
CANADIAN REGULATIONS AND PROCEDURES FOR PEDIGREED SEED CROP PRODUCTION



Canadian Seed Growers' Association **Circular 6** © 2005

Revision 1.7-2012

February 1, 2012

This revised version 1.7-2012 of the *Canadian Regulations and Procedures for Pedigreed Seed Crop Production — Circular 6* supersedes all previous versions.

Active seed growers and crop certificate assignees will be advised of changes in these regulations.

The official version of *Canadian Regulations and Procedures for Pedigreed Seed Crop Production — Circular 6* is maintained at the CSGA's website: www.seedgrowers.ca. This version is published for convenient reference.

QUICK REFERENCE SUMMARY
**MAJOR SEED CROPS AND SPECIFIC SECTION REQUIREMENTS
IN CIRCULAR 6**

CROP	SECTION	PEDIGREED CLASS
Bean	03 12	except Select plots Select plots
Canola, Rapeseed, Mustard		
Hybrid	05	except Foundation plots
Other	04	except Foundation plots
All	13	Foundation plots
Cereals (e.g. Barley, Oats, Wheat)	02 12	except Select Plots Select plots
Corn		
Hybrid	08	
Open-pollinated	09	
Flax	02 12	except Select plots Select plots
Forage Grasses	06	
Forage Legumes	07	
Industrial Hemp	10 11	except Foundation plots Foundation plots
Other Crops	14	
Pea	03 12	except Select plots Select plots
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CANADIAN SEED GROWERS' ASSOCIATION



CANADIAN REGULATIONS AND PROCEDURES FOR PEDIGREED SEED CROP PRODUCTION – CIRCULAR 6

RECORD OF AMENDMENTS

Amendments to the *Canadian Regulations and Procedures for Pedigreed Seed Crop Production* will be issued as required. Amendments will be numbered and dated. Please ensure the amendments outlined below have been inserted. If any amended pages are missing, contact the CSGA or download pages from the CSGA website (www.seedgrowers.ca). Remove obsolete pages.

Amendment Number & Date	Description of Amendment (Section/Sub-section Number(s), page number(s), etc.)	Entered by:
01-20050509	Sections 4.4.2, 6.4.6, 12.4.3.	
01.1-20060201	Sections: 0-1, 0-3, 0-11, 1.7.1, 1.7.4, 1.7.7, 2 (In this Sec.), 2.2.2a), 2.2.5, 2.4.4, 3.3.7, 4.3.3, 5.5.5f), 9.1.2, 9.2.1, 9.2.2, 11.6.1b), 12 (In this Sec.), 12.4.2, 12.4.3, Appendix A.5.	
01.2-20070201	Sections: 0-1, 2 (In this Sec.), 2.2.2a), 2.2.5, 4.4.1b), 4.4.4, 4.5.4, 5.5.1b), 5.5.5, 5.6.2, 8.5.1a), 13.6.1b), 13.6.4, 13.8.3.	
01.3-20080201	Sections: 0-1, 0-3, 0-4, 0-5, 0-11, 0-12, 1.9.1, 1.17.7, 1.21.3, 2 (In this Sec.), 2.2.5, 2.5.1, 3.2.5, 3.2.6, 3.4.2, 6.5.5, 10.4.4, 11.2.8, 11.2.9, 11.3.4, 11.3.5, 11.6.2, 11.6.4, 12(In this Sec.), 12.2.10, 12.2.11, 12.3.9, 12.3.10, 12.4.3, 13.2.10, 13.2.11, 13.3.5, 13.3.6, Sec. 14, Sec. 17, Sec. 19, Appendix A, A-1, A-15, Appendix C, C-10.	
01.4-20090201	Sections: 0-1, 0-4, 0-5, 0-10, 0-11, 0-12, 1.12.3, 2.2.5, 2.4.2, 4.4.2, 5.5.2, 12.4.3, 12.6.2, 12.6.4, 13.6.1, 13.6.4, Sec. 14, Appendix A: A.14 on A-1 and A-15.	
01.5-20100201	Sections: 0-1, 0-2, 0-3, 0-4, 0-5, 0-11, 0-12, 1.5.1, 1.12.3, 1.16.3, 1.17.4, 1.17.6, 1.21.3, 2.2.5, 3.1.4, 3.2.2, 3.3.5, 4.4.1, 4.4.4, 4.5.4, 5.5.1, 5.5.5, 5.6.2, 6.2.2, 6.4.6, 7 (In this Sec.), 7.2.2, 7.4.5, 7.5.3, 10.4.4, 11.6.4, 12 (In this Sec.), 12.3, 12.4.3, 12.5.7, 13.6.1, 13.6.4, 13.8.3, Sec. 14, Sec. 16, Appendix A: A.11 A.14 on A-1 and A-15, Appendix C: C-5, C-6, C-12.	

01.6-20110201	Sections: 0-1, 0-2, 0-4, 0-6, 0-7, 0-8, 0-9, 0-10, 0-11, 0-12, 0-13, 0-14, 0-15, 0-16, 0-17, 0-18, 0-19, 0-20, 3.1.4, 6.1.1, 6.1.2, 7.1.1, 7.1.2, 7.4.4, 8.5.1, 12.4.3, 12.6.1, 12.6.2, Sec. 14 on 14-1, 14.4.5.1, 14.5.4.3, Section 14.11, Section 14.12, Appendix A: A.15 on A-1 and A-15, Appendix C: C-5, C-6.	
01.7-20120201	Sections: 0-1, 0-4, 0-6, 0-12, 2.2.5, 3.4.1, 6.5.7, 7.5.6, 12.4.3, Sec. 14 on 14-1, Section 14.4, Section 14.7, Section 14.13 Appendix A: A.16, A.17 on A-1 and A-15, A-2, A-3, A-4, Appendix C: C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, C-16	

INFORMATION AND CONTACTS

Canadian Seed Growers' Association

For more information on CSGA requirements, contact:

Mailing Address:

Canadian Seed Growers' Association
P.O. Box 8455
Ottawa, Ontario
Canada K1G 3T1

Telephone: (613) 236-0497

Fax: (613) 563-7855

Courier Address:

Canadian Seed Growers' Association
202-240 Catherine Street
Ottawa, Ontario
Canada K2P 2G8

Website: www.seedgrowers.ca

A complete list of CSGA office staff is available from the CSGA's website at:

www.seedgrowers.ca/contactus/staff.asp

Canadian Food Inspection Agency

Enquiries relating to enforcement of the federal seeds regulations should be directed to seed inspection staff at the Canadian Food Inspection Agency (CFIA). A complete list of CFIA office contact information is available at: www.inspection.gc.ca



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

CANADIAN FOOD INSPECTION AGENCY (CFIA) Central Offices for Seed Inspection		
District	Address	Phone/Fax
British Columbia	Box 217 Creston, BC V0B 1G0	Tel: (250) 428-4123 Fax: (250) 428-4380
Alberta North	Room 205 7000 113 th Street Edmonton, AB T6H 5T6	Tel: (780) 495-3333 Fax: (780) 495-3359
Alberta South	Floor 1, Room 102 110 Country Hills Landing NW Calgary, AB T3K 5P3	Tel: (403) 299-7669 Fax: (403) 221-3296
Saskatchewan	Room 201 421 Downey Rd. Saskatoon, SK S7N 4L8	Tel: (306) 975-4240 Fax: (306) 975-4339
Manitoba	613-269 Main Street Winnipeg, MB R3C 1B2	Tel: (204) 983-2200 Fax: (204) 984-6008
Ontario	259 Woodland Road Suite A Guelph, ON N1H 8J1	Tel: (519) 837-9400 Fax: (519) 837-9774
Quebec	2954 boul. Laurier, Suite 100 Quebec, QC G1V 5C7	Tel: (418) 648-7373 Ext. 139 Fax: (418) 648-4792
Atlantic	Box 6088, 5th Floor, 1081 Main St. Moncton, NB E1C 8R2	Tel: (506) 851-7671 Fax: (506) 851-2689
CFIA Headquarters		
Ottawa	Seed Section Canadian Food Inspection Agency 59 Camelot Drive Ottawa, ON K1A 0Y9	Tel: (613) 225-2342 Fax: (613) 228-6629

Table 2.2.5 (continued): Specific Crop Land Requirements

Inspected Crop	Must NOT be grown on land which:
Durum Certified	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Canaryseed, Durum, Oats, Rye, Triticale, Winter Wheat or Spring Wheat; - a crop of a different variety of Durum.
Durum Foundation and Registered	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Canaryseed, Durum, Oats, Rye, Winter Wheat or Triticale; - a crop of a different variety of Durum; • In either of the preceding 2 years, produced a crop of Spring Wheat; • In the previous year produced a non-pedigreed crop which followed a non-pedigreed crop of Durum 2 years prior or a different variety of Durum 2 years prior.
Flax Foundation, Registered and Certified	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Flax; - a crop of a different variety of Flax; - a crop of Canaryseed. • In the previous year produced a non-pedigreed crop of Barley, Bean, Buckwheat, Durum, Fababean, Lentil, Lupin, Oat, Pea, Rye, Safflower, Soybean, Sunflower, Triticale or Wheat which followed a non-pedigreed crop of Flax 2 years prior or a different variety of Flax 2 years prior.
Oat Certified	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale or Wheat; - a crop of a different variety of Oat. • In the previous year produced a non-pedigreed crop of Canaryseed, Flax, Safflower or Sunflower which followed a non-pedigreed crop of Oat 2 years prior or a different variety of Oat 2 years prior.
Oat Foundation and Registered	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale or Wheat; - a crop of a different variety of Oat. • In the previous year produced a non-pedigreed crop of Bean, Canaryseed, Fababean, Flax, Lentil, Lupin, Pea, Safflower, Soybean or Sunflower which followed a non-pedigreed crop of Oat 2 years prior or a different variety of Oat 2 years prior.
Rye (Spring and Winter) Certified	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale or Wheat; - a crop of a different variety of Rye. • In the previous year produced a non-pedigreed crop of Canaryseed, Flax, Safflower or Sunflower which followed a non-pedigreed crop of Rye 2 years prior or a different variety of Rye 2 years prior.

Table 2.2.5 (continued): Specific Crop Land Requirements

Inspected Crop	Must NOT be grown on land which:
Rye (Spring) Registered (Winter) Foundation and Registered	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale or Wheat; - a crop of a different variety of Rye. • In the previous year produced a non-pedigreed crop of Bean, Canaryseed, Fababean, Flax, Lentil, Lupin, Pea, Safflower, Soybean or Sunflower which followed a non-pedigreed crop of Rye 2 years prior or a different variety of Rye 2 years prior.
Rye (Spring) Foundation	<ul style="list-style-type: none"> • In the previous year produced a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Triticale or Wheat. • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Rye; - a crop of a different variety of Rye. • In the previous year produced a non-pedigreed crop of Bean, Canaryseed, Fababean, Flax, Lentil, Lupin, Pea, Safflower, Soybean or Sunflower which followed a non-pedigreed crop of Rye 3 years prior, or a different variety of Rye 3 years prior.
Triticale (Spring and Winter) Certified	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale, or Wheat; - a crop of a different variety of Triticale. • In the previous year produced a non-pedigreed crop of Canaryseed, Flax, Safflower or Sunflower which followed a non-pedigreed crop of Triticale 2 years prior, or a different variety of Triticale 2 years prior.
Triticale (Spring) Registered (Winter) Foundation and Registered	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale, or Wheat; - a crop of a different variety of Triticale. • In the previous year produced a non-pedigreed crop of Bean, Canaryseed, Fababean, Flax, Lentil, Lupin, Pea, Safflower, Soybean or Sunflower which followed a non-pedigreed crop of Triticale 2 years prior, or a different variety of Triticale 2 years prior.
Triticale (Spring) Foundation	<ul style="list-style-type: none"> • In the previous year produced a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, or Wheat. • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Triticale; - a crop of a different variety of Triticale. • In the previous year produced a non-pedigreed crop of Bean, Canaryseed, Fababean, Flax, Lentil, Lupin, Pea, Safflower, Soybean or Sunflower which followed a non-pedigreed crop of Triticale 3 years prior or a different variety of Triticale 3 years prior.

3.3 CROP INSPECTION

The basic standards for all crops are set out in Section 1.7. In addition, the following apply to crops in this section:

- 3.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector prior to swathing or harvesting.
- 3.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.
- 3.3.3 The crop must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining pedigreed status.
- 3.3.4 **Soybean** crops must be inspected at maturity.
- 3.3.5 **Fababean** crops must be inspected either at flowering or at maturity depending on the type.
- 3.3.6 **Lentil, Lupin, and Pea** crops must be in bloom.
- 3.3.7 Crops of **Bean** should be inspected twice before harvest by an authorized inspector. The first inspection must be made between 10 and 20 days after full bloom and the second inspection must be made at maturity.

3.4 CROP STANDARDS

3.4.1 Isolation for All Crops in this Section

- a) The perimeter of the crop to be inspected must be clearly defined.
- b) The required isolation must be provided prior to the time of flowering and crop inspection, and may be clean summerfallow, non-contaminating native growth, forage crop, a grain crop or a cultivated row crop of another crop kind the seeds of which are easily separated from the inspected crop.
- c) Adjacent crops must not overlap.
- d) Any plants considered a source of contamination found within 3 meters (10 feet) of the inspected crop may be reason for declining pedigreed status.

Table 3.4.2: Minimum Isolation Distances Required from an Inspected Crop to Other Crops

Inspected Crop	Other Crops	Isolation Distance Required
Bean – Registered, Certified	- Any crop of Bean	3 meters (10 feet)
Bean – Foundation	- Inspected pedigreed Bean seed crop	3 meters (10 feet)
	- Non-pedigreed Bean crop	20 meters (65 feet)
Bean – all classes	- Fababean, Lentil, Lupin, Pea, Peanut, Soybean	3 meters (10 feet)
Fababean	- Inspected pedigreed Fababean of same variety	1 meter (3 feet)
	- Bean, Lentil, Lupin, Pea, Peanut, Soybean	3 meters (10 feet)
	- Crops of different varieties of Fababean - Non-pedigreed crop of Fababean	
Lentil	- Inspected pedigreed Lentil of same variety	1 meter (3 feet)
	- Bean, Fababean, Lupin, Peanut, Soybean	3 meters (10 feet)
	- Crops of different varieties of Lentil	
	- Non-pedigreed crop of Lentil	
Lupin	- Inspected pedigreed Lupin of same variety	1 meter (3 feet)
	- Bean, Fababean, Lentil, Pea, Peanut, Soybean	3 meters (10 feet)
	- Crops of different varieties of Lupin	
	- Non-pedigreed crop of Lupin	
Pea	- Inspected pedigreed Pea of same variety	1 meter (3 feet)
	- Bean, Fababean, Lupin, Peanut, Soybean	3 meters (10 feet)
	- Crops of different varieties of Pea	
	- Non-pedigreed crop of Pea	
Soybean	- Inspected pedigreed Soybean crops of same variety	1 meter (3 feet)
	- Bean, Fababean, Lentil, Lupin, Pea, Peanut	3 meters (10 feet)
	- Crops of different varieties of Soybean - Non-pedigreed crop of Soybean	

6.5.6 Weeds

- a) All crops for pedigree should be free of Prohibited and Primary noxious weeds.
- b) Very weedy crops may be declined pedigreed status.

6.5.7 Maximum Impurity Standards

- a) In a crop offered for Foundation status, the inspector makes 6 counts (100 square meters each) to determine the number of impurities. The resulting average count, of other varieties, types foreign to the variety or other crop kinds (the seeds of which are difficult to separate from the seeds of the inspected crop) must not exceed 0.1 percent of the plant population of the inspected crop (1 plant per 100 square meters). Variants may be specified by the responsible Breeder and are not considered impurities unless reported in excess of the acceptable level specified.
- b) In a crop offered for Registered or Certified status, the inspector makes 6 counts (10 square meters each) to determine the number of impurities. The resulting average count, of other varieties, types foreign to the variety or other crop kinds (the seeds of which are difficult to separate from the seeds of the inspected crop) must not exceed 1 percent of the plant population of the inspected crop (1 plant per 10 square meters). Variants may be specified by the responsible Breeder and are not considered impurities unless reported in excess of the acceptable level specified.

Table 7.4.5: Effect of Age of Stand on Pedigreed Class of Forage Legume Seed Crops (Breeder, Foundation, Certified)

Inspected Crop		When crop is established with:			
		Breeder seed			Foundation seed
		No. of years for Foundation		No. of years for Certified	No. of years for Certified
Alfalfa		5	+	3	8
Birdsfoot Trefoil		4	+	no limit*	no limit*
Clover	Alsike	2	+	2	4
	Red – double cut	1	+	1	2
	Red – single cut	2	+	1	3
	Sweet	1	+	0	1
	White	2	+	2	4
Phacelia		1	+	0	1
Sainfoin		5	+	0	5
Vetch	Crown	5	+	3	8
	Milk	5	+	3	8

*When stands have been established for 5 years, and at each 5 year interval thereafter, a 100 gram sample of the Birdsfoot Trefoil seed crop produced in that year must be submitted for a variety verification test.

7.5 CROP STANDARDS

7.5.1 Isolation

- A crop offered for inspection must be isolated from any possible source of contaminating pollen in compliance with the minimum isolation distance requirements in Table 7.5.2.
- The area, density and location of the contaminating source is an important factor in cross pollination, and therefore must be noted on the *Report of Crop Inspection* for consideration in determining pedigreed status.
- The required isolation must be provided prior to flowering and crop inspection.

Table 7.5.2: Minimum Isolation Distances Required Between Inspected Forage Legume Crops and Different Varieties or Non-pedigreed Crops of the Same Crop Kind

Area of Inspected Crop	Isolation distance required from a crop of a different variety or non-pedigreed crop of the same kind for production of:		
	Foundation	Registered	Certified
5 acres or less	300 m (984 ft)	150 m (492 ft)	50 m (164 ft)
More than 5 acres	200 m (656 ft)	100 m (328 ft)	50 m (164 ft)

Table 7.5.3: Minimum Isolation Distances Required Between Inspected Forage Legume Crops and Other Pedigreed Crops of the Same Variety and Other Crop Kinds

Inspected Crop	Other Crops	Isolation Distance Required
Alfalfa, Birdsfoot Trefoil, Clover, Phacelia, Sainfoin, Vetch	<ul style="list-style-type: none"> - Pedigreed crops of different classes of the same variety - Crop kinds with seeds that are difficult to separate 	3 meters (10 feet)

7.5.4 Border Removal in Lieu of Isolation for Certified Crops of Alfalfa

- a) Isolation requirements for the Certified class are based on the size of the Certified crop and the percentage of the crop within 50 meters (164 feet) of another variety of Alfalfa.
- b) For a Certified crop, 50 meters (164 feet) is normally required from the edge of the seed field to the nearest contaminating pollen source.
- c) Contaminating sources of pollen include: a crop of a different variety of Alfalfa; a crop sown with commercial Alfalfa seed; or a crop of Alfalfa where the seed sown cannot be verified as being pedigreed seed.
- d) If the distance provided is less than 50 meters (164 feet) then the area of the seed crop to be discarded is determined by the procedure outlined in Chart 7.5.4 (next page) "Procedure for Determining Area of Alfalfa Seed Crop to be Discarded."

7.5.5 Weeds

- a) All crops for pedigree should be free of Prohibited and Primary noxious weeds.
- b) Very weedy crops may be declined pedigreed status.

7.5.6 Maximum Impurity Standards

- a) In a crop offered for Foundation status, the inspector makes 6 counts (100 square meters each) to determine the number of impurities. The resulting average count, of other varieties, types foreign to the variety or other crop kinds (the seeds of which are difficult to separate from the seeds of the crop inspected) must not exceed 0.1 percent of the plant population of the inspected crop (1 plant per 100 square meters). Variants may be specified by the responsible Breeder and are not considered impurities unless reported in excess of the acceptable level specified.
- b) In a crop offered for Registered or Certified status, the inspector makes 6 counts (10 square meters each) to determine the number of impurities. The resulting average count, of other varieties, types foreign to the variety or other crop kinds (the seeds of which are difficult to separate from the seeds of the crop inspected) must not exceed 1 percent of the plant population of the inspected crop (1 plant per 10 square meters). Variants may be specified by the responsible Breeder and are not considered impurities unless reported in excess of the acceptable level specified.

12.4.3 Previous Land Use

- a) The basic standards for all crops are set out in Section 1.17. Note that land use inspections are not used for subsequent production of Select, Probation or Foundation Plots because the land use inspections are considered non-pedigreed crops. In addition to the basic standards, the following apply to crops in this section:

Table 12.4.3: Specific Crop Land Requirements

Select Plot Crop	Land Requirements
Barley (Spring and Winter)	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Barley; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale, or Wheat; - a crop of a different variety of Barley; - a Certified crop of Barley.
Bean	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed Bean crop; - a crop of a different variety of Bean; - a Foundation, Registered or Certified crop of Beans.
Buckwheat	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Buckwheat; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Buckwheat; - a crop of a different variety of Buckwheat; - a Certified crop of Buckwheat.
Canaryseed	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Canaryseed; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Canaryseed or Flax; - a Certified crop of Canaryseed.
Durum	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Durum. • In either of the 2 preceding years produced: <ul style="list-style-type: none"> - a crop of Spring Wheat; - a non-pedigreed crop of Barley, Buckwheat, Durum, Winter Wheat, Oat, Rye, or Triticale; - a crop of a different variety of Durum; - a Certified crop of Durum.

Table 12.4.3 (continued): Specific Crop Land Requirements

Select Plot Crop	Land Requirements
Fababean	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed Fababean crop; - a crop of a different variety of Fababean; - a Foundation, Registered or Certified crop of Fababeans.
Flax	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Flax; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Canaryseed or Flax; - a crop of a different variety of Flax; - a Certified crop of Flax.
Lentil	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced a Lentil crop.
Lupin	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced a Lupin crop.
Oat	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Oat; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Rye, Triticale or Wheat; - a crop of a different variety of Oat; - a Certified crop of Oat.
Pea	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced a Pea crop.
Rye (Spring and Winter)	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a Foundation, Registered or Certified crop of Rye; • In either of the preceding 2 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Barley, Buckwheat, Durum, Oat, Triticale, or Wheat; • In any of the preceding 3 years produced: <ul style="list-style-type: none"> - a non-pedigreed crop of Rye or a different variety of Rye; - a Certified crop of Rye.
Soybean	Must NOT be grown on land which:
	<ul style="list-style-type: none"> • In the previous year produced: <ul style="list-style-type: none"> - a non-pedigreed Soybean crop; - a crop of a different variety of Soybean; - a Foundation, Registered or Certified crop of Soybeans.

SECTION 14

FOUNDATION, REGISTERED AND CERTIFIED PRODUCTION OF OTHER CROPS

In addition to the crop kinds in this Section, Regulations are available from the CSGA for pedigreed seed crop production of other crops.

- 14.1 Millet
- 14.2 Sorghum
- 14.3 Hybrid Sorghum
- 14.4 Hybrid Alfalfa
- 14.5 Coriander
- 14.6 Hybrid Pearl Millet
- 14.7 Niger
- 14.8 Peanut
- 14.9 Fenugreek
- 14.10 Camelina
- 14.11 Hybrid Asparagus
- 14.12 Sugar Beet
- 14.13 Dill

SECTION 14.4

PRODUCTION OF HYBRID ALFALFA

In this Section:

- **Hybrid Alfalfa** includes all varieties of Hybrid Alfalfa (*Medicago sativa*) but not interspecific hybrids of *Medicago sativa* and *Medicago falcata*.

Section 1, *Regulations for All Pedigreed Seed Crops*, together with the following, constitute the production regulations.

14.4.1 SEED CLASSES AND GENERATIONS

- 14.4.1.1 The number of official pedigreed classes is determined by the Breeder of the variety and either Select Synthetic or Foundation status parental material is normally planted to maintain male sterile parent material and to produce Certified hybrid crops.

Currently in Canada, hybrid alfalfa production involves the blending of parental seed lines in specific ratios. Select Synthetic or Foundation seed of male and female lines are blended in a specific proportion under the supervision of the plant breeder. The ratio of male sterile and either maintainer line or male fertile line shall not be more than 2:1.

14.4.2 LAND REQUIREMENTS

- 14.4.2.1 Hybrid Alfalfa crops must not be grown on land which in the previous two (2) years grew a non-pedigreed crop of Alfalfa or a different variety of Alfalfa.

14.4.3 CROP INSPECTION

The basic standards for all crops are set out in Section 1.7. In addition, the following apply to crops in this section:

- 14.4.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector prior to swathing or harvesting.
- 14.4.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.
- 14.4.3.3 The crop must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining pedigreed status.
- 14.4.3.4 A crop inspection shall be made during the bloom stage, after 75% of the plants are showing one or more blossoms but before most seed has set. At the time of crop inspection, the Pollen Production Index (PPI) of the male sterile (female) parent must be determined as explained in the Specific Requirements in Section 14.4.5.1.

14.4.4 AGE OF STAND

- 14.4.4.1 The pedigreed class of the seed crop will vary by crop species, the number of classes designated by the Breeder or the authorized agent of the Breeder and the Age of Stand.
- 14.4.4.2 Additional limitations on Age of Stand through which a variety may be multiplied outside the region of adaptation may be specified by the Breeder or the authorized agent of the Breeder.
- 14.4.4.3 For most perennial crops there is a specified number of years during which pedigreed seed may be harvested from one planting.
- 14.4.4.4 **Calculating Age of Stand**
- a) If rejuvenation is used as a management practice, it will count as a year of production in calculating the Age of Stand.
 - b) For calculating Age of Stand, the first seed crop is the first year in which a seed crop could normally be harvested, irrespective of time or method of planting.
 - c) Each calendar year thereafter will be considered a seed crop year. For example: Alfalfa sown without a companion crop in the fall is normally considered capable of seed production the following year. Alfalfa seeded with pedigreed seed of Winter Wheat as a companion crop in the fall will be considered for the first year of seed production in the second year after planting.

14.4.5 CROP STANDARDS

14.4.5.1 Isolation

- a) Hybrid Alfalfa female parent crops for Foundation status must be isolated by a distance of 400 meters (1312 feet) from other varieties of Alfalfa or from a non-pedigreed crop of Hybrid Alfalfa.
- b) Hybrid Alfalfa crops for Certified status, or male parent crops for Foundation status, must be isolated by a distance of 200 meters (656 feet) from other varieties of Alfalfa or from a non-pedigreed crop of Hybrid Alfalfa.
- c) In producing either Foundation parent material or Certified hybrid crops of the same variety, at least 3 metres (10 feet) isolation is required between crops.
- d) The required isolation must be provided prior to the time of flowering and crop inspection.

14.4.5.2 Border Removal in Lieu of Isolation for Certified Crops of Hybrid Alfalfa

- a) For a Certified crop, 200 meters (656 feet) is normally required from the edge of the seed field to the nearest contaminating pollen source.
- b) Contaminating sources of pollen include: a crop of a different variety of Alfalfa; a crop sown with commercial Alfalfa seed; or a crop of Alfalfa where the seed sown cannot be verified as being pedigreed seed.
- c) If crop area is more than 5 acres and the isolation distance provided is less than 200 meters (656 feet), then the area of the seed crop to be discarded is determined by the procedure outlined in Chart 14.4.5.2 (next page) "Procedure for Determining Area of Alfalfa Seed Crop to be Discarded."

Chart 14.4.5.2:

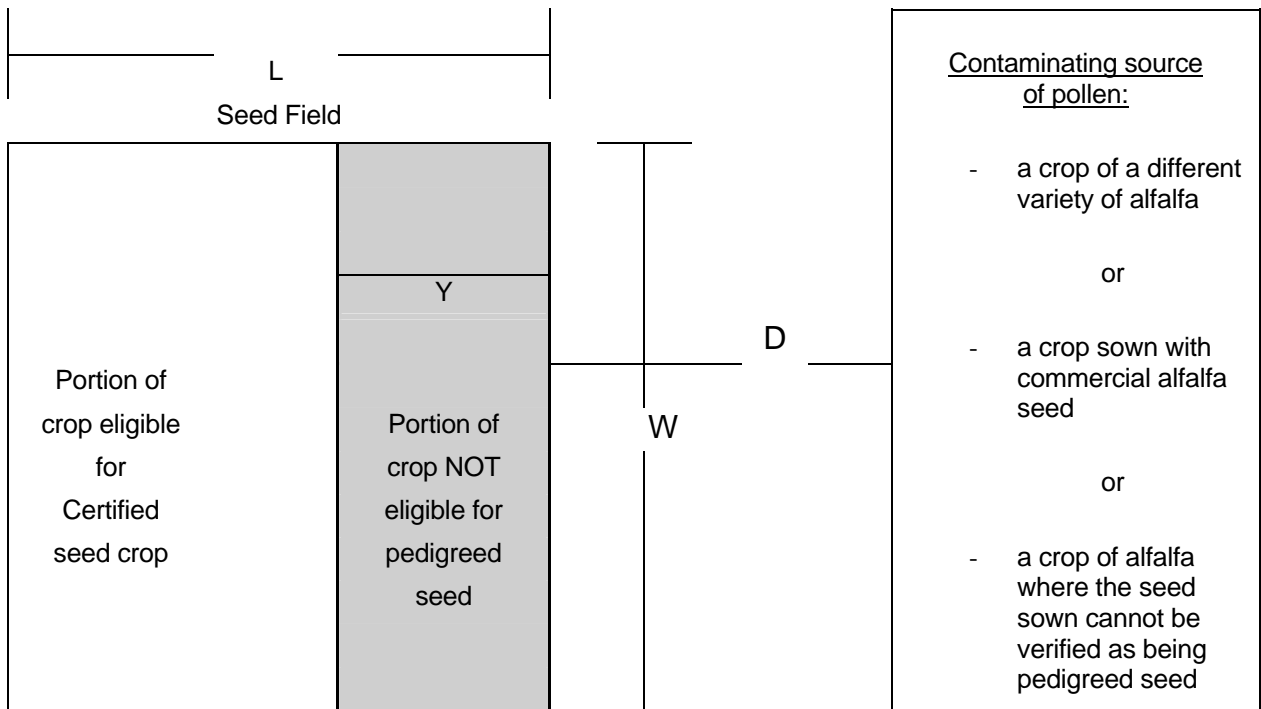
PROCEDURE FOR DETERMINING AREA OF ALFALFA SEED CROP TO BE DISCARDED

L = length of seed field	W = width of seed field
Y = 200 meters minus D	L x W = total area of seed field
D = Distance	
W x Y = zone which may not be eligible for pedigree	

Example:

If L = 200 meters; W = 40 meters; D = 30 meters and Y = (200 - D) = 170 meters.

Calculation of ineligible area: W x Y (40 x 20) = 800; W x L = (40 x 200) = 8,000



If 10% or less of the Certified field is within the 200 meters (656 ft.) isolation zone ($W \times Y$), then 3 meters (10 ft.) of isolation is required. If more than 10% of the field is within the isolation zone ($W \times Y$), that part of the field must not be harvested as Certified seed. The isolation zone is that area calculated by multiplying the length (L) of the seed field by the average width (W) of the seed field falling within the 200 meters (656 ft) isolation distance requirements, then a clear line of demarcation shall be established between the Certified and non-Certified portion of the field.

14.4.5.3 Weeds

- a) All crops for pedigree must be free of Prohibited noxious weeds.
- b) Very weedy crops may be declined pedigreed status.

14.4.5.4 Maximum Impurity Standards

The maximum impurity levels outlined in Table 14.4.5.4 apply, unless variants are specified by the responsible Breeder.

Table 14.4.5.4: Maximum Impurity Standards

Impurity	Maximum Permitted	
	Foundation	Certified
Other varieties of Alfalfa	1 per 1,000 plants	1 per 1,000 plants

14.4.6 SPECIFIC REQUIREMENTS**14.4.6.1 Pollen Production Index**

During crop inspection, at the bloom stage after 75% of the plants are showing one or more blossoms but before most seed has set, the Pollen Production Index (PPI) of the male sterile (female) parent must be determined. This is done by examining untripped flowers on 200 plants. Plants must be sampled in a manner that is representative of the crop and inspectors classify each of the 200 plants as:

- Male Sterile (MS) - no pollen
- Partially Male Sterile (PMS) - trace amount of pollen
- Partially Fertile (PF) - substantially less than normal amount of pollen
- Fertile (F) - normal pollen

To determine the PPI, the number of plants in each class of fertility must be multiplied by a factor, the results all classes are added together and divided by the total number of plants examined to come up with a Pollen Production Index (PPI) value for the crop. The factors are as follows:

- MS multiply the number of plants by 0
- PMS multiply the number of plants by 0.1
- PF multiply the number of plants by 0.6
- F multiply the number of plants by 1

As outlined in Table 14.4.6.1 below, the maximum allowable Pollen Production Index (PPI) for a Foundation crop would be 0.14. For crops with separate male and female plants, the maximum allowable PPI for a Certified crop with a 95% hybridity standard is 0.06 and the maximum allowable PPI for a Certified crop with a 75% hybridity standard is 0.42. For composite crops of male and female plants, the maximum allowable PPI for a Certified crop with a 75% hybridity standard is 0.25.

If less than 68% of the plants are male sterile, then no further examinations are required because the crop will not meet CSGA requirements. If more than 80% of the plants are male sterile, no further examinations are required because the crop will clearly meet CSGA requirements. If between 68% and 80% of the plants are male sterile, then another 100 plants shall be sampled and included in the calculation.

Table 14.4.6.1: Maximum Pollen Production Index (PPI)

Inspected Crop	Parent Seed Planted	Maximum PPI Index
Foundation	(A)* in rows	0.14
Certified	separate female and male	
95% hybrid	(A)* x (B)* in rows	0.06
75% hybrid	(A)* x (B)* in rows	0.42
	composite of female and male	
75% hybrid	$((A)* \times (B)* + (C)*$	0.25

* Parent Seed Identity

SECTION 14.7

FOUNDATION AND CERTIFIED PRODUCTION OF NIGER

In this Section:

- *Niger* includes all varieties of Niger (*Guizotia abyssinnica*).

Section 1, *Regulations for All Pedigreed Seed Crops*, together with the following, constitute the production regulations.

14.7.1 SEED CLASSES AND GENERATIONS

- 14.7.1.1 The number of official pedigreed classes is determined by the Breeder of the variety and are normally Foundation and Certified.
- 14.7.1.2 Foundation: limited to one generation. For Foundation and Probation plot production, refer also to the plot requirements of Section 13. Land and crop inspection requirements for plot production are the same as for Foundation status crops.
- 14.7.1.3 For those growers who are not accredited by the CSGA to grow Probation, Select or Foundation plots, and who plant crops with Breeder or Select seed, the CSGA reserves the right to determine the status of the crop and may issue a Certified crop certificate.

14.7.2 LAND REQUIREMENTS

- 14.7.2.1 Niger crops must not be grown on land which in the preceding 2 years grew a non-pedigreed crop of Niger or a different variety of Niger.
- 14.7.2.2 Niger crops must not be grown on land which in the previous year grew a crop of Canola, Mustard, Oilseed Radish or Rapeseed.

14.7.3 CROP INSPECTION

The basic standards for all crops are set out in Section 1.7. In addition, the following apply to crops in this section:

- 14.7.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector prior to swathing or harvesting.
- 14.7.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.
- 14.7.3.3 The crop must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining pedigreed status.
- 14.7.3.4 Inspection should be made during the bloom stage after at least 50 percent of the plants are showing one or more blossoms.

14.7.4 CROP STANDARDS**14.7.4.1 Isolation**

- a) Niger crops for Foundation status must be isolated by a distance of 400 meters (1312 feet) from other varieties of Niger or from a non-pedigreed crop of Niger.
- b) Niger crops for Certified status must be isolated by a distance of 200 meters (656 feet) from other varieties of Niger or from a non-pedigreed crop of Niger.
- c) The required isolation must be provided prior to the time of flowering and crop inspection.

14.7.4.2 Weeds

- a) All crops for pedigree must be free of Prohibited noxious weeds.
- b) Very weedy crops may be declined pedigree status.
- c) Some vetches (*Vicia* spp.) produce seeds that are difficult to separate from Niger seed. Seed crops with excessive numbers of difficult to separate weeds or other crop kinds may be declined pedigree status.

14.7.4.3 Maximum Impurity Standards

The maximum impurity levels outlined in Table 14.7.4.3 apply, unless variants are specified by the responsible Breeder.

Table 14.7.4.3: Maximum Impurity Standards

Impurity	Maximum Permitted in Each Class	
	Foundation	Certified
Other varieties of Niger	1 per 30 sq. metres	1 per 10 sq. metres

SECTION 14.13

FOUNDATION AND CERTIFIED PRODUCTION OF DILL

In this Section:

- **Dill** includes all varieties of Dill (*Anethum graveolens*).

Section 1, *Regulations for All Pedigreed Seed Crops*, together with the following, constitute the production regulations.

14.13.1 SEED CLASSES AND GENERATIONS

14.13.1.1 The number of official pedigreed classes is determined by the Breeder of the variety and are normally Foundation and Certified.

14.13.1.2 Foundation: limited to one generation. For Foundation and Probation plot production, refer also to the plot requirements of Section 13. Land and crop inspection requirements for plot production are the same as for Foundation status crops.

14.13.1.3 For those growers who are not accredited by the CSGA to grow Probation, Select or Foundation plots, and who plant crops with Breeder or Select seed, the CSGA reserves the right to determine the status of the crop and may issue a Certified crop certificate.

14.13.2 LAND REQUIREMENTS

14.13.2.1 Dill crops must not be grown on land which in the preceding 2 years grew a non-pedigreed crop of Dill or a different variety of Dill.

14.13.2.2 Dill crops must not be grown on land which in the previous year grew a crop of Canola, Mustard, Oilseed Radish or Rapeseed.

14.13.3 CROP INSPECTION

The basic standards for all crops are set out in Section 1.7. In addition, the following apply to crops in this section:

14.13.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector prior to swathing or harvesting.

14.13.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.

14.13.3.3 The crop must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining pedigreed status.

14.13.3.4 Inspection should be made during the bloom stage after at least 50 percent of the plants are showing one or more blossoms.

14.13.4 CROP STANDARDS**14.13.4.1 Isolation**

- a) Dill crops for Foundation status must be isolated by a distance of 400 meters (1312 feet) from other varieties of Dill or from a non-pedigreed crop of Dill.
- b) Dill crops for Certified status must be isolated by a distance of 200 meters (656 feet) from other varieties of Dill or from a non-pedigreed crop of Dill.
- c) The required isolation must be provided prior to the time of flowering and crop inspection.

14.13.4.2 Weeds

- a) All crops for pedigree must be free of Prohibited noxious weeds.
- b) Very weedy crops may be declined pedigree status.
- c) Some vetches (*Vicia* spp.) produce seeds that are difficult to separate from Dill seed. Seed crops with excessive numbers of difficult to separate weeds or other crop kinds may be declined pedigree status.

14.13.4.3 Maximum Impurity Standards

The maximum impurity levels for off-types and other varieties of Dill are outlined in Table 14.13.4.3, unless variants are specified by the responsible Breeder.

Table 14.13.4.3: Maximum Impurity Standards

Impurity	Maximum Permitted in Each Class	
	Foundation	Certified
Off types and Other varieties of Dill	1 per 30 sq. metres	1 per 10 sq. metres

APPENDIX A

DOCUMENTS

In this Appendix:

Documents that are used in pedigreed seed crop certification are described in Appendix A of the *CSGA Regulations and Procedures for Pedigreed Seed Crop Production (Circular 6)*.

These documents are available from the CSGA's website at: www.seedgrowers.ca or the CSGA office at the address below, by phone (613-236-0497), and fax (613-563-7855).

- A.1 Application for Crop Inspection and Membership in CSGA (Form 100)
 - A.2 Report of Seed Crop Inspection (CFIA Form 1115)
 - A.3 Report of Plot Production (Form 50)
 - A.4 Authorizations to Assign Crop Certificate (Forms 179 and 179A)
 - A.5 Crop Certificate and Seed Disposal Record
 - A.6 Application to Commence Probation Plot Production (Form 154)
 - A.7 Official Seed Tags
 - A.8 Appeal (Form 200)
 - A.9 Land Use Verification – Prior to Planting (Form 101)
 - A.10 Declaration of Percent Hybrid Seed (Form 180)
 - A.11 Demotion of Breeder Seed Application (Form 45)
 - A.12 Application for Breeder Seed Crop Certificate and Certification Eligibility (Form 43)
 - A.13 Variety Certification Eligibility Application (Form 300)
 - A.14 Refuge Declaration (Form 182)
 - A.15 Authorization to Release Personal Information on CSGA Website (Form 111)
 - A.16 Recertification Application (Form 210)
 - A.17 Authorization to Submit an Application and Assign Crop Certificates (Form 175)
-

A.1 APPLICATION FOR CROP INSPECTION AND MEMBERSHIP IN CSGA

Each spring, the CSGA sends *Applications for Crop Inspection and Membership in the CSGA* to growers who applied to the CSGA the previous year for crop inspection. Additional forms are available from CSGA at the address below, by phone (613-236-0497), fax (613-563-7855), or from the CSGA's website at: www.seedgrowers.ca. Forms may also be obtained from the Secretary of the provincial or regional Branch/Association of the CSGA, authorized crop inspection offices and provincial departments of agriculture.

Crops for pedigreed status shall be grown according to the CSGA's *Canadian Regulations and Procedures for Pedigreed Crop Production – Circular 6*. Copies of *Circular 6* are available from the CSGA office or website at: www.seedgrowers.ca.

The standing field crop is inspected by authorized seed crop inspectors on behalf of the CSGA. The CSGA appraises the crop inspection report prepared by the inspector and if all requirements are met, pedigreed status is granted and an official crop certificate is issued.

Please ensure that the *Application for Crop Inspection and Membership* is completed before submitting it to the CSGA by the deadline dates.

- April 25th - Winter canola/rapeseed
- May 25th - Fall seeded cereals
- June 10th - Forages, flax, canola, mustard, corn and field peas
- June 20th - All other crops
- July 10th - Field beans, buckwheat and soybeans

Membership and crop inspection fees are submitted with the *Application for Crop Inspection and Membership* and are payable to: Canadian Seed Growers' Association.

By post to:
Canadian Seed Growers' Association
 Box 8455
 Ottawa, Ontario K1G 3T1

By courier to:
Canadian Seed Growers' Association
 240 Catherine St., Suite 202
 Ottawa, Ontario K2P 2G8

Application forms are also available from the CSGA website at: www.seedgrowers.ca.

A.2 REPORT OF SEED CROP INSPECTION (CFIA Form 1115)

The decision to grant pedigreed status to an inspected crop rests solely with the CSGA. This decision is based on the CSGA's appraisal of the crop's compliance with their regulatory requirements. CSGA's appraisal requires the information on the crop inspection report prepared by an authorized crop inspector and other information which may be provided by the grower. The inspector is responsible for completion of the crop inspection report. The inspector does not make a decision on the status of the crop.

Once the *Application for Crop Inspection and Membership* is received by the CSGA, a pre-printed *Report of Seed Crop Inspection* (also called "crop inspection report") is created for each field. A copy of the *Application for Crop Inspection and Membership* and the crop inspection report form for each field is sent to the authorized crop inspector.

The official *Report of Seed Crop Inspection* for each pedigreed seed crop is completed at the time of inspection by an authorized crop inspector.

Much of the information for the *Report of Seed Crop Inspection* comes from the application for crop inspection which the grower completes. Accuracy in completing the application reduces the risk of additional information being required by the CSGA, which delays the issuance of a crop certificate.

The original copy of the *Report of Seed Crop Inspection* is forwarded to the CSGA. One copy of the report is provided as soon as possible to the grower. The completed *Report of Seed Crop Inspection* is appraised by the CSGA. A Crop Certificate, a request for further information or a decline letter is issued based on the CSGA's appraisal.

The CSGA's appraisal of the *Report of Seed Crop Inspection* considers all certification requirements of the crop. If the crop does not meet the requirements outlined in the *Canadian Regulations and Procedures for Pedigreed Seed Crop Production* (Circular 6), the crop will be declined pedigreed status.

The onus is on the grower to ensure, prior to the time of inspection, that the crop meets the standards established by the CSGA. Growers should carefully review the completed *Report of Seed Crop Inspection* for accuracy and compliance with CSGA's requirements. If growers have any questions concerning the crop inspection report, they should contact the CSGA as soon as possible, and/or call to arrange a reinspection if necessary.

The letters below correspond to the following example *Report of Seed Crop Inspection*.

- A. This section is pre-printed by the CSGA and verified by the inspector. The **Grower Number** and **Sequence Number** are assigned to each crop report by the CSGA. Refer to these numbers when contacting the CSGA.

The **Crop Code** is determined by the CSGA. It identifies the variety, usually the first two and last two letters of the variety name, e.g., "SURB" for Superb; and the kind code, e.g., "W" for wheat.

- B. **Estimated yield.** This may only be given in general terms and should not be used for other purposes.
- C. **Crop Certificate number** last issued is only for perennial crops.
- D. **Company.** The assignee's name should appear here if the crop certificate is assigned and, if a perennial crop, a CSGA Form 179 was also submitted with the *Application for Crop Inspection*.
- E. **Crop Location.** This is the legal land location or GPS coordinates of the inspected crop.
- F. **Plot area.** The perimeter of plots is measured in meters.
- G. **Year sown** is used only for perennial crops.
- H. **Crop Certificate, Seed Sealing, Class.** The inspector verifies the pedigreed seedlot identity numbers recorded from a grower's own crop certificate, seedlot sealing tags, or bulk seed certification documentation. The grower must keep the parent seed tags or certification documents until a crop certificate is received. The grower may be asked to send the tags or proof of parent seed identity to the CSGA. The inspector may attach one tag of each different imported seedlot to the CSGA copy of the report. Tags must be kept for the full seed crop life or age of stand of a perennial crop.
- I. **Number of Tags Checked** by the crop inspector.
- J. **Previous Land Use.** The inspector verifies and records previous land use information. The variety and the crop certificate number issued for the pedigreed crop(s) harvested in previous year(s) must be included. Do not record the pedigree of the seed sown in previous years.
- K. **Isolation.** It is important for growers to provide isolation for pedigreed seed crops throughout the growing season. The inspector records the isolation of the crop as it appears at the time of the crop inspection, including distance between the crop for inspection and adjacent crops, condition of the isolation strip and a description of adjacent crops and land use.

- L. **Uniformity of Stand, General Appearance, General Weed Condition, Disease.** These are recorded to provide a description to the CSGA appraiser of what the crop generally looks like and of specific seed borne disease symptoms.
- M. The inspector records incidence of specified “objectionable” weeds in the crop. “Very weedy” crops and/or crops containing Prohibited or Primary Noxious weeds may be declined pedigreed status.
- N. **Off-Types or Other Varieties.** The inspector counts the number of off-types, variants and other varieties in the crop on the basis of random selections of a specific population size within the crop. Refer to the maximum impurity standards for each crop kind.
- O. The inspector determines the number of plants of other crop kinds or weeds, the seeds of which may be difficult to separate from the inspected crop. This is done on the basis of random selections of a specific population size within the crop. Refer to the impurity standards for each crop kind.
- Note: The information in Items N and O is used to determine the contamination in the crop. If contamination is in excess of the CSGA’s standards, the crop may be declined pedigreed status.
- P. **Inspector’s additional comments.** The inspector may provide more details on any required information.
- R. The **date of the inspection** and the **inspector’s identification number**. The inspector also signs the crop inspection report.

A.8 APPEAL APPLICATION (Form 200)

The *Appeal Application* (Form 200) is submitted to the CSGA, by October 15th of the year of crop inspection for most crop kinds, to appeal a decision on an inspected crop to the CSGA Board of Directors.

A.9 LAND USE VERIFICATION – Prior to Planting (Form 101)

The *Land Use Verification* (Form 101) is used to verify the eligibility of land for pedigreed seed production. It is submitted prior to planting to the CSGA to verify whether the proposed LAND USE PLAN meets CSGA's requirements.

A.10 DECLARATION OF PERCENT HYBRID SEED (Form 180)

The *Declaration of Percent Hybrid Seed* (Form 180) is submitted to the CSGA to complete certification of those hybrid pedigreed seed crops with this regulatory requirement in Circular 6. The CSGA verifies that the information in this declaration complies with certification standards for the variety.

A.11 DEMOTION OF BREEDER SEED APPLICATION (Form 45)

The *Demotion of Breeder Seed Application* (Form 45) is submitted to the CSGA to demote Breeder seed for the purpose of selling it as Foundation, Registered and/or Certified seed.

A.12 APPLICATION FOR BREEDER SEED CROP CERTIFICATE AND CERTIFICATION ELIGIBILITY (Form 43)

The *Application for Breeder Seed Crop Certificate and Certification Eligibility* (Form 43) is submitted to the CSGA by Plant Breeders to certify Breeder seed crops and verify the eligibility of a variety for certification.

A.13 VARIETY CERTIFICATION ELIGIBILITY APPLICATION (Form 300)

The *Variety Certification Eligibility Application* (Form 300) is submitted to the CSGA only once, in the first year of official seed crop certification in Canada, for each new variety which will be identified by variety name on official seed certification tags.

A.14 REFUGE DECLARATION (Form 182)

The *Refuge Declaration* (Form 182) is submitted to the CSGA to complete certification of pest tolerant pedigreed seed crops with variety descriptions that include this additional certification requirement (Circular 6, Section 1.21.3).

A.15 AUTHORIZATION TO RELEASE PERSONAL INFORMATION ON CSGA WEBSITE (Form 111)

The *Authorization to Release Personal Information on CSGA Website* (Form 111) is submitted to the CSGA by recognized Plant Breeders and accredited Plot Producers to authorize the release of their contact information to a listing on the CSGA website.

A.16 RECERTIFICATION APPLICATION (Form 210)

This *Recertification Application Form* (CSGA Form 210) is used for recertification requests due to emergency variety shortages. Except as permitted by the CSGA Recertification Policy (pg. 2), the number of generations through which seed crops are certified shall not exceed two generations beyond the Foundation class.

Applications for emergency recertification, with supporting information and payment of \$500.00 plus GST/HST, are submitted to the CSGA office.

A.17 AUTHORIZATION TO SUBMIT AN APPLICATION AND ASSIGN CROP CERTIFICATES (Form 175)

A crop certificate assignee may submit an Application for Crop Inspection and Membership in the Canadian Seed Growers' Association on behalf of a pedigreed seed grower. However, to meet CSGA requirements, the pedigreed seed grower and crop certificate assignee must complete this *Authorization to Submit an Application and Assign Crop Certificates* (Form 175) and the attached fee distribution worksheet.

Dicotyledonous (dicot) – Refers to plants which have two seed leaves in the seed and leaf veins that are branched.

Double-cross hybrid – The first generation progeny of a cross between two single cross hybrids.

Ecovar™ (ecological variety) – A seed source of a plant species that can be licensed and that is the result of merging plant collections from a diversity of populations and environments within an ecozone with the objective of providing a diverse commercial seed source.

Electrophoresis – The movement of colloidal particles through a fluid under the action of an electric field.

Emasculation – Removal of anthers from a flower before pollen is shed to prevent self pollination.

Embryo – The rudimentary plant within the seed.

Endosperm – Food storage material in the seed.

Enzymes – Substance produced from a gene that controls or regulates cell functions and hence the entire organism. It may catalyze and initiate a biochemical reaction.

F1 – The first generation progeny from a cross. The first filial generation.

FIS – *Federation International des Semences*, an international federation of the seed trade.

Fatuoid – A common mutant found in Oat crops. Sometimes called a False Wild Oat. It usually has heavier protruding black awns distinguishable at maturity.

Federal Seeds Act and Regulations – See *Canada Seeds Act and Regulations*.

Floret – The stamens, pistil and lodicules enclosed by the lemma and palea.

Forages – Plants grown primarily for livestock feed and in which nearly all the top growth is harvested.

Form 43A – *Application for Plant Breeder Recognition* (Appendix A.3 of Breeder Seed Crop Regulations)

Form 43 – *Application for Breeder Seed Crop Certificate* (Appendix A.1 of Breeder Seed Crop Regulations).

Form 45 – *Breeder Seed Demotion Application* (Appendix A.11 of Circular 6).

Form 50 – *Report of Plot Production* (Appendix A.3 of Circular 6).

Form 100 – *Application for Crop Inspection* (Appendix A.1 of Circular 6).

Form 101 – *Land Use Verification – Prior to Planting* (Appendix A.9 of Circular 6).

Form 111 – *Authorization to Release Personal Information on CSGA Website* (Appendix A.15 of Circular 6).

Form 154 – *Application to Commence Probation Plot Production* (Appendix A.6 of Circular 6).

Form 175- *Authorization to Submit an Application and Assign Crop Certificates* (Appendix A.17 of Circular 6).

Form 179 – *Authorization to Assign a Crop Certificate* (Appendix A.4 of Circular 6).

Form 179A – *Annual Authorization to Assign a Crop Certificate* (Appendix A.4 of Circular 6).

Form 180 – *Declaration of Percent Hybrid Seed* (Appendix A.10 of Circular 6).

Form 182 – *Refuge Declaration* (Appendix A.14 of Circular 6).

Form 200 – *Appeal Application* (Appendix A.8 of Circular 6).

Form 210- *Recertification Application* (Appendix A.16 of Circular 6).

Form 300 – *Variety Certification Eligibility Application*. (Appendix A.13 of Circular 6).

Foundation seed – The approved progeny of Breeder or Select seed produced by seed growers authorized by the CSGA for the production of seed of this class, and which has been so managed to maintain its specific varietal identity and purity. The seed is graded by a person authorized by the CFIA. Foundation is the highest official pedigreed class of seed of commerce.

Foundation plot grower – A seed grower approved by the CSGA to produce Foundation class seed plots, such as plots of Canola, Rapeseed, Mustard, Oilseed Radish and Industrial Hemp. This person has completed a three-year probationary period in plot production after three recent years of pedigreed seed production.

Foundation single cross – A single cross used in the production of a double-cross, a three-way cross or a top cross.

Fungi – Microscopic plants consisting of a vegetative structure called a mycelium, lacking chlorophyll and conductive tissue and reproduced by spores.

Fusiform – A plant's seed head spike that is widest in the middle and tapers to both its tip and base.

Gene – The unit of inheritance composed of DNA forming part of a chromosome, which controls the transmission and development of inherited characteristics. Its effect is generally conditioned by its interaction with other genes, the cytoplasm and environmental factors.

Generation – The designation for multiplication generations, in the Native Plant Certification program, which replaces pedigreed class names. For example, Generation 1 (G1) is equivalent to Breeder status and Generation 2 (G2) is equivalent to Foundation status in the Source Identified and Selected classes of pre-variety germplasm certification.

Genetic code – The means of storing genetic information as sequences of nucleotide bases in the chromosomal DNA.

Genetic engineering – The deliberate modification of an organism's characteristics by manipulation of DNA and transformation of certain genes.

Genotype – The genetic composition of the plant.

Germination – The resumption of growth by the embryo and development of a young plant from seed.

Germplasm – Refers to plant materials that serve as a basis of crop improvement or a reservoir of genes for research. The total hereditary makeup of organisms that determines the hereditary properties of an organism.

Glume – Two bracts found at the base of a grass or cereal spikelet.

Grower – See Seed grower.

Haploid – A term indicating one-half the normal diploid complement of chromosomes.

Haploid method – A plant breeding method for obtaining embryos with half the chromosome number followed by a doubling, usually using colchicines, to produce a homozygous plant.

Hard seed – A seed which is dormant due to the nature of its seed coat which is impervious to either water or oxygen or both.

Head – An inflorescence in which the floral units on the peduncle are tightly clustered surrounded with a group of flower-like bracts called an involucre, e.g., sunflower.

Herbicide – A chemical toxic to plants.

Heterosis – See Hybrid vigour.

Heterozygous – Refers to not breeding true for a specific hereditary characteristic, usually determined by both dominant and recessive alleles. Plants may be heterozygous for some characteristics and homozygous for others.

Hilum – The scar remaining on the seed (ovule) at the place of its detachment from the seed stalk (funiculus).

Homozygous – Refers to breeding true for a specific hereditary characteristic, usually by identical alleles.

Honorary Life Member of CSGA – A person, who is not a grower member of the CSGA, elected by the membership of the CSGA to receive this award in recognition of distinguished service to the CSGA and Canadian agriculture.

Hooded – Refers to awns on glumes that terminate in various wing-like structures.

Hull – The outer covering of a seed which may be removed freely as in Wheat or adhere as in Barley.

Hybrid – The first generation progeny of a cross between two different plants of the same species often resulting in a plant that is more vigorous and productive than either parent.

Hybrid vigour – The increase in vigour of hybrids over their parental inbred types, also known as heterosis.

Hypocotyl – The part of the embryo axis between the cotyledons and the primary root which gives rise to the stalk of the young plant.

ICIA – International Crop Improvement Association. Former name of the Association of Official Seed Certifying Agencies (AOSCA).

ISTA – International Seed Testing Association.

In vitro – Conducted outside a living organism (in contrast to in vivo).

Inbred – A relatively true breeding strain resulting from several successive generations of controlled self fertilization or back-crossing to a recurrent parent with selection or its equivalent.

Identity Preserved (IP) – Programs that segregate commercial crops, usually by variety or group of varieties, for delivery to markets with variety-specific applications. IP program requirements usually include the planting of Certified seed. Separate from pedigreed seed crop certification, CSGA's IP program since 1973 has supported the development of IP programs for many other growers and companies.

Increase – To multiply a quantity of parent seed through a generation of production.

Inflorescence – The arrangement of flowers of a plant such as umbel, raceme, spike, tassel and panicle.

Inspection – The act of inspecting a pedigreed seed crop by an inspector authorized to report to the CSGA on the condition of the seed crop offered for pedigreed status. The inspector reports on varietal impurities, difficult to separate other crop kinds, isolation, objectionable weed content, previous land use and the pedigree of the parent seed planted.

Inspector – A person designated under the authority of the federal *Seeds Act and Regulations* or other person authorized by the CSGA as an inspector of seed crops.

Intellectual property protection (IPP) – The legal measures, such as patents, Plant Breeders' Rights, trademarks, contracts and licenses, usually developed to ensure adequate returns on investment in the development of a new technology.

Interagency tags – Labels or tags applied to pedigreed seed moving from one country or state to another. Pedigreed seed brought into Canada for resale is usually labelled with Interagency tags.

ISO – International Standards Organization.

Isolation Requirements – The distance required to isolate pedigreed seed crops from other crops which may be a source of pollen or seed contamination. Used by most seed certification agencies as one of the requirements to maintain varietal purity of pedigreed seed crops.

Kernel – The seed or grain.

Labels – Issued by the CFIA, breeding institutions or the CSGA to identify the variety, pedigree identity and class of a seed lot. Sometimes called "tags."

Land use inspection – An official inspection of a non-pedigreed crop to determine the degree of contamination in the crop which may pose a varietal purity problem in a pedigreed seed crop planned to be grown on the same land the following crop season.

Legume – A plant which is a member of the *Leguminosae* family having the characteristic of forming nitrogen-fixing nodules on roots and also have dry, dehiscent multiseeded pods.

Lemma – The lower or dorsal bract of a grass spikelet enclosing the caryopsis. In Wheat it is readily removed at harvesting, but usually adheres in Barley and Oats.

Lesion – A localized spot of diseased tissue (spots, cankers, blisters, scabs).

Ligule – A membranous fringe on the inner side of a leaf at the top of the sheath; arises from the junction of the leaf blade and the leaf sheath in many grasses.

Licensed Seed Crop Inspector – An individual who has been licensed to conduct pedigreed seed crop inspection for an authorized seed crop inspection service.

Lodging – The displacement of the stems of crops from an upright position.

Male sterility – An inherited factor, useful in hybrid seed production; prevents viable pollen from being produced.

Mechanical purity – Refers to the degree of freedom of a seed lot from seeds of other crop kinds, weed seeds and inert matter.

Member: Affiliate Member of CSGA – Any person, partnership, or organization wishing to support the objectives of the Association, that are not otherwise Regular or Associate members, and who pay the applicable fees.

Member: Associate Member of CSGA – Any person, partnership, or organization actively engaged in work closely affecting the improvement and production of pedigreed seed that are elected as Associate Members by majority vote at a regular meeting of members.

Member: Regular Member of CSGA – Any person, partnership or organization producing or undertaking the production of pedigreed seed may become a Regular Member of the CSGA by applying for inspection of crops planted with parent seed eligible for certifying and paying the applicable fees.

Monocotyledon – Refers to plants with single seed leaf at the first node of the lead shoot or stem.

Monoculture – The production of a single species, often the same cultivar, over a wide geographical area.

Morphology – The form, structure and development of plants.

Multiline – A composite (blend) population of several genetically related lines of a self-pollinated crop.

Mutagen – Substance which causes or induces genetic changes or mutations.

Mutant – A plant that differs from its normal or parent strain by virtue of an altered genetic characteristic.

Mutation – A sudden heritable variation that results from changes in a gene or genes.

Native Plant Certification (NPC) – A voluntary quality control process provided by the CSGA for native plant seed identification. Although legally separate from pedigreed seed crop certification, similar CSGA documents and procedures are used to verify the origin, of collection or production, of native plant reproductive materials which have not been released as a variety. The CSGA's NPC program documents the identity of plant material and verifies that it is from a designated geographic location (Source Identified class) or selected for specific characteristics (Selected class).

Nicking – Synchronization of the receptivity of the male sterile plant to the maximum pollen load of the pollinator for cross pollination in hybrid seed production.

Non-Pedigreed crop – A crop for which a crop certificate has not been issued or recognized by the CSGA.

Norm (as applies to plant description) – The description of the characteristics of a variety as supplied by the Breeder. Also known as a variety description.

Novel traits – See Plants with novel traits.

Noxious weed – A weed or plant that is considered undesirable and so categorized by the Canada *Seeds Act*.

OECD – The Organization for Economic Co-operation and Development, an international agency which, among other things, has developed specifications, procedures and standards for international seed certification among member countries. Refer to Appendix B.

Official Seed Crop Inspector – A CFIA employee who is qualified to conduct pedigreed seed crop inspection.

Off type – Plants in a seed field which deviate in one or more characteristics from the official description of the variety.

Open pollinated – Seed produced as a result of natural pollination as opposed to hybrid seed produced as a result of a controlled pollination.

Open pollinated variety – A heterogeneous cultivar resulting from a cross-pollinated crop allowed to inter-pollinate freely during seed production (as opposed to a controlled crossed pollination).

Other crop seed – One of the four components of a seed purity test and usually refers to the number of seeds of other crop kinds in the seed sample being tested.

Outcross – The plant resulting from pollen of a different variety of the same species.

Parent or stock seed – Seed used to produce a crop eligible for pedigreed status.

Partnership – The CSGA may establish a partnership record for the production of pedigreed seed restricted to those members who are actively participating in a single farm unit and may include contractual employees or shareholders.

Pathogen – Any organism capable of causing disease in a host or range of hosts.

Pedigreed class or status – See Class.

Pedigreed crop – A crop for which the CSGA, based on a crop inspection report and compliance with all certification requirements, has issued a crop certificate which indicates that the crop has been granted Breeder, Select, Foundation, Registered or Certified crop status.

Pedigreed seed – Seed is recognized as having pedigreed status when derived from a pedigreed crop. Seed originating outside of Canada must be certified by a foreign certification agency recognized by the CFIA before being considered pedigreed seed in Canada.

Pedigreed graded seed – Pedigreed seed meeting the grade requirements of the federal *Seeds Act and Regulations*.

Perennial – A plant that produces vegetative growth each year without replanting.

Perfect flower – A flower having both staminate (male) and pistillate (female) organs.

Phenotype – A set of observable characteristics of an individual or group usually determined by genotype and environment.

Plant Breeder – For pedigreed seed production, a plant breeder is any person recognized as such by the Plant Breeders' Committee of the CSGA and the CSGA Board of Directors and who is knowledgeable in the principles and practices of plant breeding and related disciplines and actively engaged in the selection and synthesis of superior varieties, production and maintenance of cultivars true to identity and purity.

Plant Breeders' Rights (PBR) – Canadian legislation, enacted in 1990, that allows Plant Breeders to legally protect their new varieties of plants, for up to 18 years, through exclusive rights respecting multiplication and sale; provides a legal basis for compensation for the use of a cultivar by others. Similar legislation is known as Plant Variety Protection (PVP) in the U.S. and UPOV Convention in the European Union. Refer to Appendix B.

Plant breeding – An organized effort to produce progressively better adapted plants.

Plant Breeding Station – An institution or facility where varieties are developed and Breeder seed is produced and maintained.

Plant with novel traits (PNT) – A plant variety or genotype, with characteristics that demonstrate neither familiarity nor substantial equivalence to those present in a distinct, stable population of a cultivated species of seed in Canada, that has been intentionally selected, created or introduced into a population of that species through a specific genetic change.

Pollen – The cells that are borne in the anthers of flowers and contain the male generative cells.

Pollen parent – The parent that furnishes the pollen which fertilizes the ovules of the other parent in the production of seed.

Pollination – The process by which pollen is transferred from an anther to the stigmatic surface of the pistil of a flower.

Pre-Basic seed – An OECD class of pedigreed seed which is considered in Canada as equivalent to Breeder seed and is used for the production of Basic seed or Foundation seed.

Pre-Variety Germplasm – The category of AOSCA certification standards used for the collections and selections of plants, usually perennial native forage grasses, legumes and forbs, that are not sufficiently distinct, uniform or stable to be certified as varieties. In Canada, separate from pedigreed seed crop certification, these standards are used in the CSGA's Native Plant Certification (NPC) program for Source Identified and Selected class seed crop certification.

Progeny – Offspring or plants grown from seed.

Prohibited noxious weed – A weed or plant that is considered so undesirable that it is categorized as Prohibited Noxious (Class 1) in the Weed Seeds Order of the Canada Seeds Act.

Pubescent – Describing a hairy covering.

Quality Management System (QMS) – The clearly defined and documented quality standards, procedures and responsibilities for an organization.

Quality System Procedures (QSP) – The activities involved in a specific sector of a quality management system as well as the roles and responsibilities of all parties involved. Examples related to the CSGA include the CFIA's Pedigreed Seed Crop Inspection Procedures, QSP 142.1, which is used to describe and audit the CSGA and the CFIA seed crop inspection requirements and references Specific Work Instructions (SWI) for different crop kinds.

Raceme – A type of flower cluster in which single-flowered pedicels are arranged along the sides of a flower shoot terminus. There is space along the shoot between the pedicels.

Radicle – A rudimentary root, the lower end of the hypocotyl of the embryo and the primary root of the seedling.

Referee Plant Breeder – A plant breeder recognized by the CSGA to make decisions on varietal identification of crops.

Registered seed – The approved progeny of Breeder, Select or Foundation seed produced by members of the CSGA and so managed to maintain specific varietal identity and purity. Registered seed is graded and labelled by persons authorized by the CFIA under the requirements of the federal *Seeds Act and Regulations*.

Registered Seed Establishment (RSE) – A seed cleaning establishment operated by seed growers or companies that has been accredited by the CFIA to grade and sell bulk or bagged pedigreed seed and which is audited by the Canadian Seed Institute (CSI) for compliance with the federal *Seeds Act and Regulations* and CSI standards.

Registration – The process, formerly known as licensing, whereby CFIA under the authority of the federal *Seeds Act and Regulations* and recommendations from committees established to make judgements on the acceptability of new varieties, prescribes which varieties may be sold by variety name in Canada.

Renovation or rejuvenation – The process of restoring productivity to plants growing in solid stands by cultivation, fertilization, reseeding or other methods.

Replications – Repetition of treatments or plots in experiments which allows for statistical analysis.

Report of Seed Crop Inspection – A form on which the crop inspector describes the crop offered for pedigreed status and which is appraised by the CSGA to determine if the crop as described meets the requirements of the CSGA's regulations (Appendix A.2 of Circular 6).

Responsible Plant Breeder – The plant breeder or breeding organization that is officially recognized as the maintainer of Breeder seed reference samples and production for a variety.

Robertson Associate – An award of recognition presented to a Regular Member of the CSGA for distinguished service to CSGA, as voted by the membership.

Rogues – Undesirable plants growing in a pedigreed seed crop. May arise as a result of a mutation, intercrossing, mechanical mixtures or cross pollination.

Roguing – Process of removing rogues, off-types, other crop kinds and undesirable plants from seed fields.

SCST – Society of Commercial Seed Technologists.

Sampling – The method by which a representative sample is taken from a seed lot to be used for analysis.

Sclerotia (sclerotium) – Compact mass of fungus hyphae usually with a black outer surface and white inside. May remain dormant for long periods and eventually gives rise to more fungus.

Seed grower (pedigreed) – An applicant for the inspection of a crop offered for pedigree, grows the crop in accordance with the *Canadian Regulations for Pedigreed Seed Crop Production* of the CSGA and who accepts full responsibility for the production and management of the seed crop and all related financial obligations.

Seedborne – Carried on or in seeds.

Seedcoat – The protective covering of a seed usually composed of inner and outer integuments. Also called the testa.

Seedling – A young plant grown from seed.

Seeds Regulations – See Federal *Seeds Act and Regulations*.

Selected – The seed certification class of pre-variety germplasm which provides third party assurance of identity, usually for perennial native forage grasses, legumes and forbs produced from selected parent populations with distinctive, identifiable characteristics or potential genetic improvement. Selected class seed labels, issued by the CSGA, identify the name assigned to the selection by the responsible Plant Breeder.

Select seed – The approved progeny of Breeder or Select seed produced in a manner by seed growers authorized by the CSGA to maintain its varietal identity and purity. Select seed may be produced from Select seed for a maximum of five multiplications from Breeder seed.

Select (Synthetic) – A CSGA category for a specific combination of seed lots from inspected Breeder or Foundation of Canola used in the production of a Certified seed crop.

Select plot grower – A seed grower who has been approved by the CSGA for the production of Select seed crops. This person has completed a three-year probationary period of plot production after three recent years of pedigreed seed crop production.

Single-cross hybrid – The first generation of a cross between two specified inbred lines.

Source Identified (SI) – The seed certification class of pre-variety germplasm which provides third party assurance of geographic origin, usually for perennial native forage grasses, legumes and forbs produced from parent populations which have not been selected. Source Identified class seed labels, issued by the CSGA, identify the original geographic location, of the collection or production, that has been declared by the responsible Plant Breeder.

Specific Work Instructions (SWI) – The procedures required to implement specific requirements of a Quality System Procedure (QSP). Examples related to the CSGA include the CFIA's Field Corn Seed Crop Inspection Procedures, SWI 142.1.2-1 and Soybean Seed Crop Inspection Procedures, SWI 142.1.2-6.

Spike – A basic type of inflorescence in which the flowers arise along the rachis.

Spikelet – The unit of the grass flower which includes the two basal glumes subtending one to several florets.

Stamen – The part of the flower, bearing the male reproductive cells, composed of the anthers on a stigma (stalk).

Stigma – The upper part of the pistil that receives the pollen.

Stock or parent seed – Seed used to produce a crop eligible for pedigreed status.

Stolons (stoloniferous) – Plants with laterally creeping stems at or below the soil surface from which buds and new plants arise. Some bear tubers at their ends.

Strain or line – A term used to designate an improved selection of a variety.

Tassel – The flower cluster at the tip of monoecious plants, such as corn, comprised of pollen bearing flowers (staminate inflorescence).

Test weight – The weight of a specified volume of grain.

Three-way cross hybrid – The first generation of a cross between an inbred and a single-cross hybrid.

Top-cross hybrid – The first generation of a cross between an inbred line and an open pollinated variety.

Tramlines – Unseeded, equispaced tracks established in a field at seeding time to provide a pass in the field for tractors to use to aid in the application of chemicals and fertilizer.

Transgenic – Traditionally refers to having genetic material introduced from another species.

Trier – A hand manipulated probe for sampling seeds.

Variation – Any seed or plant which (a) is distinct within the variety but occurs naturally within the variety; (b) is stable and predictable with a degree of reliability compared to other varieties of the same kind, within known tolerances; and (c) is described as a variation in the official variety. It is not an off-type, and only considered an impurity if reported in excess of the acceptable level specified by the responsible Breeder.

Varietal purity – Trueness to type or variety.

Varietal-cross hybrid – The first generation of a cross between recognized stocks of two open pollinated varieties.

Variety (cultivar) – Denotes an assemblage of cultivated individual plants which is distinguished by characteristics (morphological, physiological, cytological, chemical or other) significant for the intended purpose and which retains its distinguishing characteristics when reproduced. Is uniform, stable and reproducible.

Variety description – Document in which the responsible Plant Breeder specifies the distinguishing characteristics of a variety.

Variety maintainer – A special status elite parent seed or Select/Foundation Plot seed grower recognized by the CSGA as eligible to produce Breeder, inbreds or hybrid seed under the supervision of a Plant Breeder recognized by the CSGA.

Vernalization – The exposure to certain conditions of cold temperature and photoperiod to seed and young plants which promotes floral induction without development of the plant especially with Winter Wheat or Winter Barley.

Vigour – The vitality or strength of germination especially under unfavourable conditions.

Volunteer plants – Unwanted plants growing from residual seeds from the previous crop.

Weed – Any plant in a place where it is a nuisance. Usually denotes uncultivated plants growing in fields.

Weed seed (percentage) – The percentage by weight of a seed lot which is composed of seeds of plants considered to be weeds.

Wheat – In the CSGA regulations, includes all kinds of Wheat (durum, spring and winter), as well as einkorn, emmer and spelt.

Winter annual – A plant that develops a seedling stage in the early fall, becomes vernalized over the winter and then produces vegetative and reproductive growth the following season.

Winter hardiness – Ability of a plant to withstand the conditions of a cold winter.

Zero Tillage – A system to improve soil conservation where the new crop is planted into the stubble of the previous crop with even less soil disturbance than with minimum tillage.