

Industrial Hemp Standards

Standards for Certified Industrial Hemp Seed

I. APPLICATION OF GENETIC CERTIFICATION STANDARDS

A. The Genetic Certification Standards in Chapter 1 are basic.

B. The Genetic Standards are modified as follows:

1. All production of industrial hemp crops are subject to license application approval that may be required by regulatory authorities.
2. Only varieties of industrial hemp approved by regulatory authorities are eligible for certification.
3. The allowable area of an industrial hemp research area or production field may be determined by state or local agencies.
4. Growers may be required by regulatory agencies to obtain THC test results according to applicable regulations. Growers may be required to submit these results to the seed certifying agency before a crop certificate is issued.

II. LAND REQUIREMENTS

A. Hemp crops for Foundation and Registered classes must not be grown on land which in any of the preceding 3 years produced a crop of *Cannabis sativa*.

B. Hemp crops for Certified classes must not be grown on land which:

1. In the preceding year produced a certified crop of the same variety.
2. In either of the preceding 2 years produced a non-certified crop of industrial hemp or a different variety of industrial hemp.

C. Weeds

1. Fields may be refused certification due to excessive weeds.
2. The presence of Broomrape (*Orobancha spp.*) in an industrial hemp field may be cause for declining certified status.

III. FIELD STANDARDS

A. CROP INSPECTION

1. It is the grower's responsibility to ensure that fields are inspected by an authorized inspector at least once prior to swathing or harvesting, except in the case of Foundation, Registered, and Certified monoecious type, unisex hybrids and Foundation dioecious types, in which 2 inspections are required.
2. A field that is cut, swathed or harvested prior to crop inspection is not eligible for certification.
3. Fields 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 certified status.
 - a. First inspection for all classes of monoecious types and unisex hybrids must be made just before or at early flowering. First inspection for all classes of dioecious types must be made after flowering when male plants are beginning to senesce.
 - b. Second inspection for all classes of monoecious types, unisex hybrids, and the Foundation class of dioecious types must be made when seeds are well forming.
 - c. Isolation areas will be inspected for volunteer Industrial Hemp plants and harmful contaminants on each inspection.

B. ISOLATION

1. The area, density, stage of maturity and location of any contaminating pollens source is an important factor in cross pollination, and therefore must be noted on the Field Inspection Report

for consideration in determining certification status. There shall not be any pollen shedding *Cannabis sativa spp.* within 330 feet of the crop and not more than 4 plants/acre beyond 330 feet within the isolation requirement, Table 1.

2. The required isolation must be present prior to flowering and crop inspection.

Table 1 – Minimum Isolation Distances Required Between Inspected Hemp and Other Crops

Inspected Crop	Other Crops	Isolation Distance Required (feet)
Dioecious type – Foundation	- Different varieties of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Lower certified class seed crop of same variety	6460
	- Same class of certified seed crop of same variety	10
Dioecious type – Registered	- Different varieties of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Seed crop of same variety that meets Certified standards for varietal purity	5249
	- Seed crop of same variety that meets Registered standards for varietal purity	3
Dioecious type – Certified	- Different varieties of Industrial Hemp - Non-certified Industrial Hemp	2624
	- Planted with certified seed of the same variety that meets Certified standards for varietal purity	656
	- Seed crop of same variety that meets Certified standards for varietal purity	3
Monoecious type – Foundation	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Other Monoecious varieties - Lower certified class seed crop of same variety	9690
	- Same class of certified seed of same variety	16
Monoecious type – Registered	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	6460
	- Seed crop of same variety that meets Certified standards for varietal purity	3230
	- Seed crop of same variety that meets Registered standards for varietal purity	3
Monoecious type – Certified	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	3230
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid) - Planted with certified seed of the same variety that meets Certified standards for varietal purity	656
	- Seed crop of same variety that meets Certified standards for varietal purity	3

C. IMPURITY STANDARDS

1. Impurities should be removed prior to crop inspection.
2. Any combination of impurities may be reason for declining certified status.
3. Table 2 indicates the maximum number of impurities permitted by NCCIA 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 2

Table 2 - Maximum Impurity Standards

Plot Crop	Maximum Impurity Standards per 10,000 plants in Industrial Hemp Seed Crops	
	Maximum Number of Dioecious Male Plants Shedding Pollen	Maximum Number of Off-Types or Other Varieties
Dioecious type – Foundation	–	3
Dioecious type – Registered	–	10
Dioecious type – Certified	–	20
Monoecious type – Foundation	1	3
Monoecious type – Registered	2	10
Monoecious type – Certified	100	20

IV. SEED STANDARDS

INDUSTRIAL HEMP SEED STANDARDS

Standards for Each Class

Factor	Foundation	Registered	Certified
Pure seed (minimum)	98.0%	98.0%	98.0%
Inert matter (maximum)*	2.0%	2.0%	2.0%
Weed seeds (maximum)	0.10%	0.10%	0.10%
Total other crop seeds (maximum)	0.01%	0.03%	0.08%
Other varieties (maximum)	0.005%	0.01%	0.05%
Other kinds (maximum)**	0.01%	0.03%	0.07%
Germination (minimum)	80.0%	80.0%	80.0%

*Inert matter shall not include more than 0.5 per cent of material other than seed fragments of the variety under consideration.

**Other kinds shall not exceed 2 per lb. (454 grams) for Foundation; 6 for Registered; 10 for Certified.

Guidelines for the Production of Certified Industrial Hemp Seed

Definitions

- 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 as eligible for production by federal or local regulatory authorities
- “THC” means delta-nine (Δ^9) tetrahydrocannabinol, which is the component of Industrial Hemp regulated by federal or local regulatory authorities.
- 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 rogueing requirements. Variety descriptions normally define these ratios.

1. Foundation Seed Production

Any means of processing or conditioning of seed from a Foundation production area which may contaminate the varietal purity of the seed is prohibited

Area of Foundation Fields

When unforeseen circumstances do not permit proper maintenance of the entire field, it is recommended that the area be reduced by destroying part of the field or by isolating a part to meet the requirements of a lower status of certified seed. The remainder of the field must meet the requirements for Foundation field production.

The area of a Foundation field includes the “walkways” provided within the field to facilitate effective rogueing.

2. Recommended Production Procedures

Field Planting

- a) Fields should be planted to facilitate inspection, rogueing and harvesting.
- b) Fields should be planted in areas easily accessible for frequent maintenance and to provide the maximum protection from outside sources of contamination, such as roadways and building sites.
- c) Regulations for land requirements are minimum standards and caution is necessary in choosing land, as volunteer growth from previous crops may vary according to local conditions.
- d) The regulations for isolation are minimum standards. It is always to the grower’s advantage to provide more isolation than required. When planting Foundation fields, specific requirements may influence the location and size of the field. It is a safeguard if adjacent crops are the same variety as the field and are inspected for certified status.

Rogueing

- a) The field must be thoroughly and intensively rogued many times throughout the crop season.
- b) Off-type male flowers must be removed before the receptive stage of female flowers in the inspected crop.
- c) The numbers and kinds of plants removed should be recorded and described on the appropriate forms.
- d) All male flowers rogued from the crop must be removed from the production area and burial is recommended.
- e) Regrowth of rogued flowers or plants must be prevented.

Harvesting, Cleaning and Storing

- a) A seed grower should have access to the necessary equipment for harvesting and cleaning the seed from the field in such a manner as to ensure that the varietal purity of the seed is maintained.
- b) The seed should be stored, in compliance with federal or local regulations, in a clean, cool, dry area.
- c) The seed containers should be labelled for identification.

It is recommended that not more than one variety of Industrial Hemp be grown under the management of one grower.