

## Proposals for 2019 Edition of Canadian Methods and Procedures for Testing Seed (M&P) to become effective 1 July 2019

Changes to 2019 Edition shown as:

Deleted text: ~~deleted~~

Inserted text: [inserted](#)

### Proposals:

**1) Addition of a statement to section 4.9.1 stating that the first count can be omitted for tests in sand or soil-less organic growing media lasting no more than 14 days.**

**Background:** This will reduce seed/seedling disturbance during the first count of those which are slower to germinate. This proposal will harmonize M&P with ISTA Rules

**Proposed by:** CFIA

*The 2019 Edition would read:*

## 4.9 Counts and Duration of Test

### 4.9.1 Counts

Seedlings may be counted when they have reached a stage of growth at which all essential structures can be evaluated

- a. **First counts.** The approximate number of days from planting to the first count is given in Section 4.6.2 Table 5. This is a guideline and deviations are permissible, depending on the development of the seedlings, and whether or not any pretreatments were given.
- b. **Intermediate counts.** These may be made at the discretion of the analyst after the seedlings have reached a sufficient stage of growth for all essential structures to be evaluated. Intermediate counts should be conducted if continued growth of seedlings would hamper evaluation at the final count.
- c. **Final counts.** The number of days to the final counts is given the final count column of Table 5. For permissible deviations, see Section 4.9.2 and 4.9.3
- d. [For tests in sand or soil-less organic growing media lasting no more than 14 days, the first count may be omitted.](#)

## 2) Clarification of sand particle size requirements for germination testing

**Background:** This proposal simplifies the requirements for sand particle size and will harmonize M&P with ISTA Rules.

**Proposed by:** CFIA

*The 2019 Edition would read:*

### 4.5.2 Substrata and Moisture

**a. Sand.** Sand for germination tests should be practically free of organic matter, soluble salts, and clay or fine silt., ~~and should be composed of particles all of which will pass through a 2 mm round holed sieve, and not more than 25% will pass through a 0.5 mm sieve. Sand graded at 24 mesh is suitable.~~ At least 90% of the particles must pass through a sieve with holes or meshes of 2.0 mm width. To improve the water holding capacity of the sand, vermiculite may be added. Sand is used for the following methods:

### 3) Clarification of the difference between necrosis and physiological necrosis

**Background:** This proposal provides additional information describing physiological necrosis in order to clarify the difference between necrosis and physiological necrosis.

**Proposed by:** CFIA

*The 2019 Edition would read:*

#### 4.14.2 Asteraceae, Sunflower Family 1 – Lettuce

**Notes:**

5. **Physiological** necrosis is manifested on lettuce cotyledons by softened grey, brown, black or reddish areas appearing adjacent to the midrib and lateral veins. This must not be confused with natural pigmentation of some varieties, or with insect damage.

[\(New paragraph\)](#)

Physiological necrosis is associated with the connecting tissue and is indicated by discoloration from the main rib down to the terminal bud region at the junction of the cotyledons. It is often accompanied with shortened hypocotyls and roots, with the seed coat frequently remaining attached to the cotyledons.

[\(New paragraph\)](#)

Seedlings showing any degree of physiological necrosis should be classified as abnormal. In “Remarks” indicate the percentage of necrotic seedlings (this percentage should include necrotic seedlings which are also otherwise abnormal).

#### 4) Removal of procedures regarding notifying Seed Section when Cannabis seeds are found in a sample.

**Background:** This proposal is due to changes to Health Canada legislation.

**Proposed by:** CFIA

*The 2019 Edition would read:*

**1.2.e # Hemp or Marijuana (*Cannabis sativa*)** There is no longer a requirement to notify Seed Section when *Cannabis sativa* seed is found in sample due to changes to Health Canada legislation. ~~-SeedSemence@inspection.gc.ca. Include the crop kind in which the *Cannabis sativa* seed was found and the country of production of the seed lot. (See Section 3.9.3.e)~~

~~**1.3.2i Hemp or Marijuana (*Cannabis sativa*)**, report under other crop seeds and list at the top section on the report of analysis.~~

#### ~~**3.9.3e. Hemp or Marijuana (*Cannabis sativa*)**~~

~~*Cannabis sativa* must be reported under other crop seeds and listed at the top section on the report of analysis. *Cannabis sativa* is prohibited under the Controlled Drugs and Substances Act, and when found in any seed sample of another kind or species; the laboratory must notify Seed Section of the finding at SeedSemence@inspection.gc.ca. Include the crop kind in which the *Cannabis sativa* seed was found and the country of production of the seed lot.~~

**5) Add to the notes in Section 4.14.10 Fabaceae, Legume Family IV – Large – Seeded Hypogeal regarding hard seeds for Hairy Vetch and Common Vetch.**

**Background:** Adding a note to this section would make it consistent with the note that is in Section 4.14.11.

**Proposed by:** CFIA

*The 2019 Edition would read:*

**Section 4.14.10 Fabaceae, Legume Family IV – Large – Seeded Hypogeal**

**Notes:**

1. There is a greater likelihood of hard seed expression when the substrate does not provide adequate moisture to the seeds throughout the test period.
2. Insufficient moisture will result in apparently disproportionate elongation of the primary root and slow development of the epicotyl.
3. Manganese deficiency at the time of seed development may cause a condition known as "marsh spot", characterized by a discoloured brown indentation in the center of the inner surfaces of the cotyledons. Seedlings with this condition are considered normal, provided they are otherwise normal. If the condition causes difficulty in evaluation, then the sample must be retested in soil-less organic growing media.
4. Weevil infestation may prevent the development of a normal seedling. Sometimes the cotyledons have been devoured to the extent that no food supply is left for the developing seedling. Such injury can be easily detected by examining the cotyledons.
5. Large-seeded legumes are especially susceptible to threshing or combine damage. Seed which has been mechanically damaged may produce seedlings with damaged primary roots, hypocotyls or epicotyls, or broken or detached cotyledons. Bruised areas are usually necrotic or decayed. Damage at the point of attachment of the cotyledons may be difficult to evaluate if seedlings are removed too early in the test period.
6. [The percentage of hard seeds must be determined at the end of the test period for hairy vetch and common vetch of Grade Table II.1. Swollen seeds which fail to germinate by the end of the test must be allowed additional days as provided in Section 4.9.3 and 4.10.7. Swollen seeds are an indication of dormancy and can be induced by incorrect temperatures.](#)

## 6) Clarification of identification and reporting for Prohibited noxious weed seeds that are the same Genus but are different species.

**Background:** Section 3.9.8e currently states that when it is not possible to positively identify a seed to species level, an analyst can report the genus name followed by 'sp' and provides *Cuscuta* sp as an example. The current wording for this section is fine for Classes 2-5 but is not sufficient for Class 1. Analysts must identify prohibited noxious weed seeds to species level or submit the seed to SSTS for identification.

**Proposed by:** CFIA

*The 2019 Edition would read:*

### **Section 3.9.8e Reporting of species difficult to identify**

When it is not possible to positively identify seed to the species level, report the genus name followed by 'sp', as in ~~*Cuscuta* sp.~~ [Lolium sp.](#) If it is possible to distinguish it from seeds of another group within the genus, the analyst may use 'sp.' followed in parentheses by 'cf.' and the name of the species which it most closely resembles, as in *Festuca* sp. (cf. *rubra*). Multiple species names may be used where there is greater uncertainty, as in *Festuca* sp. (cf. *rubra/brevipila*). Where common names are used, report as "Fescue (resembles red or hard)". When it is not possible to identify a seed to the genus level, report the family name followed by 'sp', as in Poaceae sp. [Where species are reported as Prohibited noxious, the analyst must identify them to species level. If the analyst is unable to identify the seed to the species level, they must submit the seed to SSTS for identification.](#)