**Rule Change Proposal #1**

**Purpose:** Restructure section 3.8 pelleted, coated or encrusted seed purity procedures and provide further clarification of the procedures within the section. The two purity methods for testing coated seed will not be changed by this proposal.

**Current Rule:**

* 1. **Pelleted, coated or encrusted seed purity procedures**
     1. Where reference is made to coated units, the rules apply to pelleted, coated and encrusted seed. Refer to section 2.1 d.

1. **Size of working sample:** refer to section 2.3 b (5).
   * 1. **Obtaining the working sample:** Methods described in section 2.2 shall be used.
     2. **Purity analysis of coated units** Refer to section 3.8g for verification of kind or cultivar of seed under consideration. When the percentage of coating material must be determined for purposes of labeling or regulatory label compliance testing, use the method in section 3.8 e. The method under 3.8 e must be followed for all mixtures of kinds, single component seed samples of Poaceae, or upon customer request.
2. Separation of component parts: The working sample shall be weighed in grams to the appropriate number of decimal places (refer to section 2.3) and shall be separated into four parts:
   * + - 1. Pure coated units as defined in section 3.8 d (2).
         2. Uncoated crop seed as defined in section 3.8 d (3) (including the kind under consideration).

(c) Inert matter as defined in section 3.8 d (4).

(d) Uncoated weed seed as defined in section 3.8 d (5)

1. Pure coated units shall include:
   1. Entire coated units regardless of whether or not they contain a seed.
   2. Broken and damaged coated units in which more than half the surface of the seed is covered by coating material, except when it can be seen that, either the seed is not of the species stated by the sender, or there is no seed present.
2. Uncoated crop seed shall include:
   1. Free seeds of any crop species; refer to sections 3.2 and 3.3
   2. Broken coated units containing a crop seed that is recognizably not of the species stated by the sender.
   3. Broken coated units of the species stated when the coating material covers half or less of the surface of the seed.
3. Inert matter shall include:
4. Loose coating material.
5. Broken coated units in which it is obvious there is no seed.
6. Any other material defined as inert matter in section 3.5.
7. Uncoated weed seed shall include:
   1. Free seeds of any weed species; refer to section 3.4.
   2. Broken coated units containing a weed seed.
8. **Purity analysis of de-coated units** (This section shall apply to all mixtures of kinds, single component seed samples of Poaceae, or upon request for other kinds)**:**
   1. Determine the working sample size as in section 2.3 b (5), and weigh the working sample in grams to the appropriate number of decimal places (refer to section 2.3 a).
   2. Remove the coating material from the seed by washing with water or other solvents such as, but not limited to, dilute sodium hydroxide. Use of fine mesh sieves is recommended for this procedure and stirring or shaking the coated units may be necessary to obtain de-coated seed.
   3. Spread on blotters or filter paper in a shallow container. Air dry overnight at room temperature.
   4. Separation of component parts:
   5. Kind or cultivar considered pure seed as defined in section 3.2 and Table 3A.
   6. Other crop seed.
   7. Inert matter.
   8. Weed seed.
   9. Coating material.

The de-coated working sample shall be separated into the first four components in accordance with sections 3.2 through 3.5. Sections 3.6 and 3.7 shall not be followed. The weight of the coating material component is determined by subtracting the sum of the weights of the other four components from the original weight of the working sample. Calculate percentages of all five components based on the original weight of the working sample.

1. **Noxious weed seed examination or bulk examination:** The working sample size shall be approximately 25,000 coated units or a maximum of 1,000 grams of kinds listed in Table 2A for which the working sample weight of raw seed is 500 grams. A noxious weed seed examination shall be made by examining the working sample after it has been de-coated.
2. **Identification and cultivar determination when method under 3.8 d is applied:** Verification of the kind of seed under consideration shall be made on 100 coated units taken from the pure coated unit component of the purity separation. Before examination, the coating material shall be removed by washing or other appropriate method. The name and number of each kind found shall be reported under other determinations on the report of analysis. If requested for cultivar determination, a minimum of 400 coated units shall be examined as above and results reported under other determinations on the report of analysis.

**Identification and cultivar determination for seed tapes and seed mats:** Verification of the kind of seed under consideration shall be made on 100 seed units taken from the working sample of seed tape or seed mat. Before examination, the seed units are removed from the seed tape or seed mat. Methods of removal may include striping away the tape or mat material to free the seed units, or if necessary, moistening or washing off the tape or mat material with an appropriate solvent [refer to 3.8.e (2)]. Moistened seed units should be allowed to dry prior to examination. The name and number of each kind found shall be reported under other determinations on the report of analysis. If requested for cultivar determination, a minimum of 400 seed units shall be examined as above and results reported under other determinations on the report of analysis.

**Proposed Rule:** (Substantive changes noted in red text. Changes in subsection numbers are made throughout the proposal to accommodate the addition of new subsections.)

* 1. **Pelleted, coated or encrusted seed purity procedures**
     1. Where reference is made to coated seed units, the rules apply to pelleted, coated and encrusted seed. Refer to section 2.1 d.
     2. When the percentage of coating material must be determined for purposes of labeling or regulatory label compliance testing, the procedure in section 3.8 g must be used.
     3. The procedure under 3.8 g must be followed for all single component seed samples of the grass family (Poaceae), all mixtures of kinds (whether or not all components of the mixture are coated), or upon customer request.

1. **Size of working sample:** refer to section 2.3 b (5).
   * 1. **Obtaining the working sample:** Methods described in section 2.2 shall be used.
     2. **Procedure for purity analysis of coated seed units.** This section shall only apply to single component kinds where coating material is not required to be removed (refer to sections 3.8 b and 3.8 c)**.** Refer to section 3.8 i for required verification of kind or cultivar of seed under consideration.
2. Separation of component parts: The working sample shall be weighed in grams to the appropriate number of decimal places (refer to section 2.3) and shall be separated into four parts:
   * + - 1. Pure coated seed units as defined in section 3.8 f (2).
         2. Uncoated crop seed as defined in section 3.8 f (3) (including the kind under consideration).

(c) Inert matter as defined in section 3.8 f (4).

(d) Uncoated weed seed as defined in section 3.8 f (5)

1. Pure coated seed units shall include:
   1. Entire coated seed units regardless of whether or not they contain a seed.
   2. Broken and damaged coated seed units in which more than half the surface of the seed is covered by coating material, except when it can be seen that, either the seed is not of the species stated by the sender, or there is no seed present.
2. Uncoated crop seed shall include:
   1. Free seeds of any crop species; refer to sections 3.2 and 3.3
   2. Broken coated seed units containing a crop seed that is recognizably not of the species stated by the sender.
   3. Broken coated seed units of the species stated when the coating material covers half or less of the surface of the seed.
3. Inert matter shall include:
4. Loose coating material.
5. Broken coated seed units in which it is obvious there is no seed.
6. Any other material defined as inert matter in section 3.5.
7. Uncoated weed seed shall include:
   1. Free seeds of any weed species; refer to section 3.4.
   2. Broken coated seed units containing a weed seed.
8. **Procedure for purity analysis of de-coated seed units.** This section shall apply to all purity analyses where coating material is required to be removed. Refer to sections 3.8 b and 3.8 c.
   1. Determine the working sample size as in section 2.3 b (5) and weigh the working sample in grams to the appropriate number of decimal places (refer to section 2.3 a).
   2. Remove the coating material from the seed by washing with water or other solvents such as, but not limited to, dilute sodium hydroxide. Use of fine mesh sieves is recommended for this procedure and stirring or shaking the coated seed units may be necessary to obtain de-coated seed.
   3. Spread on blotters or filter paper in a shallow container. Air dry overnight at room temperature.
   4. Separation of component parts:
   5. Kind or cultivar considered pure seed as defined in section 3.2 and Table 3A.
   6. Other crop seed.
   7. Inert matter.
   8. Weed seed.
   9. Coating material.

The de-coated working sample shall be separated into the first four components in accordance with sections 3.2 through 3.5. Sections 3.6 and 3.7 shall not be followed. The weight of the coating material component is determined by subtracting the sum of the weights of the other four components from the original weight of the working sample. Calculate percentages of all five components based on the original weight of the working sample.

1. **Noxious weed seed examination or bulk examination:** The working sample size shall be approximately 25,000 coated seed units or a maximum of 1,000 grams of kinds listed in Table 2A for which the working sample weight of raw seed is 500 grams. A noxious weed seed examination shall be made by examining the working sample after it has been de-coated. Refer to 3.8 g (2) for appropriate method for removing coating material.
2. **Identification and cultivar determination when method under 3.8 f is applied:** Verification of the kind of seed under consideration shall be made on 100 coated seed units taken from the pure coated seed unit component of the purity separation. Before examination, the coating material shall be removed by washing or other appropriate method. The name and number of each kind found shall be reported under other determinations on the report of analysis. If requested for cultivar determination, a minimum of 400 coated seed units shall be examined as above and results reported under other determinations on the report of analysis.

**Identification and cultivar determination for seed tapes and seed mats:** Verification of the kind of seed under consideration shall be made on 100 seed units taken from the working sample of seed tape or seed mat. Before examination, the seed units are removed from the seed tape or seed mat. Methods of removal may include striping away the tape or mat material to free the seed units, or if necessary, moistening or washing off the tape or mat material with an appropriate solvent [refer to 3.8.g (2)]. Moistened seed units should be allowed to dry prior to examination. The name and number of each kind found shall be reported under other determinations on the report of analysis. If requested for cultivar determination, a minimum of 400 seed units shall be examined as above and results reported under other determinations on the report of analysis.

**Harmonization Statement:**

Under the Federal Seed Act (FSA), testing of coated seed is similar to the AOSA method for purity analysis of de-coated seed units. The FSA requires coating material to be removed for all kinds of seeds (i.e., not only for members of the Poaceae or for mixtures of kinds). The final purity analysis results under the FSA differs from those under the AOSA Rules with regard to the percentage of coating material. Under the FSA, the coating material is included as part of the percentage of inert matter. This proposal will not address the current differences in final purity analysis results obtained under the FSA verses the AOSA Rules. It should be noted that the FSA only requires purity analyses of agricultural seed kinds (as defined by the FSA).

The definitions of coated, pelleted, and encrusted seed in the ISTA Rules, as well as the definitions of pure coated seed units and testing methods, are essentially the same as the AOSA Rules. The ISTA Purity Committee is considering some modifications to the ISTA Rules regarding testing of coated seed; however, none of the proposed changes to the ISTA Rules are in conflict with this AOSA rule change proposal.

The Canadian Methods and Procedures for Testing Seed (M&P) refers to the AOSA Rules for determining the percentages by weight of coated seed.

**Supporting Evidence:**

This proposal does not change the two current methods for testing coated seed, but it provides clarification on when to apply each of the methods.

**Submitted by:** Deborah J. Lionakis Meyer and Nishit Patel AOSA-SCST Purity Subcommittee Co-chairs.

**Date Submitted:** October 11, 2022. Revised December 9, 2022.