

SECTION 7

FOUNDATION, REGISTERED AND CERTIFIED PRODUCTION OF ALFALFA, BIRDSFOOT TREFOIL, CLOVER, CROWN VETCH, MILKVETCH, PHACELIA AND SAINFOIN

In this Section:

- **Alfalfa** crops of hybrid alfalfa varieties have additional requirements (refer to Section 14).
- **Clover** includes all types of clover, such as Alsike, Persian, Red (single cut and double cut), Sweet and White types.
- **Phacelia** includes crops of *Phacelia tanacetifolia*.

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

7.1 SEED CLASSES AND GENERATIONS

- 7.1.1 Varieties originating in Canada will be multiplied only through Breeder, Foundation and Certified classes with one generation in each class.
- 7.1.2 Varieties not originating in Canada will be multiplied as specified by the Breeder and the official seed certification authority in the state or country of origin.
- 7.1.3 A Foundation seed crop is grown from planting Breeder seed.
- 7.1.4 A Registered seed crop is grown from planting Breeder or Foundation seed.
- 7.1.5 A Certified seed crop is grown from planting Breeder, Foundation or Registered seed.
- 7.1.6 Tags from the seed planted must be retained for the life of the stand and made available to the authorized seed crop inspector and/or the CSGA on request.

7.2 LAND REQUIREMENTS

- 7.2.1 Crops should not be planted on land where volunteer growth from a previous crop may cause contamination.
- 7.2.2 **Specific Crop Land Requirements**
The following applies except where chemical control measures acceptable to the CSGA have been taken to eradicate growth from a previous crop of the same crop kind.

Table 7.2.2: Specific Crop Land Requirements

Inspected Crop	Must NOT be grown on land which:
Foundation	In the 5 years prior to seeding produced a non-pedigreed crop of the same crop kind or a crop of a different variety of the same crop kind.
	In the 3 years prior to seeding produced a pedigreed crop of the same variety.
Registered	In the 3 years prior to seeding produced a crop of the same crop kind.
Certified	In the 2 years prior to seeding produced a crop of the same crop kind.

7.2.3 No manure or other potential sources of contamination should be applied to the land prior to seeding or during the productive life of the stand.

7.2.4 The land should be free of plants of the same crop kind prior to seeding.

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:

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

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

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.

7.3.4 Crop inspection by an authorized crop inspector is required each year that a pedigreed seed crop is to be harvested.

7.3.5 Crop inspection shall be made when the crop is in bloom and before harvest.

7.4 AGE OF STAND

7.4.1 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. (Refer to Table 7.4.5.)

7.4.2 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.

7.4.3 For most perennial crops there is a specified number of years during which pedigreed seed may be harvested from one planting.

7.4.4 Calculating Age of Stand

a) 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.

b) 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.

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 presence 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 presence 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.

Chart 7.5.4:

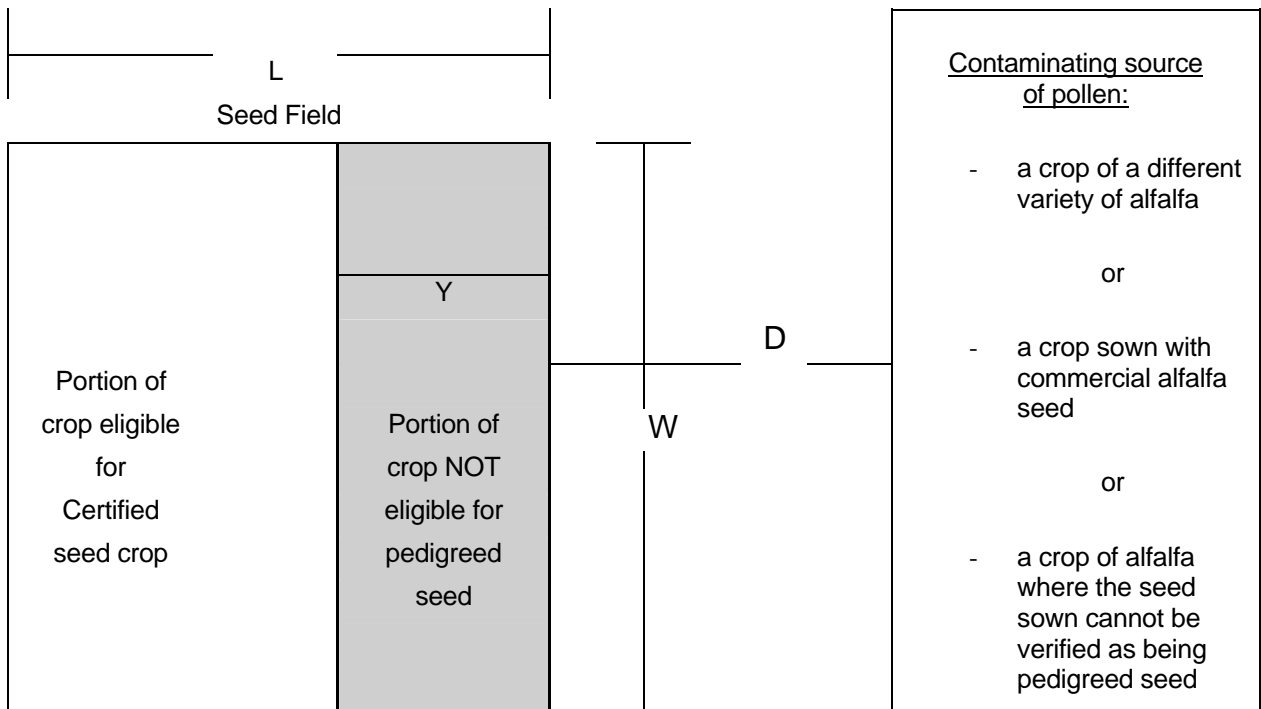
PROCEDURE FOR DETERMINING AREA OF ALFALFA SEED CROP TO BE DISCARDED

L = length of seed field	W = width of seed field
Y = 50 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 = (50-D) = 20 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 50 meters (164 ft.) isolation zone (WxY), 3 meters (10 ft.) of isolation is required. If more than 10% of the field is within the isolation zone (WxY), 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 50 meters (164 ft) isolation distance requirements, then a clear line of demarcation shall be established between the Certified and non-Certified portion of the field.

