported as possessing herbicide resistance in AB and SK. *G. spurium* was added to the WSO as a Primary Noxious weed in 1986 and currently remains listed in this class.

Based on consultations to date and on the information above, it is proposed that *G. spurium* remains listed as a Primary Noxious weed.

Latin Name: *Galium verrucosum*

English Common Name: Warty bedstraw

French Common Name:

Proposed Classification: 2

Current Classification: N/A

Rationale:

Stakeholders have indicated that this species is very problematic in canola. The USDA Plants Database lists this species as present in the state of Michigan. Stakeholder feedback on species characteristics and distribution is requested.

Latin Name: *Heracleum mantegazzianum*

English Common Name: Giant hogweed

French Common Name: Berce de Caucase

Proposed Classification: 2

Current Classification: N/A

Rationale:

Heracleum mantegazzianum is a large, hairy perennial herb that can produce 50,000 seeds per plant. *H. mantegazzianum* is a phytotoxic plant whose sap can cause severe skin inflammation and burns when skin is exposed to sunlight or UV rays. This species spreads by seed and asexually from the crown. *H. mantegazzianum* is currently present in BC, ON, NB and NS. This species is designated as a noxious weed under municipal law in the District of Saanich as well as in the bylaws of Grey and Huron counties in Ontario. *H. mantegazzianum* is listed as a federal noxious weed in the US and is listed as a noxious weed in CT, FL, MA, NC, NH, OH, OR, PA and WA. The current range in North America suggests that *H. mantegazzianum* is hardy to at least NAPPFAST zone 3, which would include all of the densely-populated regions of Canada. In monitoring conducted between 2001 and 2007, *H. mantegazzianum* was not detected in any domestic or imported seed samples.

Latin Name: *Impatiens glandulifera*

English Common Name: Himalayan balsam

French Common Name: Impatiens de l'Himalaya

Proposed Classification: 2

Current Classification: N/A

Rationale:

Impatiens glandulifera is an annual succulent herb of which the seed capsules “explode” at maturity to release hundreds of tiny seeds. This species spreads only by seed. *I. glandulifera* is present in BC, MB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, *I. glandulifera* was not detected in any domestic or imported seed samples.

Latin Name: *Knautia arvensis*

English Common Name: Field scabious

French Common Name: Knautia arvensis

Proposed Classification: 2

Current Classification: N/A

Rationale:

Knautia arvensis is a tall, tap-rooted perennial that can produce up to 2000 seeds per plant, which may remain viable in the soil for many years. This rapidly spreading weed is very competitive with forage stands and native pastures. *K. arvensis* is present in BC, AB, SK, MB, ON, QC, NB and NF. In monitoring conducted between 2001 and 2007, *K. arvensis* was not detected in any domestic or imported seed samples.

Latin Name: *Lepidium appelianum*

English Common Name: Globe-pod hoary cress

French Common Name: Cranson velue

Proposed Classification: 2

Current Classification: 1

Rationale:

Lepidium appelianum is a perennial herb of the mustard family that spread more by vegetative reproduction than by seed. *L. appelianum* is designated as a noxious weed in Alberta and a quarantine weed in New Zealand. It is widespread in BC, AB, SK, and MB, is not under official control and is considered difficult to control. *L. appelianum* was added to the WSO as a Prohibited Noxious weed in 2005. In monitoring conducted between 2001 and 2007, *L. appelianum* was not detected in samples of either domestic or imported seed. *L. appelianum* is now too widely distributed to meet the criteria of a Class 1 Prohibited Noxious weed species and should be reclassified as a Class 2 Primary Noxious weed species.

Latin Name: *Lepidium draba* subsp. *chalapense*

English Common Name: Lens-pod hoary cress

French Common Name: Cranson rampant

Proposed Classification: 2

Current Classification: 1

Rationale:

Lepidium draba subsp. *chalapense* is a perennial herb of the mustard family, is native from the Middle East to China and spreads more often by vegetative reproduction than by seed. *Lepidium draba* subsp. *chalapense* is designated as a noxious weed in Alberta and a quarantine weed in New Zealand, Australia and South Africa. This species is widespread in BC, AB, SK, MB, and ON and is not under official control; therefore, *Lepidium draba* subsp. *chalapense* no longer meets the definition of a Prohibited Noxious weed species. *Lepidium draba* subsp. *chalapense* was added to the WSO as a Prohibited Noxious weed in 2005. In monitoring conducted between 2001 and 2007, *Lepidium draba* subsp. *chalapense* was not detected in samples of either domestic or imported seed. *Lepidium draba* subsp. *chalapense* is now too widely distributed to meet the criteria of Class 1 Prohibited Noxious weed species and is proposed for reclassification as a Primary Noxious weed species.

Latin Name: *Lepidium draba* subsp. *draba*

English Common Name: Heart-pod hoary cress

French Common Name: Cranson dravier

Proposed Classification: 2

Current Classification: 1

Rationale:

Lepidium draba subsp. *draba* is a perennial herb of the mustard family, is native to Europe and western Asia and spreads more often by vegetative reproduction than by seed. *Lepidium draba* subsp. *draba* is designated as a noxious weed in Alberta and a quarantine weed in South Africa. It is widespread in BC, AB, SK, MB, ON, QC, and NS and is not under official control; therefore, *Lepidium draba* subsp. *draba* no longer meets the definition of a Prohibited Noxious weed species. *Lepidium draba* subsp. *draba* was added to the WSO as a Prohibited Noxious weed in 2005. In monitoring conducted between 2001 and 2007, *Lepidium draba* subsp. *draba* was not detected in samples of either domestic or imported seed. *Lepidium draba* subsp. *draba* is now too widely distributed to meet the criteria of a Class 1 Prohibited Noxious weed species and is proposed for reclassification as a Primary Noxious weed species.

Latin Name: *Lythrum salicaria*

English Common Name: Purple loosestrife

French Common Name: Salicaire commune

Proposed Classification: 2

Current Classification: 2

Rationale:

Lythrum salicaria is a perennial herb or sub-shrub of the loosestrife family which is native to Eurasia. *L. salicaria* spreads by seed and asexually from roots. Detached root or stem fragments can also root and develop into flowering stems. This species is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, one sample in 2001 was found to contain *L. salicaria*. *L. salicaria* has been regulated as a weed in Canada since 2005 when it was added to the WSO as a Primary Noxious weed.

Latin Name: *Nicandra physalodes*

English Common Name: Apple of Peru

French Common Name: Nicandre faux-coqueret

Proposed Classification: 2

Current Classification: N/A

Rationale:

Nicandra physalodes is an herbaceous annual plant native to Peru. It is a serious agricultural weed in some parts of the world. It invades many crops, including *Glycine max* (soyabean), *Hordeum vulgare* (barley), *Phaseolus vulgaris* (common bean), *Sorghum bicolor* (sorghum), *Triticum aestivum* (wheat), *Zea mays* (maize), and others. In Canada, *Nicandra physalodes* is introduced in BC, ON, QC, NS and PEI. *Nicandra physalodes* is not regulated as a federal noxious weed in the U.S., but is regulated at the state level in Ohio. In the U.S., *Nicandra physalodes* is cultivated as an ornamental, but tends to escape and become weedy. It is also considered to have low sensitivity to most commonly used herbicides. In Canada, *Nicandra physalodes* has been found as a contaminant in survey samples of birdfeed and wheat. Seeds of *Nicandra physalodes* are similar to those of some other Solanaceae species (e.g. *Physalis spp.*), but they can be distinguished with care and training.

Nicandra physalodes meets the definition of Primary Noxious weed.

Latin Name: *Odontites vernus* subsp. *serotinus*

English Common Name: Red bartsia

French Common Name: Odontite rouge

Proposed Classification: 2

Current Classification: 1

Rationale:

Odontites vernus subsp. *serotinus* is an annual parasitic herb of the broomrape family and is native to Eurasia. It is present in Canada and is not under official control. *Odontites vernus* subsp. *serotinus* was added to the WSO as a Prohibited Noxious weed in 1986. *Odontites vernus* subsp. *serotinus* does not persist under cultivation. For this reason it is seldom a problem in cereals or special crops. The weed is, however, a serious concern in hayland and in pastures. In hay fields, the tiny seedlings grow rapidly after the first cut of hay has been removed. Plants begin flowering two to three weeks later, making the danger of seed contamination in the second cut a serious concern. In pastures, the weed is not grazed by cattle and, with time heavy infestations spread through the field.

Latin Name: *Phragmites australis*

English Common Name: Common reed

French Common Name: Phramite

Proposed Classification: 2

Current Classification: N/A

Rationale:

Phragmites australis is a robust, perennial grass of wetlands and is found mainly in the highest part of marshes, but also along the edge of roads and fields. This species is mainly dispersed asexually via creeping rhizomes that may reach 20 m. *P. australis* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and NT. In monitoring conducted between 2001 and 2007, *P. australis* was not detected in any domestic or imported seed samples. *P. australis* does not usually impact agriculture, as it is a wetland species, however, it is becoming very common in drainage ditches and around field edges in southern Quebec.

Although *P. australis* qualifies as a potential primary noxious weed, there will always be confusion with the native subspecies which will make effective regulation difficult.

Latin Name: *Polygonum cuspidatum* Synonym: *Fallopia japonica*

English Common Name: Japanese knotweed

French Common Name: renouée japonaise, renouée du Japon, liseron japonaise, persicaire cupidée

Proposed Classification: 2

Current Classification: N/A

Rationale:

Polygonum cuspidatum may be found in gardens, in neglected or former garden sites and in waste places. In some places it has escaped from cultivation to become a very aggressive, troublesome weed. *P. cuspidatum* spreads by rhizomes and, rarely, by seed. *P. cuspidatum* is present in BC, MB, ON, QC, NB, NS, PE and NF. *P. cuspidatum* is not regulated as a federal noxious weed in the U.S., but it is listed as a noxious weed in AL, CA, CT, MA, NH, OR, VT and WA. Based on current distribution, it is thought that *P. cuspidatum* is hardy to NAPPFAST plant hardiness zone 3, which includes parts of all the provinces. In monitoring conducted between 2001 and 2007, *P. cuspidatum* was not detected in any domestic or imported seed samples.

Latin Name: *Raphanus raphanistrum*

English Common Name: Wild radish

French Common Name: Radis sauvage

Proposed Classification: 2

Current Classification: 2

Rationale:

Raphanus raphanistrum is an annual or biennial herb of the mustard family which is native to Eurasia. *R. raphanistrum* spreads only by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, 10 samples of domestic and imported seed were found to contain *R. raphanistrum*. *R. raphanistrum* has been regulated as a weed in Canada since 1960 when it was listed as a Primary Noxious weed in the WSO. During consultations, stakeholders indicated that this species is difficult to control.

Latin Name: *Ricinus communis*

English Common Name: Castor bean

French Common Name:

Proposed Classification: 2

Current Classification: N/A

Rationale:

Ricinus communis exhibits various growth patterns (herb, shrub or tree) according to its climatic distribution. The toxicity of seeds is well documented and accidental ingestion of *R. communis* seeds has caused deaths in animals and humans. The toxin ricin is at its highest concentration in the seeds, but it is also found in the leaves. This species is indigenous to eastern Africa, and most probably originated in Ethiopia. It is widely naturalized in the tropics and warm regions of the world. A hard frost will terminate *R. communis* plants in USDA plant hardiness zones 2 to 7. In zones 8 to 11, castor can be treated as a perennial. Since only a small portion of British Columbia is in zone 8, there is little likelihood of *R. communis* behaving as a perennial in Canada. *R. communis* plants are common along stream banks, riverbeds, disturbed areas and can interfere with succession.

R. communis is strictly grown as an ornamental in Canada but is cultivated in other countries as industrial, vegetable or medicinal oil. Records of it in the Canadian nursery trade are from as early as 1827. *R. communis* is listed on 3 invasive weed lists in the southern U.S. In Canada, weediness and invasiveness issues will be limited by *R. communis*' intolerance to cold temperatures.

As *R. communis* seeds and plant parts are toxic to animals and humans, it is proposed this species be listed as Primary Noxious on the Weed Seeds Order.

Latin Name: *Senecio jacobaea*

English Common Name: Tansy ragwort

French Common Name: Sénéçon jacobée

Proposed Classification: 2

Current Classification: 2

Rationale:

Senecio jacobaea is a perennial herb of the aster family which is native to North Africa and Eurasia. *S. jacobaea* spreads by seed, primarily by wind, water and animals. This species is present in BC, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, *S. jacobaea* was not detected in domestic or imported seed samples. *S. jacobaea* was added to the WSO in 1960 as a Prohibited Noxious weed and was reclassified in 2005 to a Primary Noxious weed, where it is currently listed.

Latin Name: *Setaria faberi*

English Common Name: Giant foxtail

French Common Name: Sétaire géante

Proposed Classification: 2

Current Classification: 2

Rationale:

Setaria faberi is an annual grass which is native to eastern Asia. *S. faberi* is present in ON and QC and is not under official control. *S. faberi* was added to the WSO as a Prohibited Noxious weed in 2005. June 24th, 2009 *S. faberi* was reclassified to a Primary Noxious weed. *S. faberi* is known to have herbicide resistance in ON.

In order to help slow the spread of this species, it is proposed that *S. faberi* remain listed as a Primary Noxious weed.

Latin Name: *Silene latifolia* subsp. *alba*

English Common Name: White cockle

French Common Name: Lychnide blanche

Proposed Classification: 2

Current Classification: 2

Rationale:

Silene latifolia subsp. *alba* is a biennial or perennial herb of the pink family which is native to Eurasia. *Silene latifolia* subsp. *alba* spreads mostly from seed but root and stem fragments can establish. *Silene latifolia* subsp. *alba* seeds are similar in size to clovers, so seed impurities have been a source of dispersal. *Silene latifolia* subsp. *alba* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, *Silene latifolia* subsp. *alba* was detected in 56 samples of imported and domestic seed. *Silene latifolia* subsp. *alba* has been regulated as a weed in Canada since 1905. It was included in the WSO in 1960 as a Primary Noxious weed, where it currently remains listed. During consultations, stakeholders indicated that they considered this species difficult to control.

Latin Name: *Silene vulgaris*

English Common Name: Bladder campion

French Common Name: Silène enflé

Proposed Classification: 2

Current Classification: 2

Rationale:

Silene vulgaris is a perennial herb of the pink family which is native to Eurasia. *S. vulgaris* is spread by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and YK. In monitoring conducted between 2001 and 2007, *S. vulgaris* was detected in 6 samples of domestic and imported seed. *S. vulgaris* has been regulated as a weed in Canada since 1923. During consultations, stakeholders indicated that they considered this species difficult to control.

Latin Name: *Silybum marianum*

English Common Name: Milk thistle

French Common Name: Chardon-marie

Proposed Classification: 2

Current Classification: N/A

Rationale:

Silybum marianum is considered an annual species in colder provinces such as SK, although in mild climates it may be biennial. A single seed head can produce from 100 to 190 seeds. In the soil, seed

can remain viable for up to nine years. *S. marianum* is present in BC, AB, SK, ON, QC, NB and NS. In monitoring conducted between 2001 and 2007, *S. marianum* was not detected in any domestic or imported seed samples.

Latin Name: *Sinapis arvensis*

English Common Name: Wild mustard

French Common Name: Moutarde des champs

Proposed Classification: 2

Current Classification: 2

Rationale:

Sinapis arvensis is an annual herb of the mustard family which is native to Eurasia. *S. arvensis* spreads by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. In monitoring conducted between 2001 and 2007, *S. arvensis* was detected in 190 samples of domestic and imported seed. *S. arvensis* is considered one of the most difficult or challenging species to control in organic production systems. *S. arvensis* is known to have herbicide resistance in AB, MB, ON and SK. *S. arvensis* has been regulated as a weed in Canada since 1905. It was added to the WSO in 1960 as a Primary Noxious weed, where it currently remains listed.

Latin Name: *Solanum carolinense*

English Common Name: Horse-nettle

French Common Name: Morelle de la Caroline

Proposed Classification: 2

Current Classification: 1

Rationale:

Solanum carolinense is a perennial herb of the nightshade family, is native to eastern North America and propagates by seed, horizontal root sprouts or by resprouting from root fragments. *S. carolinense* is a noxious weed in Manitoba and a quarantine weed in Australia, India and Russia. *S. carolinense* has been regulated as a Prohibited Noxious weed since 1960. In monitoring conducted between 2001 and 2007, *S. carolinense* was not detected in samples of either domestic or imported seed. It has possibly reached the extent of its potential range in eastern Canada. As it is not under official control, *S. carolinense* does not meet the definition of a Prohibited Noxious weed species. It is proposed that *S. carolinense* be reclassified as a Primary Noxious weed species.

Latin Name: *Soliva sessilis*

English Common Name: Carpet burweed

French Common Name: soliva sessile

Proposed Classification: 2

Current Classification: n/a

Rationale:

Soliva sessilis is a prostrate winter annual or annual weed of the aster family. Seeds are small and the flattened structures terminate in up-turned spine tips that easily attach to shoes, clothing and animals. This species is well adapted to disperse and infests walkways, lawns, parks, golf greens and disturbed areas in general. The CFIA risk assessment stated the overall risk associated with *S. sessilis* to be medium. *S. sessilis* is currently present in BC. *S. sessilis* is regulated as a noxious weed in the U.S. state of WA. In monitoring conducted between 2001 and 2007, *S. sessilis* was not detected in any domestic or imported seed samples. The current distribution in North America suggests that *S. sessilis* can survive to NAPPFAST zone 7.

Latin Name: *Sorghum halepense* (L.) Pers.

English Common Name: Johnson grass

French Common Name: Sorgho d'Alep

Proposed Classification: 2

Current Classification: 1

Rationale:

Sorghum halepense is a perennial grass which is native to the Middle East and western and southern Asia. *S. halepense* is present in ON and has possibly reached the limits of its potential range in Canada. *S. halepense* was first regulated in Canada as a weed in 1923. It was added to the WSO in 1986 as a Primary Noxious weed and then in 2005 it was reclassified as a Prohibited Noxious weed. As *Sorghum halepense* is present in Ontario and not under official control it is proposed that this species be reclassified as Primary Noxious.

Latin Name: *Tripleurospermum maritimum* subsp. *inodorum*

English Common Name: Scentless chamomile

French Common Name: Matricaire inodore (matricaire camomile)

Proposed Classification: 2

Current Classification: 3,5

Rationale:

Tripleurospermum maritimum subsp. *inodorum* is an annual herb of the pink family and is native to Eurasia. *Tripleurospermum maritimum* subsp. *inodorum* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *Tripleurospermum maritimum* subsp. *inodorum* was listed as a Secondary Noxious weed (Class 3) in 1986. In 2005, this species was also included as a Noxious weed (Class 5). In monitoring conducted between 2001 and 2007, *Tripleurospermum maritimum* subsp. *inodorum* was detected in 12 domestic seed samples, 1 imported seed sample and 7 seed samples of unspecified origin.

During consultations, stakeholders identified this species as difficult to control particularly in reduced tillage systems and an Invasive Alien Species concern. Stakeholders recommended listing *Tripleurospermum maritimum* subsp. *inodorum* as a Primary Noxious weed instead of a Secondary Noxious weed.

Latin Name: *Vincetoxicum rossicum* AND *Vincetoxicum louiseae*

English Common Name: Dog strangling vine and Black dog strangling vine

French Common Name: Vigne étrangle-chien, cyananque

Proposed Classification: 2

Current Classification: N/A

Rationale:

Vincetoxicum rossicum is a perennial herb or small vine. This species disperses by seed and by rhizomes. *V. rossicum* is currently present in ON and QC. *V. rossicum* is regulated as a noxious weed in CT, MA and NH. The current distribution of *V. rossicum* suggests that it is hardy at least to NAPPFAST zone 4. This would give a potential Canadian range that includes coastal and southern BC, southern AB, southern ON and QC and most of the Maritime provinces. In monitoring conducted between 2001 and 2007, *V. rossicum* was not detected in any domestic or imported seed samples. There is difficulty in distinguishing seeds of *V. rossicum* from *Vincetoxicum louiseae*, therefore either both species would need to be regulated or neither.

Latin Name: *Cirsium arvense*

English Common Name: Canada thistle

French Common Name: Chardon des champs (chardon du Canada)

Proposed Classification: 2, 5

Current Classification: 2, 5

Rationale:

Cirsium arvense is a perennial prickly herb of the aster family which is native to Eurasia. *Cirsium arvense* spreads by seed or asexually from roots. It is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *C. arvense* is listed as a noxious weed in AK, AL, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, AND WY. In monitoring conducted between 2001 and 2007, *Cirsium arvense* has been found in 32 imported and domestic seed samples. *Cirsium arvense* was first regulated in Canada in 1667 in Quebec and has been regulated federally since 1905. *Cirsium arvense* is considered one of the most difficult or challenging species to control in most crops and management systems. *C. arvense* is regulated federally in the U.S. and by many other trading partners.

It is proposed that *Cirsium arvense* remain listed as a Primary Noxious weed and a Noxious weed (Class 2 and 5).

Latin Name: *Sonchus arvensis*

English Common Name: Perennial sow thistle

French Common Name: Laiteron des champs

Proposed Classification: 2, 5

Current Classification: 2, 5

Rationale:

Sonchus arvensis is a perennial herb of the aster family and is native to Eurasia. This species spreads by seed and vegetatively from roots. *S. arvensis* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK, NU and NT. In monitoring conducted between 2001 and 2007, *S. arvensis* was detected in six seed samples in 2001. During consultations, stakeholders identified *S. arvensis* as difficult to control. *S. arvensis* has been regulated in Canada as a weed since 1905. *S. arvensis* is considered one of the most difficult or challenging species to control in organic and no-till production systems (OMAFRA, 2009).

It is proposed that *S. arvensis* remain listed as both a Primary Noxious weed and a Noxious weed (Class 2 and 5).

Latin Name: *Amaranthus hybridus*

English Common Name: Slim amaranth (Smooth amaranth)

French Common Name: Amaranthe hybride

Proposed Classification: 3

Current Classification: N/A

Rationale:

Amaranthus hybridus has caused poisoning of cattle from nitrate accumulation. Pigweeds are a problem in both conventional and reduced tillage, or no-till, fields. *A. hybridus* is present in MB, ON, QC and NS. In monitoring conducted between 2001 and 2007, *A. hybridus* was not detected in any domestic or imported seed samples. Stakeholders have indicated during consultations that it is difficult to separate *A. hybridus* species by seed.

Latin Name: *Amaranthus powelli*

English Common Name: Powell's amaranth

French Common Name: Amaranthe de Powell

Proposed Classification: 3

Current Classification: N/A

Rationale:

Amaranthus powelli is present in BC, AB, SK, ON and QC. In monitoring conducted between 2001 and 2007, *A. powelli* was not detected in any domestic or imported seed samples. *A. powelli* is known to have herbicide resistance in ON.

Latin Name: *Amaranthus retroflexus*

English Common Name: Redroot pigweed

French Common Name: Amarante à racine rouge

Proposed Classification: 3

Current Classification: N/A

Rationale:

Amaranthus retroflexus is an annual weed that grows in cultivated fields, pastures, roadside ditches, and undeveloped areas. It is a common annual weed which produces many seeds that remain viable for up to 5 years. This weed can be difficult to control in non-competitive crops like flax. This species spreads by seed only. *A. retroflexus* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, NT and NU. In monitoring conducted between 2001 and 2007, *A. retroflexus* was detected in 18 domestic seed samples, 5 imported seed samples and 3 seed samples of unspecified origin. *A. retroflexus* is known to have multiple herbicide resistances in MB, ON and QC.

Latin Name: *Ambrosia artemisiifolia*

English Common Name: Common ragweed

French Common Name: Petite herbe à poux

Proposed Classification: 3

Current Classification: 3

Rationale:

Ambrosia artemisiifolia is an annual herb of the aster family and is native to eastern and central North America. *A. artemisiifolia* spreads by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, *A. artemisiifolia* was detected in 2 samples of domestic seed, 17 samples of imported seed and 5 seed samples of unspecified origin. *A. artemisiifolia*

is known to demonstrate herbicide resistance in QC. *A. artemisiifolia* has been regulated as a weed in Canada since 1905.

Latin Name: *Anthemis cotula*

English Common Name: Mayweed (stinking mayweed)

French Common Name: Camomille des chiens

Proposed Classification: 3

Current Classification: 3

Rationale:

Anthemis cotula is an annual herb of the aster family and is native to Eurasia. *A. cotula* spreads only by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and YK. In monitoring conducted between 2001 and 2007, *A. cotula* was detected in 41 domestic seed samples, 9 imported seed samples and 10 samples of unspecified origin. *A. cotula* has been regulated as a weed in Canada since 1986 when it was added to the WSO as a Secondary Noxious weed (Class 3), where it currently remains listed.

Latin Name: *Avena fatua*

English Common Name: Wild oat

French Common Name: Folle avoine

Proposed Classification: 3

Current Classification: 3

Rationale:

Avena fatua is an annual grass which is native to Eurasia. *A. fatua* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and NT. In monitoring conducted between 2001 and 2007, *A. fatua* was detected in 133 domestic seed samples, 5 imported seed samples and 41 seed samples of unspecified origin. *A. fatua* has demonstrated herbicide resistance in AB, MB and SK. *A. fatua* has been regulated as a weed in Canada since 1905.

Latin Name: *Avena sterilis*

English Common Name: Sterile oat

French Common Name: Avoine stérile

Proposed Classification: 3

Current Classification: 3

Rationale:

Avena sterilis is an annual grass that is native to Eurasia. *A. sterilis* has become naturalized in California and Oregon, where it can be found in fields, vineyards, orchards and on hillsides. *A. sterilis* is present in ON and QC. In monitoring conducted between 2001 and 2007, *A. sterilis* was not detected in domestic or imported seed samples. This species was added to the WSO in 2005 as a Secondary Noxious weed (Class 3). It is not established in Canada although it has been grown rarely.

Latin Name: *Barbarea* spp.

English Common Name: Yellow rocket

French Common Name: Barbarée vulgaire ou cresson de terre

Proposed Classification: 3

Current Classification: 2

Rationale:

Barbarea spp. are biennial herbs of the mustard family which are native to Eurasia and are widely established in North America. *Barbarea* spp. spread by seed. These species are present in BC, AB, MB,

ON, QC, NB, NS, PE, NF, YK and NT. In monitoring conducted between 2001 and 2007, one imported seed sample and one seed sample of unspecified origin were found to contain *Barbarea* spp.. *Barbarea* spp. was included in the WSO in 1960, as a Primary Noxious weed. Further definition to the species level is needed.

Latin Name: *Bromus tectorum*

English Common Name: Downy brome

French Common Name: brome des toits

Proposed Classification: 3

Current Classification: N/A

Rationale:

Bromus tectorum is a tufted annual, winter annual or biennial grass. The species displays considerable variation in characteristics due to genetic differences and responses to local conditions. This species spreads by seed. *B. tectorum* is present in BC, AB, SK, MB, ON, QC, NB, NS, YK and NT and is a serious weed in rangelands, winter wheat, alfalfa and grass seed fields. *B. tectorum* is primarily a threat in the West. Dry plants of *B. tectorum* are extremely flammable and, at high densities, its presence contributes to the frequency and intensity of fires. In monitoring conducted between 2001 and 2007, *B. tectorum* was detected in 8 domestic seed samples, 4 imported seed samples and 4 seed samples of unspecified origin. There are reports of atrazine-resistant strains of *B. tectorum* in the U.S. During the consultations for the 2005 revision to the WSO, some stakeholders expressed concern over the listing of *B. tectorum* as a Secondary Noxious weed. These stakeholders felt that including *B. tectorum* on the WSO would result in reduced revenues for Canadian companies exporting to the US and that it could be interpreted as a non-tariff trade barrier to American seed entering Canada, potentially resulting in retaliatory action.

Latin Name: *Cerastium* spp.

English Common Name: Chickweed, mouse-ear

French Common Name: Céraïste

Proposed Classification: 3

Current Classification: 3, 5

Rationale:

Cerastium spp. are biennial or perennial herbs of the pink family and are native to Eurasia. *Cerastium* spp. spreads by seed and by horizontal stems which root at the nodes and form dense patches. These species are present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *Cerastium* spp. was listed as a Secondary Noxious weed (Class 4) and a Noxious weed (Class 5) on the WSO in 1960. In monitoring conducted between 2001 and 2007, *Cerastium* spp. were detected in 2 domestic seed samples, 11 imported seed samples and 2 seed samples of unspecified origin. Further definition to the species level is needed.

Latin Name: *Chenopodium album*

English Common Name: Lambsquarters

French Common Name: Chénopode blanc, chou gras

Proposed Classification: 3

Current Classification: N/A

Rationale:

Chenopodium album is one of the most abundant weeds of agronomic, horticultural, and vegetable crops. Its tall stature and high water consumption allow it to out compete crops and seriously reduce yield. This species spreads only by seed. *C. album* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK, NT and NU. In monitoring conducted between 2001 and 2007, *C. album* was detected in 711

domestic seed samples, 41 imported seed samples and 137 seed samples of unspecified origin. *C. album* is known to have herbicide resistance in ON.

Latin Name: *Daucus carota* subsp. *carota*

English Common Name: Wild carrot

French Common Name: Carotte sauvage

Proposed Classification: 3

Current Classification: 3

Rationale:

Daucus carota subsp. *carota* is a biennial herb of the carrot family and is native to Eurasia. *Daucus carota* subsp. *carota* spreads only by seed and is present in BC, MB, ON, QC, NB, NS, PE and NF. *Daucus carota* subsp. *carota* has been regulated as a weed in Canada since 1923. In 1960, it was listed on the WSO as a Secondary Noxious weed (Class 3). In monitoring conducted between 2001 and 2007, *Daucus carota* subsp. *carota* was detected in 10 domestic seed samples, 2 imported seed samples and 1 seed sample of unspecified origin. This species has demonstrated herbicide resistance in ON. It is difficult to control in no-till systems. Note that carrot (*D. carota* subsp. *sativus*) is a crop kind in Schedule I and the seeds cannot be differentiated.

Latin Name: *Digitaria* spp.

English Common Name: Crabgrasses

French Common Name: Digitale

Proposed Classification: 3

Current Classification: 4, 5

Rationale:

Digitaria spp. are annual grasses that are native to Eurasia. *Digitaria* spp. spread by seed and are present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. Crabgrass have been regulated as Secondary Noxious (Class 4) and Noxious (Class 5) weeds on the WSO since 1960. In monitoring conducted between 2001 and 2007, *Digitaria* spp. were detected in 10 domestic seed samples and 2 seed samples of unspecified origin. Further definition to the species level is needed.

Latin Name: *Erucastrum gallicum*

English Common Name: Dog mustard

French Common Name: Moutarde des chiens

Proposed Classification: 3

Current Classification: 3

Rationale:

Erucastrum gallicum is an annual or biennial herb of the mustard family and is native to Europe. *E. gallicum* is naturalized in North America. *E. gallicum* spreads by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and NT. *E. gallicum* has been regulated on the WSO as a Secondary Noxious weed (Class 3) since 1960. In monitoring conducted between 2001 and 2007, *E. gallicum* was detected in 5 domestic seed samples and 3 seed samples of unspecified origin.

Latin Name: *Hordeum jubatum*

English Common Name: Foxtail barley (Wild barley)

French Common Name: Orge agreeable, Queue d'écureuil, Orge sauvage

Proposed Classification: 3

Current Classification: N/A

Rationale:

Hordeum jubatum is a perennial plant that grows in tufts and is often found on the edges of alkaline sloughs and salt marshes. This species spreads primarily by seed, but can also spread by tillering once established. *H. jubatum* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, NT and YK. In monitoring conducted between 2001 and 2007, *H. jubatum* was detected in 62 domestic seed samples, 4 imported seed samples and 11 seed samples of unspecified origin.

Latin Name: *Lepidium campestre*

English Common Name: Field peppergrass

French Common Name: Lépidie des champs

Proposed Classification: 3

Current Classification: 3

Rationale:

Lepidium campestre is an annual or biennial herb of the mustard family and is native to Eurasia. *L. campestre* spreads only by seed and is present in BC, AB, ON, QC, NB, NS, PE and NF. In monitoring conducted between 2001 and 2007, *L. campestre* was detected in 27 domestic seed samples and 3 seed samples of unspecified origin. *L. campestre* was listed in 1960 in the WSO as a Secondary Noxious weed (Class 3), where it currently remains listed.

Latin Name: *Linaria* spp.

English Common Name: Toadflax

French Common Name: Linaire

Proposed Classification: 3

Current Classification: 2

Rationale:

Linaria spp. are perennial herbs of the snapdragon family which are native to Eurasia. *Linaria* spp. spread by seed and creeping roots. These species are present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *Linaria* spp. species were added to the WSO in 1960 as Primary Noxious weeds. Further definition to the species level is needed. *Linaria* spp. is considered difficult or challenging to control in organic production systems.

Latin Name: *Lolium persicum*

English Common Name: Persian darnel

French Common Name: Ivraie de Perse

Proposed Classification: 3

Current Classification: 3

Rationale:

Lolium persicum is an annual or biennial grass that is native to western and central Asia. *L. persicum* is present in AB, SK, MB, ON, QC and NU. In monitoring conducted between 2001 and 2007, *L. persicum* was not detected in domestic and imported seed samples. *L. persicum* is known to show herbicide resistance in SK. *L. persicum* was added to the WSO in 1986 as a Secondary Noxious weed (Class 3), where it currently remains listed.

Latin Name: *Panicum* spp.

English Common Name: Panic grass

French Common Name: Panic

Proposed Classification: 3

Current Classification: 4, 5

Rationale:

Panicum spp. are annual grasses that are native to Eurasia and North America. These species are present in BC, AB, SK, MB, ON, QC, NB and NS. *Panicum* spp. were listed as Secondary Noxious (Class 4) and Noxious (Class 5) weeds on the WSO in 1960. In monitoring conducted between 2001 and 2007, *Panicum* spp. were detected in 1 domestic seed sample, 7 imported seed samples and 6 seed samples of unspecified origin. *Panicum* spp. consists of over 400 species. Further definition to the species level is needed.

Latin Name: *Pastinaca sativa*

English Common Name: Wild parsnip

French Common Name:

Proposed Classification: 3

Current Classification: N/A

Rationale:

Pastinaca sativa is a member of the carrot family, a biennial and reproduces only by seed. *P. sativa* contains furocoumarins which can cause severe skin dermatitis when affected skin is exposed to sunlight or UV rays. *P. sativa* is present in throughout Canada and usually occurs in abandoned yards, waste places, meadows, old fields, roadsides and railway embankments.

Latin Name: *Plantago lanceolata*

English Common Name: Ribgrass

French Common Name: Plantagin lancéolé

Proposed Classification: 3

Current Classification: 3

Rationale:

Plantago lanceolata is an annual, biennial or perennial herb of the plantain family and is native to Eurasia. *P. lanceolata* spreads only by seed and is present in BC, SK, MB, ON, QC, NB, NS, PE and NF. *P. lanceolata* has been regulated as a weed in Canada since 1905. It was listed as a Secondary Noxious weed (Class 3) on the WSO in 1960. In monitoring conducted between 2001 and 2007, *P. lanceolata* was detected in 125 domestic seed samples, 11 imported seed samples and 19 seed samples of unspecified origin.

Latin Name: *Prunella vulgaris*

English Common Name: Heal-all

French Common Name: Prunelle vulgaire

Proposed Classification: 3

Current Classification: 4, 5

Rationale:

Prunella vulgaris is a perennial herb of the mint family that is native to Eurasia and North America. *P. vulgaris* spreads mainly by seed and by somewhat creeping stems. *P. vulgaris* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and YK. *P. vulgaris* was listed as a Secondary Noxious (Class 4) weed and Noxious (Class 5) weed on the WSO in 1960. In monitoring conducted between 2001 and 2007, *P. vulgaris* was detected in 4 domestic seed samples, 6 imported seed samples and 2 seed samples of unspecified origin.

Latin Name: All *Rumex* species except *R. maritimus* & *R. acetosella*

English Common Name: Dock

French Common Name: Patience

Proposed Classification: 3

Current Classification: 3

Rationale:

Dock are perennial herbs of the buckwheat family and are native to Eurasia. These species are present in BC, AB, SK, MB, ON, QC, MB, NS, PE, NF, YK and NT. Dock has been regulated as a weed in Canada since 1905. *Rumex crispus* and *R. obtusifolius* were listed as Secondary Noxious weeds on the WSO in 1960. The remaining species were included in 1986. In monitoring conducted between 2001 and 2007, Dock species were detected in 36 domestic seed samples, 133 imported seed samples and 4 seed samples of unspecified origin.

Latin Name: *Silene noctiflora*

English Common Name: Night-flowering catchfly

French Common Name: Silène noctiflore

Proposed Classification: 3

Current Classification: 3

Rationale:

Silene noctiflora is a perennial herb of the pink family and is native to Eurasia. Seeds are very similar to those of crop clovers and are difficult to separate, so seed impurities have been an important source of dispersal. Ingested seeds survive passage through the digestive system of livestock. *S. noctiflora* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and YK. *S. noctiflora* has been regulated as a weed in Canada since 1905. It was listed as a Secondary Noxious weed (Class 3) on the WSO in 1960. In monitoring conducted between 2001 and 2007, *S. noctiflora* was detected in 530 domestic seed samples, 6 imported seed samples and 97 seed samples of unspecified origin.

Latin Name: *Sisymbrium loeselii*

English Common Name: Tall hedge mustard

French Common Name: Sisymbre élevé de Loesel

Proposed Classification: 3

Current Classification: 3

Rationale:

Sisymbrium loeselii is an annual or biennial herb of the mustard family and is native to Eurasia. *S. loeselii* is present in BC, AB, SK, MB, ON, QC and NB. *S. loeselii* was listed as a Secondary Noxious weed (Class 3) since 1960. In monitoring conducted between 2001 and 2007, *S. loeselii* was detected in one domestic seed sample.

Latin Name: *Solanum ptycanthum*

English Common Name: Eastern black nightshade

French Common Name: Morelle noir de l'Est

Proposed Classification: 3

Current Classification: N/A

Rationale:

Solanum ptycanthum is an annual or, rarely, a short-lived perennial. Berries contain up to 100 seeds each and a single plant can easily produce up to 1000 berries. All parts of the plant are reputed to be poisonous; however, the green leaves, stems and seeds are especially toxic. Berries frequently become

mixed with agricultural crops, which decreases their quality. This species spreads by seed only. *S. ptycanthum* is present in BC, SK, MB, ON, QC, NB, NS and PE. In monitoring conducted between 2001 and 2007, *S. ptycanthum* was not detected in any domestic or imported seed samples. *S. ptycanthum* is known to have herbicide resistance in ON.

Latin Name: *Solanum sarachoides* (*Solanum physalifolium* Rusby)

English Common Name: Hairy nightshade

French Common Name: Morelle poilue

Proposed Classification: 3

Current Classification: N/A

Rationale:

Solanum sarachoides is a common weed of disturbed habitats and cultivated fields. Berries frequently become mixed with agricultural crops, which decreases their quality. The plants produce a sticky substance that can clog agricultural equipment such as combine screens and rotors. This species spreads by seed only. *S. sarachoides* is present in BC, AB, SK, MB, ON, QC, NB and NS. In monitoring conducted between 2001 and 2007, *S. sarachoides* was not detected in domestic or imported seed samples.

Latin Name: *Stellaria media*

English Common Name: Chickweed, common

French Common Name: Mouron des oiseaux ou stellaire moyenne

Proposed Classification: 3

Current Classification: 4, 5

Rationale:

Stellaria media is a biennial or perennial herb of the pink family. This species is likely native to Eurasia, but wide range as a weed makes origin obscure. *S. media* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *S. media* has been listed as a Secondary Noxious (Class 4) weed and a Noxious weed (Class 5) on the WSO since 1960. In monitoring conducted between 2001 and 2007, *S. media* was detected in 90 domestic seed samples, 5 imported seed samples and 19 seed samples of unspecified origin. *S. media* has demonstrated herbicide resistance in AB and SK. It is difficult to control in reduced tillage production systems.

Latin Name: *Vicia cracca*

English Common Name: Tufted vetch

French Common Name:

Proposed Classification: 3

Current Classification: N/A

Rationale:

Vicia cracca is a perennial, twining or trailing herbaceous plant. *V. cracca* is widely introduced in Canada and is reported from scattered locations in the southern half of BC, throughout AB, SK, MB, ON, QC, and throughout the Maritimes, as well as a few locations in all three Territories. *V. cracca* is listed as a noxious weed in AK. Many *Vicia* seeds are difficult to separate, but *V. cracca* is one of the easiest to identify among the commonly-encountered species in the genus. This species is persistent and difficult to control in perennial crops, such as orchards, berry crops, shrub and forestry plantings, and pastures. *V. cracca* does not persist in cultivated fields, although it can grow from seed in annual crops.

Latin Name: *Elytrigia repens*

English Common Name: Couch grass

French Common Name: Chiendent

Proposed Classification: 3, 5

Current Classification: 2, 5

Rationale:

Elytrigia repens is a perennial rhizomatous grass which is native to north Africa and Eurasia. *E. repens*, which is also known as Quackgrass, spreads mainly asexually from rhizomes but also by seed. *E. repens* is present throughout Canada. In monitoring conducted between 2001 and 2007, *E. repens* was found in 75 domestic seed samples, 7 imported seed samples and 20 unspecified seed samples. *E. repens* is considered one of the most difficult or challenging species to control in organic production systems. *E. repens* has been regulated as a weed in Canada since 1960 when it was added as a Primary Noxious weed and a Noxious weed (Class 5), where it remains listed today.

Latin Name: *Leucanthemum vulgare*

English Common Name: Ox-eye daisy

French Common Name: Marguerite blanche

Proposed Classification: 3, 5

Current Classification: 2, 5

Rationale:

Leucanthemum vulgare is a perennial herb of the aster family which is native to Europe. This species spreads by seeds and asexually from roots. *L. vulgare* is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK, NU and NT. In monitoring conducted between 2001 and 2007, *L. vulgare* was detected in 1 imported seed lot. *L. vulgare* has been regulated as a weed in Canada since 1905.

Latin Name: *Camelina microcarpa*

English Common Name: Little-pod false flax

French Common Name: Caméline

Proposed Classification: N/A

Current Classification: 3

Rationale:

Camelina microcarpa is an annual or biennial herb of the mustard family and is native to Eurasia. This species spreads only by seeds and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF and NT. In monitoring conducted between 2001 and 2007, *C. microcarpa* was detected in one seed sample of unspecified origin.

It is proposed that *C. microcarpa* be removed from the WSO.

Latin Name: *Camelina sativa*

English Common Name: Gold-of-Pleasure

French Common Name:

Proposed Classification: N/A

Current Classification: 3

Rationale:

Camelina sativa is an annual or biennial herb of the mustard family and is native to Eurasia. It spreads only by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NT. In monitoring conducted between 2001 and 2007, it was detected in 2 domestic seed samples and 2 seed samples of unspecified origin. *C. sativa* is proposed as a new crop type in the prairie region of Canada.

It is proposed that *C. sativa* be removed from the WSO.

Latin Name: *Cichorium intybus*

English Common Name: Chicory

French Common Name: Chicorée sauvage

Proposed Classification: N/A

Current Classification: 3

Rationale:

Cichorium intybus is a biennial or perennial herb of the aster family and is native to Eurasia. *C. intybus* spreads by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE and NF. *C. intybus* has been regulated as a weed in Canada since 1905. In monitoring conducted between 2001 and 2007, Chicory was detected in 17 domestic seed samples, 1 imported seed sample and 3 seed samples of unspecified origin.

C. intybus is also a crop cultivated in Canada and is listed in Table XX of Schedule I to the *Seeds Regulations*.

It is proposed that *C. intybus* be removed from the WSO.

Latin Name: *Thlaspi arvense*

English Common Name: Stinkweed

French Common Name: Tabouret des champs

Proposed Classification: N/A

Current Classification: 3

Rationale:

Thlaspi arvense is an annual herb of the mustard family and is native to Europe. *T. arvense* spreads only by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS, PE, NF, YK and NT. *T. arvense* has been regulated as a weed in Canada since 1905. It was listed as a Secondary Noxious weed (Class 3) on the WSO in 1960. In monitoring conducted between 2001 and 2007, *T. arvense* was detected in 291 domestic seed samples, 40 imported seed samples and 70 seed samples of unspecified origin. *Thlaspi arvense* is proposed as a crop type in Alberta.

It is proposed that *Thlaspi arvense* be removed from the WSO.

Latin Name: *Vaccaria hispanica*

English Common Name: Cow cockle

French Common Name: Saponaire de vaches

Proposed Classification: N/A

Current Classification: 3

Rationale:

Vaccaria hispanica is an annual herb of the pink family and is native to Eurasia. *V. hispanica* spreads by seed and is present in BC, AB, SK, MB, ON, QC, NB, NS and YK. *V. hispanica* was regulated in Canada as a weed from 1905 until 1960. *V. hispanica* was listed as a Secondary Noxious weed (Class 3) on the WSO in 1986. In monitoring conducted between 2001 and 2007, *V. hispanica* was detected in 2 domestic seed samples. This species is proposed for cultivation as a crop.

**7.0 Weed Seeds in Domestic Seed 2001-2008****Impurities Retrieved from Pedigreed and Common Seed
Samples (Domestic)***Words in square brackets [] have been added for clarification.*

Species	Sum
Agrostis spp.	3
Alfalfa (Medicago sativa)	648
Allocarya Species	1
Alopecurus Species	3
Alophia sp.	1
American Dragonhead (Dracocephala parviflorum)	480
Amsinckia sp. (Amsinckia sp.)	3
Apiaceae Species	2
Asteraceae species (Asteraceae sp.)	4
Atriplex sp. (Atriplex sp.)	1
Barley (Hordeum vulgare)	229
Barley, Wild (Hordeum jubatum)	86
Bean (Phaseolus vulgaris)	2
Bean, Faba Fabaceae sp. ('Vicia faba sp.)	2
Bean, Mung (Vigna radiata)	1
Beet (Beta vulgaris)	2
Bentgrass (Agrostis sp.)	81
Bentgrass, Creeping (Agrostis stolonifera)	2
Bindweed, Field (Convolvulus arvensis)	10
Black Medick (Medicago lupulina)	157
Blue Grama (Bouteloua gracilis)	2
Bluegrass (Poa sp.)	102
Bluegrass, Annual (Poa annua)	76
Bluegrass, Big (Poa ampla)	1
Bluegrass, Bulbous (Poa bulbosa)	29
Bluegrass, Canada (Poa compressa)	35
Bluegrass, Fowl (Poa palustris)	393
Bluegrass, Kentucky (Poa pratensis)	298
Bluegrass, Rough (Poa trivialis)	23
Blueweed (Echium vulgare)	4
Brassica Juncea	29
Brassica sp. (Brassica sp.)	37
Brassica Sp. (Polish Type)	1
Brassica spp.	1
[Brome] Bromus sp. (Bromus sp.)	4
Brome, Downy (Bromus tectorum)	12
Brome, Japanese (Bromus japonicus)	11
Bromegrass, Japanese	6
[Brome] Soft Chess (Bromus mollis)	15
[Brome] Chess	1
Bromegrass (Bromus sp.)	51
Bromegrass, Smooth (Bromus inermis)	11
Bromus sterilis	2
Buckwheat, Tartarian (Fagopyrum tataricum)	1



Impurities Retrieved from Pedigreed and Common Seed Samples (Domestic)

Words in square brackets [] have been added for clarification.

Species	Sum
Buckwheat, Wild (<i>Polygonum convolvulus</i>)	147
Bugseed	2
Bulrush (<i>Scirpus</i> sp.)	2
Campion, Bladder (<i>Silene vulgaris</i>)	3
[Canarygrass] <i>Phalaris</i> Species	2
Canarygrass, Reed (<i>Phalaris arundinacea</i>)	40
Canola	1
Canola, Argentine	1
Carex Sp.	12
Catchfly, English (<i>Silene gallica</i>)	9
Catchfly, Night-flowering (<i>Silene noctiflora</i>)	627
Catchfly, Small-Flowered	1
Carrot, Wild (<i>Daucus carota</i>)	11
Chamomile, Corn (<i>Anthemis arvensis</i>)	1
Chamomile, Scentless	16
Chervil	3
Chess (<i>Bromus secalinus</i>)	1
Chickweed, Mouse-ear (<i>Cerastium vulgatum</i>)	15
Chickweed (<i>Stellaria media</i>)	3
Chickweed, Common (<i>Stellaria media</i>)	106
Chicory (<i>Cichorium intybus</i>)	20
Cinquefoil (<i>Potentilla</i> sp.)	288
[Cinquefoil] <i>Potentilla</i> Species	11
[Cleavers] Bedstraw (<i>Galium</i> sp.)	96
[Cleavers] <i>Galium</i> Species	2
Cleavers (<i>Galium aparine</i>)	89
Cleavers, False (<i>Galium spurium</i>)	60
[Clover] <i>Trifolium</i> Species	3
Clover, Alsike (<i>Trifolium hybridum</i>)	1154
Clover, Arrowleaf (<i>Trifolium vesiculosum</i>)	24
Clover, Arrow Leaf	2
Clover, Bird's-foot (<i>Trifolium ornithopodioides</i>)	13
Clover, Hop (<i>Trifolium aureum</i>)	4
Clover, Ladino (<i>Trifolium repens</i> L.)	4
Clover, Persian (<i>Trifolium resupinatum</i>)	41
Clover, Red (<i>Trifolium pratense</i>)	630
Clover, Small Hop (<i>Trifolium dubium</i>)	11
Clover, Sour (<i>Melilotus indica</i>) 1	2
Clover, Strawberry (<i>Trifolium fragiferum</i>)	10
Clover, Sweet	225
[Clover] Sweetclover (<i>Melilotus</i> sp.)	259
Clover, White (<i>Trifolium repens</i>)	343
Cockle, Cow (<i>Vaccaria hispanica</i>)	2
Cockle, Purple (<i>Agrostemma githago</i>)	2
Cockle, White (<i>Silene pratensis</i>)	50
Corn (<i>Zea mays</i>)	3



Impurities Retrieved from Pedigreed and Common Seed Samples (Domestic)

Species	Sum
Corn Spurrey (<i>Spergula arvensis</i>)	73
Cursed Crowfoot (<i>Ranunculus sceleratus</i> L.)	1
Dandelion (<i>Taraxacum officinale</i>)	24
Deschampsia Species	1
Dock (<i>Rumex</i> sp.)	194
[Dock] <i>Rumex</i> sp. (<i>Rumex</i> sp.)	1
Dock, Golden (<i>Rumex maritimus</i>)	76
Dodder (<i>Cuscuta</i> sp.)	6
Ergot Bodies (<i>Claviceps purpurea</i>)	230
Festuca Species	21
Fescue, Creeping Red (<i>Festuca rubra</i>)	82
Fescue, C.R.F & Chewings	12
Fescue, Fine-leaved (<i>Festuca tenuifolia</i>)	8
Fescue, Meadow (<i>Festuca pratensis</i>)	13
Fescue, Rat's-Tail	12
Fescue, Red (<i>Festuca rubra</i>)	115
Fescue, Squirreltail (<i>Vulpia bromoides</i>)	2
Fescue, Tall (<i>Festuca arundinacea</i>)	64
Flax (<i>Linum usitatissimum</i>)	26
Flax, False (<i>Camelina sativa</i>)	2
Flixweed (<i>Descurainia sophia</i>)	62
Flower-of-an-hour (<i>Hibiscus trionum</i>)	1
Forget-me-not (<i>Myosotis arvensis</i>)	5
Foxtail, Giant	2
Foxtail, Green (<i>Setaria viridis</i>)	335
Foxtail, Meadow (<i>Alopecurus pratensis</i>)	9
Foxtail, Water (<i>Alopecurus geniculatus</i>)	26
Foxtail, Yellow (<i>Setaria glauca</i>)	50
Garden Rocket (<i>Arugula</i>) (<i>Eruca sativa</i>)	4
Geranium sp. (<i>Geranium</i> sp.)	13
Glyceria Species (<i>Glyceria</i> sp.)	5
Grass, Weeping Alkali (<i>Puccinellia distans</i>)	37
Grass, Alkali (<i>Puccinellia</i> sp.)	16
[Grass] American Sloughgrass	1
Grass, Barnyard (<i>Echinochloa crusgalli</i>)	106
Grass, Blue-eyed (<i>Sisyrinchium angustifolium</i>)	9
Grass, Couch (<i>Agropyron repens</i>)	95
[Grass, Crab] <i>Digitaria</i> sp. (<i>Digitaria</i> sp.)	12
[Grass] Green Needle Grass (<i>Stipa viridula</i>)	6
[Grass] Hairgrass (<i>Deschampsia</i> sp.)	19
Grass, Indian Rice (<i>Oryzopsis hymenoides</i>)	2
Grass, Johnson (<i>Sorghum halepense</i>)	1
Grass, Manna (<i>Glyceria</i> sp.)	77
Grass, Orchard (<i>Dactylis glomerata</i>)	30
[Grass] Sloughgrass (<i>Beckmannia syzigachne</i>)	75
Grass, Tickle (<i>Agrostis scabra</i>)	38
Grass, Wire (<i>Ventenata dubia</i>)	26



Impurities Retrieved from Pedigreed and Common Seed Samples (Domestic)

Species	Sum
Groundsel, Common (<i>Senecio vulgaris</i>)	2
Hawk's-beard (<i>Crepis</i> sp.)	10
Hawk's-beard, Narrow-leaved (<i>Crepis tectorum</i>)	35
Heal-all (<i>Prunella vulgaris</i>)	4
Hemp-nettle (<i>Galeopsis tetrahit</i> L.)	20
Henbit (<i>Lamium amplexicaule</i>)	7
Horehound (<i>Marrubium vulgare</i>)	1
Kickxia Elatine	1
Kochia (<i>Kochia</i> sp.)	127
Lactuca sp.	1
[Lambsquarters] <i>Chenopodiaceae</i> Species	8
[Lambsquarters] <i>Chenopodium</i> sp. (<i>Chenopodium</i> sp.)	134
<i>Chenopodium</i> spp.	5
[Lambsquarters] Goosefoot (<i>Chenopodiaceae</i>)	9
Lamb's-quarters (<i>Chenopodium album</i>)	849
Lentil (<i>Lens culinaris</i>)	13
Madder, Field (<i>Sherardia arvensis</i>)	10
Mallow (<i>Malva</i> sp.)	45
Mallow, Common (<i>Malva neglecta</i>)	3
Mayweed (<i>Anthemis cotula</i> L.)	9
Mayweed, Stinking (<i>Anthemis cotula</i>)	45
Millet	1
Millet, Japanese (<i>Echinochloa crusgalli</i>)	4
[Milkvetch] <i>Astragalus</i> Sp.	4
Milkvetch, Cicer (<i>Astragalus cicer</i>)	3
Mixture, Forage	2
Mustard, Brown	3
Mustard, Dog (<i>Erucastrum gallicum</i>)	5
Mustard, Indian (<i>Brassica juncea</i>)	6
Mustard, Oriental (<i>Brassica juncea</i>)	7
Mustard, Tall Hedge (<i>Sisymbrium loeselii</i>)	1
Mustard, Tansy	16
Mustard, Wild (<i>Sinapis arvensis</i>)	101
Mustard, White (<i>Sinapis alba</i>)	16
Mustard, Wormseed (<i>Erysimum cheiranthoides</i>)	88
Narrow-leaf Mountaintrumpet (<i>Collomia lineris</i>)	1
Nightshade, Black (<i>Solanum nigrum</i>)	4
Nothing Found	431
Oat (<i>Avena</i> sp.)	129
Oat, Wild (<i>Avena fatua</i>)	174
Oats (<i>Avena sativa</i>)	42
Oatgrass, Tall (<i>Arrhenatherum elatius</i>)	2
Panic grass (<i>Panicum</i> sp.)	24
<i>Panicum</i> Species	8
[Panicum] Proso Millet (<i>Panicum miliaceum</i>)	3
[Panicum] Witchgrass (<i>Panicum capillare</i>)	8
Pea (<i>Pisum sativum</i>)	44



Impurities Retrieved from Pedigreed and Common Seed Samples (Domestic)

Species	Sum
Peppergrass, Common (<i>Lepidium densiflorum</i>)	31
Peppergrass, Field (<i>Lepidium campestre</i>)	30
[Pigweed] <i>Amaranthus</i> Species	66
Pigweed (<i>Amaranthus</i> sp.)	92
Pigweed, Redroot (<i>Amaranthus retroflexus</i>)	21
Pigweed, Russian (<i>Axyris amaranthoides</i>)	227
Pineappleweed (<i>Matricaria matricarioides</i>)	13
Plantain sp.	1
Plantain (<i>Plantago</i> sp.)	37
Plantain, Broad-leaved (<i>Plantago major</i>)	53
Plantain, Common	41
Plantain, Pale	1
Plantain, Ribgrass (<i>Plantago lanceolata</i>)	144
Poa Species	3
Poaceae Species	8
Poaceae sp. (<i>Poaceae</i> sp.)	3
Polygonaceae sp. (<i>Polygonaceae</i> sp.)	1
<i>Polygonum</i> sp.	19
<i>Polygonum</i> spp.	5
[<i>Polygonum</i>] Knotweed (<i>Polygonum</i> sp.)	94
[<i>Polygonum</i>] Lady's Thumb (<i>Polygonum persicaria</i> L.)	48
[<i>Polygonum</i>] Prostrate Knotweed (<i>Polygonum aviculare</i>)	21
[<i>Polygonum</i>] Smartweed (<i>Polygonum</i> sp.)	36
[<i>Polygonum</i>] Smartweed, Pale (<i>Polygonum lapathifolium</i>)	37
<i>Potentilla</i> sp.	3
<i>Puccinellia</i> sp. (<i>Puccinellia</i> sp.)	1
Radish, Wild (<i>Raphanus raphanistrum</i>)	8
[Ragweed] <i>Artemisia</i> Species	1
Ragweed, Common (<i>Ambrosia artemisiifolia</i>)	23
Rapeseed	11
Rapeseed (<i>Brassica napus</i>)	8
Rapeseed, Argentine	218
Rapeseed, Polish (<i>Brassica rapa</i>)	92
Roripa Species	5
Rye (<i>Secale cereale</i>)	6
Ryegrass (<i>Lolium</i> sp.)	205
Ryegrass, Annual (<i>Lolium multiflorum</i>)	15
Ryegrass, Perennial (<i>Lolium perenne</i>)	19
Saskatoon Berry (<i>Amelanchier alnifolia</i>)	1
Scarlet Pimpernel (<i>Anagallis arvensis</i>)	13
Sclerotia Bodies	15
Sedge (<i>Carex</i> sp.)	72
Sheep Sorrel (<i>Rumex acetosella</i>)	39
Shepherd's-purse (<i>Capsella bursa-pastoris</i>)	48
<i>Sisyrinchium</i> sp.	1
Sorghum (<i>Sorghum bicolor</i>)	1
Soybean (<i>Glycine max</i>)	6



Impurities Retrieved from Pedigreed and Common Seed Samples (Domestic)

Species	Sum
Spikerush (<i>Eleocharis</i> sp.)	25
Stichwort (<i>Stellaria</i> sp.)	2
Stickseed (<i>Lappula echinata</i>)	3
Stinkweed (<i>Thlaspi arvense</i>)	394
Stork's-bill (<i>Erodium cicutarium</i>)	2
Sowthistle, Spiny annual (<i>Sonchus asper</i>)	1
Thistle, Bull (<i>Cirsium vulgare</i>)	6
Thistle, Canada (<i>Cirsium arvense</i>)	83
Thistle, Russian (<i>Salsola pestifer</i>)	20
Timothy (<i>Phleum pratense</i>)	657
Trefoil	4
Trefoil, Big (<i>Lotus pedunculatus</i>)	4
Trefoil, Bird's-foot (<i>Lotus corniculatus</i>)	225
Trefoil, Large Bird's-Foot	11
Triticale (X <i>Triticosecale</i> sp.)	6
True Loose Smut (<i>Ustilago nuda</i>)	1
Ventenata Species	4
Vetch, Common (<i>Vicia sativa</i>)	5
Vetch, Hairy (<i>Vicia villosa</i>)	3
Vetch, Narrow-Leaf (<i>Vicia angustifolia</i>)	1
Vetch, Tufted (<i>Vicia cracca</i>)	15
Vetch, Wild (<i>Vicia hirsuta</i>)	2
Vicia Species	17
Vulpia sp. (<i>Vulpia</i> sp.)	56
Wheat, Durum (<i>Triticum durum</i>)	44
Wheat, Common (<i>Triticum aestivum</i>)	73
Wheat (<i>Triticum aestivum</i>)	269
Wheatgrass, Crested Standard (<i>Agropyron desertorum</i>)	6
Wheatgrass, Crested (<i>Agropyron cristatum</i>)	7
Wheatgrass, Northern (<i>Agropyron dasystachyum</i>)	2
Wheatgrass, Slender (<i>Agropyron trachycaulum</i>)	89
Wheatgrass, Streambank (<i>Lanceolatus riparium</i>)	2
Wheatgrass, Western (<i>Agropyron smithii</i>)	2
Wildrye, Dahurian (<i>Elymus dahuricus</i>)	1
Wildrye, Russian (<i>Elymus junceus</i>)	5
Windgrass (<i>Apera spica-venti</i>)	31
Wintercress (<i>Barbarea</i> spp.)	2
Wormwood (<i>Artemisia</i>)	1
Yarrow (<i>Achillea</i> sp.)	3

**8.0 Weed Seeds in Imported Seed 2001-2008****Impurities Retrieved from Imported Seed Samples***Words in square brackets [] have been added for clarity.*

Species	Total
Agrostis sp.	1
Alfalfa (Medicago sativa)	11
Allium sp.	1
Alopecurus Species	1
Alophia sp.	1
Ammi sp.	1
Arnica sp. (Arnica sp.)	1
Asteraceae species (Asteraceae sp.)	1
Barley (Hordeum vulgare)	2
Barley, Wild (Hordeum jubatum)	5
Beet (Beta vulgaris)	1
Black Medick (Medicago lupulina)	4
Black nightshade (Solanum nigrum)	1
Bluegrass (Poa sp.)	2
Bluegrass Annual (Poa annua)	10
Bluegrass, Big (Poa ampla)	3
Bluegrass, Bulbous (Poa bulbosa)	10
Bluegrass, Annual (Poa annua)	21
Bluegrass, Fowl (Poa palustris)	3
Bluegrass, Kentucky (Poa pratensis)	17
Bluegrass, Canada (Poa compressa)	4
Bluegrass (Poa sp.)	2
Bluegrass, Rough (Poa trivialis)	10
Bluegrass, Sandberg (Poa secunda)	1
Bluestem (Andropogon sp.)	1
Bluestem, Big (Andropogon gerardii)	1
Bluestem, Little (Andropogon scoparius)	1
Brassica sp.	5
Bromegrass (Bromus sp.)	12
[Brome] Chess	2
Brome, Downy (Bromus tectorum)	4
Brome, Japanese (Bromus japonicus)	11
Bromegrass, Mountain (Bromus marginatus)	1
Bromegrass, Sweet (Bromus carinatus)	2
Bromus hordeaceus	1
Buckwheat, Wild (Polygonum convolvulus)	7
Canarygrass, Reed (Phalaris arundinacea)	5
Carex Sp. ()	2
Carrot (Daucus carota)	3
Carrot, Wild (Daucus carota)	2
Catchfly, Night-Flowering (Silene noctiflora)	6
Catchfly, Small flowered	1
Cat's Ear	1

**Impurities Retrieved from Imported Seed Samples**

Species	Total
Chamomile, Scentless (<i>Matricaria perforata</i>)	3
Chenopodium sp.	7
Chess, Australian (<i>Elymus elymoides</i>)	1
Chess, Soft (<i>Bromus mollis</i>)	2
Chickweed, Common (<i>Stellaria media</i>)	17
Chicory (<i>Cichorium intybus</i>)	1
Cinquefoil (<i>Potentilla</i> sp.)	2
Cleavers (<i>Galium aparine</i>)	7
Clover, Alsike (<i>Trifolium hybridum</i>)	25
Clover, Hop (<i>Trifolium aureum</i>)	7
Clover, Ladino	3
Clover, Persian (<i>Trifolium resupinatum</i>)	5
Clover, Red (<i>Trifolium pratense</i>)	16
Clover, Small Hop (<i>Trifolium dubium</i>)	6
Clover, Strawberry (<i>Trifolium fragiferum</i>)	3
Clover, Sweet	7
Clover, White (<i>Trifolium repens</i>)	19
Corn Spurrey (<i>Spergula arvensis</i>)	1
Cockle, White (<i>Silene pratensis</i>)	6
Cress, Marsh Yellow (<i>Rorippa islandica</i>)	1
Crested Dogtail (<i>Cynosurus cristatus</i>)	1
Death camas (<i>Zigadenus gramineus</i>)	1
Dill (<i>Anethum graveolens</i>)	1
Dock (<i>Rumex</i> sp.)	14
Dock, Golden (<i>Rumex maritimus</i>)	1
Dodder (<i>Cuscuta</i> sp.)	3
Echinochloa sp.	1
Ergot Bodies (<i>Claviceps purpurea</i>)	50
Euphorbiaceae Family	1
European Pasqueflower (<i>Anemone pulsatilla</i>)	1
Fall Dandelion	1
Fescue (<i>Festuca</i> sp.)	3
Fescue, Red (<i>Festuca rubra</i>)	17
Fescue, Squirreltail (<i>Vulpia bromoides</i>)	1
Fescue, Tall (<i>Festuca arundinacea</i>)	16
Fescue, Rat's-Tail ()	4
Fiddleneck (<i>Phacelia tanacetifolia</i>)	2
Fireweed (<i>Epilobium angustifolium</i>)	1
Foxtail, Creeping (<i>Alopecurus arundinaceus</i>)	1
Foxtail, Green (<i>Setaria viridis</i>)	17
Foxtail, Meadow (<i>Alopecurus pratensis</i>)	1
Foxtail, Water (<i>Alopecurus geniculatus</i>)	8
Foxtail, Yellow (<i>Setaria glauca</i>)	15
Garden Rocket	3
Geranium, Spotted (<i>Geranium maculatum</i>)	1
Glyceria Species (<i>Glyceria</i> sp.)	3
Grass, Alkali (<i>Puccinellia</i> sp.)	5
Grass, Annual Hair (<i>Deschampsia danthonioides</i>)	3

**Impurities Retrieved from Imported Seed Samples**

Species	Total
Grass, Barnyard (<i>Echinochloa crusgalli</i>)	8
Grass, Bent (<i>Agrostis</i> sp.)	6
Grass, Bermuda (<i>Cynodon dactylon</i>)	2
Grass, Black (<i>Alopecurus myosuroides</i>)	3
Grass, Couch (<i>Agropyron repens</i>)	7
Grass, Green Needle (<i>Stipa viridula</i>)	1
Grass, Indian (<i>Sorghastrum nutans</i>)	1
Grass, Johnson (<i>Sorghum halepense</i>)	1
Grass, Manna (<i>Glyceria</i> sp.)	6
Grass, Orchard (<i>Dactylis glomerata</i>)	9
Grass, Prairie June	1
Grass, Slough (<i>Beckmannia syzigachne</i>)	1
Grass, Spear	2
Grass, Tickle	1
Grass, Velvet (<i>Holcus lanatus</i>)	3
Grass, Weeping alkaligrass	2
Groundsel	1
Hawk's-beard (<i>Crepis</i> sp.)	1
Heal-all (<i>Prunella vulgaris</i>)	6
Hedge Parsley (<i>Torilis nodosa</i>)	2
Henbit (<i>Lamium amplexicaule</i>)	1
Hyssop Loosestrife	1
Hyssop-Leaved Loosestrife (<i>Lythrum hyssopifolia</i>)	1
Juncus species	1
Kanpweed, Russian (<i>Acroptilon repens</i>)	1
Knotweed (<i>Polygonum</i> sp.)	2
Kochia (<i>Kochia</i> sp.)	9
Lamb's-quarters (<i>Chenopodium album</i>)	41
Lamiaceae Family	1
Lentil (<i>Lens culinaris</i>)	1
Lettuce (<i>Lactuca sativa</i>)	4
Locoweed (<i>Oxytropis</i> sp.)	1
Lolium sp. (<i>Lolium</i> sp.)	2
Lotus sp. (<i>Lotus</i> sp.)	3
Madder, Field (<i>Sherardia arvensis</i>)	4
Mallow (<i>Malva</i> sp.)	1
Mayweed	2
Mayweed, Stinking (<i>Anthemis cotula</i>)	9
Millet Crown	1
Millet, Foxtail (<i>Setaria italica</i>)	1
Millet, Proso (<i>Panicum miliaceum</i>)	3
Millet, Siberian (<i>Setaria italica</i>)	1
Mustard, Brown	1
Mustard, Hoary (<i>Hirschfeldia incana</i>)	1
Mustard, Tumble (<i>Sisymbrium altissimum</i>)	3
Mustard, Wild (<i>Sinapis arvensis</i>)	3
Mustard, Wormseed (<i>Erysimum cheiranthoides</i>)	1
Needle spike-rush (<i>Eleocharis acicularis</i>)	1

**Impurities Retrieved from Imported Seed Samples**

Species	Total
Nipplewort (<i>Lapsana communis</i>)	4
Nothing Found	142
Oat (<i>Avena</i> sp.)	1
Oat, Wild (<i>Avena fatua</i>)	5
Oatgrass, Hooker's (<i>Helictotrichon hookeri</i>)	2
Oatgrass, Tall (<i>Arrhenatherum elatius</i>)	2
Onagraceae Family	1
Oregano (<i>Origanum vulgare</i>)	1
Ox-Eye Daisy (<i>Chrysanthemum leucanthemum</i>)	1
Panicum bergi	1
Panicum Species	6
[Panicum] Switchgrass (<i>Panicum virgatum</i>)	2
[Panicum] Witchgrass (<i>Panicum capillare</i>)	3
Parsley (<i>Petroselinum crispum</i>)	1
Peppergrass, Common (<i>Lepidium densiflorum</i>)	1
Persicaria lapathifolia	1
Pigweed (<i>Amaranthus</i> sp.)	15
Pigweed, Redroot (<i>Amaranthus retroflexus</i>)	5
Pigweed, Russian (<i>Axyris amaranthoides</i>)	2
Plantain (<i>Plantago</i> sp.)	2
[Plantain] Ribgrass (<i>Plantago lanceolata</i>)	11
Polygonaceae sp. (<i>Polygonaceae</i> sp.)	2
Polygonum Species	7
[Polygonum] Prostrate Knotweed (<i>Polygonum aviculare</i>)	4
[Polygonum] Smartweed (<i>Polygonum</i> sp.)	4
Radish (<i>Raphanus sativus</i>)	1
Radish, Wild (<i>Raphanus raphanistrum</i>)	2
Ragweed, Common (<i>Ambrosia artemisiifolia</i>)	1
Ragweed, Giant (<i>Ambrosia trifida</i>)	1
Rapeseed, Argentine	7
Rapeseed (<i>B. napus</i>) (<i>Brassica napus</i>)	2
Rudbeckia sp.	1
Rye (<i>Secale cereale</i>)	1
Ryegrass (<i>Lolium</i> sp.)	39
Scarlet Pimpernel (<i>Anagallis arvensis</i>)	1
Setaria sp.	1
Sheep Sorrel (<i>Rumex acetosella</i>)	11
Shepherd's-purse (<i>Capsella bursa-pastoris</i>)	2
Side-oats grama (<i>Bouteloua Curtipendula</i>)	1
Solanaceae sp.	1
Sorghum (<i>Sorghum bicolor</i>)	1
Sow Thistle, Annual (<i>Sonchus oleraceus</i>)	4
Sow Thistle, Spiny Annual	7
Soybean (<i>Glycine max</i>)	2
St John's-wort (<i>Hypericum perforatum</i>)	1
Starthistle (<i>Centaurea</i> sp.)	1
Stinkweed (<i>Thlaspi arvense</i>)	6
Stork's-bill (<i>Erodium cicutarium</i>)	4



Impurities Retrieved from Imported Seed Samples

Species	Total
Thistle, Canada (<i>Cirsium arvense</i>)	5
Thistle, Russian (<i>Salsola pestifer</i>)	3
Thistle, Yellow Star	1
Timothy (<i>Phleum pratense</i>)	24
Tomato (<i>Lycopersicon esculentum</i>)	1
Tomato, Wild (<i>Solanum triflorum</i>)	1
Trefoil, Big (<i>Lotus pedunculatus</i>)	2
Trefoil, Bird's-foot (<i>Lotus corniculatus</i>)	5
Trefoil, Large Bird's-Foot	6
Velvetleaf (<i>Abutilon theophrasti</i>)	1
Ventenata dubia	4
Vetch, Four-seeded (<i>Vicia tetrasperma</i>)	1
Vicia sp.	1
Viola Species	5
Vulpia sp. (<i>Vulpia</i> sp.)	23
Vulpia Species	3
Wheat (<i>Triticum aestivum</i>)	5
Wheatgrass (<i>Agropyron</i> sp.)	1
Wheatgrass, Bluebunch	1
Wheatgrass, Crested	2
Wheatgrass, Northern (<i>Agropyron dasystachyum</i>)	1
Wheatgrass, Pubescent (<i>Agropyron trichophor</i>)	1
Wheatgrass, Slender (<i>Agropyron trachycaulum</i>)	4
Wildrye, Dahurian (<i>Elymus dahuricus</i>)	2
Windgrass (<i>Apera spica-venti</i>)	11
Wiregrass (<i>Ventenata dubia</i>)	2
Wood-Sorrel (<i>Oxalis stricta</i>)	1
Woolly Cupgrass (<i>Eriochloa villosa</i>)	1
Yellow Daisy	1
Yellow Rocket (<i>Barbarea vulgaris</i>)	1

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B. Weed Seeds Order Structure:

1. Regarding the structure of the *Weed Seeds Order*, which of the four options do you prefer? Please provide your rationale.

- Status quo
 - Merging the current classes 4 and 5 to make a WSO with only 5 different classes,
 - Reducing the WSO to only 3 classes by removing all Secondary Noxious and Noxious classes of weed species
 - Another option described as
-

2. Do you agree that Primary Noxious should apply to all Grade Tables of Schedule I? (Currently does not apply to Grade Tables XIV and XV)

Yes

No

3. Do you have any further comments regarding the proposed amendments to the *Weed Seeds Order* that you wish to share?

C. SPECIES PLACEMENT

1. For Class 1:

- Would you like any species removed from the proposed list of Prohibited Noxious weeds?
- Would you like any species added to the proposed list of Prohibited Noxious weeds?
- Would you like any of the species proposed as Prohibited Noxious weeds to be placed in a different class?

Species	Add/Remove/Reclassify	Rational

Expand Table as required

2. For Classes 2 to 5: Would you like any species added, removed or reclassified within the proposed classes 2 to 5

Species	Class (2, 3, 4 or 5)	Add/Remove/Reclassify	Rational

Expand Table as required

IDENTIFICATION OF RESPONDENT

First Name:

Last Name:

Affiliation:

Are the opinions expressed herein:

- your own or,
- you are representing your affiliation (i.e. Association, Corporation)

Address:

Province:

Postal Code:

Email:

Please identify yourself by selecting from the choices below. Select all that apply.

- | | |
|--|---|
| <input type="checkbox"/> agricultural primary producer | <input type="checkbox"/> invasive plant council |
| <input type="checkbox"/> crop input company | <input type="checkbox"/> municipal government |
| <input type="checkbox"/> farm organization | <input type="checkbox"/> pedigreed seed grower |
| <input type="checkbox"/> federal government | <input type="checkbox"/> provincial government |
| <input type="checkbox"/> industry association | <input type="checkbox"/> research / academia |
| <input type="checkbox"/> interested member of the general public | <input type="checkbox"/> seed analyst |
| <input type="checkbox"/> other, please specify _____ | |

Thank You

The CFIA appreciates your time and effort toward improving the Canadian plant regulatory framework. Responses received during the consultation period will be reviewed and considered in finalizing the proposed changes to the *Weed Seeds Order* and any required regulatory amendments. Please note, however, that it may not be possible to respond individually to any comments received.

PLEASE SEND COMPLETED RESPONSES BY:

1. MAIL: SEED SECTION
 FIELD CROPS DIVISION
 PLANT HEALTH AND BIOSECURITY DIRECTORATE
 CANADIAN FOOD INSPECTION AGENCY
 59 CAMELOT DRIVE
 OTTAWA, ON.
 K1A 0Y9

2. EMAIL: **SeedSemence@inspection.gc.ca**

3. FAX: (613) 228-6141