

## SECTION 10

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### REGISTERED AND CERTIFIED PRODUCTION OF INDUSTRIAL HEMP

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In this Section:

- Industrial Hemp (*Cannabis sativa L.*) includes varieties of these kinds:
  - Dioecious type: with male and female flowers on separate plants.
  - Monoecious type: with male and female flowers on the same plant.
  - (Unisexual Female) Hybrids: with sterile male and fertile female flowers on the same plant.
- “Approved Cultivar” means any variety designated in Health Canada’s *List of Approved Cultivars*.
- “THC” means delta-nine ( $\Delta 9$ ) tetrahydrocannabinol, which is the component of Industrial Hemp regulated by Health Canada.
- Although traditionally a crop with a Dioecious plant type similar to open pollinated corn, many Monoecious varieties of hemp (*Cannabis sativa L.*) have been developed. Hemp is sexually polymorphic and often produces many different ratios of intersexual plant types that can increase roguing requirements. Variety descriptions normally define these ratios.
- All production of Industrial Hemp crops in Canada is subject to license application approval by Health Canada.

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

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#### **10.1 SEED CLASSES AND GENERATIONS**

- 10.1.1 Breeder or Pre-Basic seed: determined by Breeder.
- 10.1.2 Foundation seed: one generation, grown by accredited Foundation plot growers. (Refer to Section 11.)
- 10.1.3 Registered seed: one generation.
- 10.1.4 Certified seed: one generation.
- 10.1.5 Only varieties of Industrial Hemp approved by Health Canada are eligible for certification.

#### **10.2 LAND REQUIREMENTS**

- 10.2.1 Crops should not be planted on land where volunteer growth from a previous crop may cause contamination.
- 10.2.2 Crops for Registered status must not be grown on land which in the preceding 5 years produced a crop of Industrial Hemp or Tobacco.
- 10.2.3 Crops for Certified status must not be grown on land which in the preceding 3 years produced a crop of Industrial Hemp or Tobacco.

### **10.3 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:

- 10.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector at least twice prior to swathing or harvesting.
- 10.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.
- 10.3.3 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.
- 10.3.4 First inspection must be made before female (pistillate) flowers of the inspected crop are receptive and after the formation of male (staminate) flowers, preferably before pollen is shed.
- 10.3.5 Second inspection must be made during the receptive stage of female plants in the inspected crop, normally within 3 weeks after first inspection.
- 10.3.6 Third inspections must be made when off-type female flowers can be identified.
- 10.3.7 Isolation areas will be inspected for volunteer Industrial Hemp plants and harmful contaminants on each inspection visit.

### **10.4 CROP STANDARDS**

#### **10.4.1 Isolation**

- a) Isolation areas must be kept free of Industrial Hemp plants. Under optimum conditions, not more than 3 plants per square meter of harmful contaminants (species that can cross pollinate with the inspected crop) are permitted within the required isolation distance(s) adjacent to the inspected crop. The conditions of each crop are assessed by the CSGA which may alter this standard, usually by reducing the number of contaminant plants permitted per square meter, according to the contamination risks involved.
- b) Harmful contamination within the required isolation distance, depending on density, location and distance from the inspected crop, may be cause for declining pedigreed status. Harmful contaminants include the species identified for reproductive isolation by the Plant Biosafety Office of the CFIA, in their confined field trial conditions for Plants with Novel Traits, and by Health Canada. For more information, refer to the CFIA website at [www.inspection.gc.ca](http://www.inspection.gc.ca) or to Health Canada at [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca).
- c) The required isolation must be provided prior to flowering and crop inspection.

**Table 10.4.2: Minimum Isolation Distances Required Between Inspected Industrial Hemp Crops and Other Crops**

<b>Inspected Crop</b>	<b>Other Crops</b>	<b>Isolation Distance Required</b>
<b>Dioecious type – Registered</b>	- Different varieties of Industrial Hemp	5000 meters (16,150 feet)
	- Non-pedigreed crop of same kind	5000 meters (16,150 feet)
	- Lower pedigreed class seed crop of same variety	2000 meters (6460 feet)
	- Same pedigreed seed of same variety	1 meter (3.32 feet)
<b>Dioecious type – Certified</b>	- Different varieties of Industrial Hemp	1000 meters (3230 feet)
	- Non-pedigreed crop of same kind	1000 meters (3230 feet)
	- Lower pedigreed class seed crop of same variety	200 meters (646 feet)
	- Same pedigreed seed of same variety	1 meter (3.32 feet)
<b>Monoecious type and Hybrids – Registered</b>	- Dioecious variety of Industrial Hemp	5000 meters (16,150 feet)
	- Non-pedigreed crop of same kind	5000 meters (16,150 feet)
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	2000 meters (6460 feet)
	- Lower pedigreed class seed crop of same variety	1000 meters (3230 feet)
	- Same pedigreed class of seed of same variety	1 meter (3.23 feet)
<b>Monoecious type and Hybrids – Certified</b>	- Dioecious variety of Industrial Hemp	1000 meters (3230 feet)
	- Non-pedigreed crop of same kind	1000 meters (3230 feet)
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	200 meters (646 feet)
	- Lower pedigreed class seed crop of same variety	200 meters (646 feet)
	- Same pedigreed class of seed of same variety	1 meter (3.23 feet)

**10.4.3 Weeds**

- All crops for pedigree must be free of Prohibited noxious weeds.
- All crops for pedigree should be free of Primary noxious weeds.
- Very weedy crops may be declined pedigreed status.
- The presence of Broomrape (*Orobanche spp.*) in Industrial Hemp crops is cause for declining pedigreed status.

**10.4.4 Maximum Impurity Standards**

- Impurities should be removed prior to crop inspection.
- Any combination of impurities may be reason for declining pedigreed status.
- An Industrial Hemp crop for pedigreed status, unless otherwise specified by the Breeder, must be practically free from harmful contaminants (species that can cross pollinate with the inspected crop), plants of other varieties or distinct types foreign to the variety being inspected, weeds or other crops with seeds that are difficult to separate from Industrial Hemp seed (e.g. Hemp Nettle).
- Table 10.4.4 indicates the maximum number of impurities permitted by the CSGA in approximately 10,000 plants of the inspected crop. The inspector makes at least 6 counts (10,000 plants each) or the equivalent to determine the number of impurities. The resulting average of these counts must not exceed the maximum impurity standards in Table 10.4.4.

**Table 10.4.4: Maximum Impurity Standards**

Inspected Crop	Maximum Impurity Standards per 10,000 plants in Registered and Certified Industrial Hemp Seed Crops		
	Maximum Number of "Too Male" Monoecious Plants	Maximum Number of Dioecious Male Plants Shedding Pollen	Maximum Number of Other Impurities
<b>Dioecious type</b> Registered and Certified	–	–	10
<b>Monoecious type</b> Registered	1000	2	10
<b>Monoecious type and Hybrids</b> Certified	–	100	10

**10.4.5 Roguing**

- a) All male flowers rogued from the crop should be removed from the field and burial is recommended.
- b) Regrowth of rogued male flowers or plants must be prevented.

**10.5 SPECIFIC REQUIREMENTS**

- 10.5.1 It is recommended that not more than one variety of Industrial Hemp be grown under the management of one grower.
- 10.5.2 Growers are required by Health Canada to obtain THC test results, from a recognized laboratory, verifying that the THC content of their Industrial Hemp crop complies with Health Canada regulations. Growers may be required to submit these results to the CSGA before a crop certificate is issued.

**Table 10.6: Summary of Seed Crop Inspection Standards for Industrial Hemp (*Cannabis sativa L.*) in Canada**

<b>All Types</b>		
	<b>Registered</b>	<b>Certified</b>
Minimum Size of Field (acres) (Health Canada requirement)	1.0	1.0
Maximum Size of Field (acres)	---	---
Previous Land Use: minimum number of years without hemp or tobacco production	5	3
<b>Maximum Impurity Standards:</b>		
• Maximum number of Monoecious “too male” off-type plants shedding pollen during inspection (#/10,000 plants)	1000 (10.0%)	---
• Maximum number of Dioecious male plants** shedding pollen during inspection (#/10,000 plants)	2 (0.02 %)	100 (1.0 %)
• Maximum other impurity tolerances (#/10,000 plants)	10 (0.1 %)	10 (0.1 %)
<b>Dioecious Type</b>		
Number of Inspections	2	2
<u>Minimum Isolation Distance</u> (meters):		
• from Other Varieties and non-pedigreed hemp crops	5000	1000
• from other pedigreed classes, same variety	2000	200
• from same pedigreed class, same variety	1	1
<b>Monoecious Type and (Unisexual Female) Hybrids</b>		
Number of Inspections	3	2
<u>Minimum Isolation Distance</u> (meters):		
• from Dioecious varieties and non-pedigreed Hemp crops	5000	1000
• from other Monoecious varieties	2000	200
• from lower pedigreed classes, same variety	1000	200
• from same pedigreed class, same variety	1	1

\*\* If Dioecious male plants start flowering before removal from field, all plants around them should be destroyed for a radius of 3 meters for Foundation and 2 meters for Registered seed crops.

