**Rule Proposal #11**

**1.** **PURPOSE OF PROPOSAL:**

The primary purpose of this proposal is to clarify that the mechanical seed counting process outlined in AOSA Rules Vol. 1 Section 12, may be used to determine the number of seeds contained in a sample of additional crop kinds not listed. The mechanical seed counter must be proven it is fit for purpose for seed kinds not listed, by using a 1,000 seed calibration sample of the seed kind under consideration.

**2.** **PRESENT RULE:**

**SECTION 12: MECHANICAL SEED COUNT**

The following method shall be employed when using a mechanical seed counter to determine the number of seeds contained in a sample of soybean (Glycine max), corn (Zea mays), wheat (Triticum aestivum) field bean (Phaseolus vulgaris).

**12.1 Samples**

Samples for testing shall be of at least 500 grams for soybean, corn and field beans, and 100 grams for wheat and received in moisture proof containers. Samples shall be retained in moisture proof containers until the weight of the sample prepared for purity analysis is recorded.

**12.2 Seed counter calibration**

 **…**

(b) Carefully pour the 1,000 seed calibration sample into the seed counter. Start the counter and run it until all the seeds have been counted. The seeds should not touch as they run through the counter. Record the number of seeds as displayed on the counter read out. The seed count should not vary more than ±2 seeds from 1,000. If the count is not within this tolerance, clean the mirrors, adjust the feed rate and/or reading sensitivity. Rerun the calibration sample until it is within the ±2 seed tolerance. If the seed counter continues to fail the calibration procedure and the calibration sample has been checked to ensure that it contains 1,000 seeds, do not use the counter until it has been repaired.

**3.** **PROPOSED RULE:**

**SECTION 12: MECHANICAL SEED COUNT**

The following method shall be employed when using a mechanical seed counter to determine the number of seeds contained in a sample of soybean (Glycine max), corn (Zea mays), wheat (Triticum aestivum), field bean (Phaseolus vulgaris) and other seed kinds. CAUTION: A mechanical seed counter may not be appropriate to use for counting all seed kinds. If mechanical seed counts are conducted for seed kinds not listed in Section 12 and Section 14.9 Table 4Q, the seed count test results cannot be compared.

**12.1 Samples**

Samples for testing shall be of at least 500 grams for soybean, corn, and field beans, and 100 grams for wheat. The sample weight for other seed kinds being tested shall be the weight of the purity exam listed in AOSA Rules Volume 1 Table 2A. ~~and~~ All samples shall be received in moisture proof containers. Samples shall be retained in moisture proof containers until the weight of the sample prepared for purity analysis is recorded.

**12.2 Seed counter calibration**

 **…**

(b) Carefully pour the 1,000 seed calibration sample into the seed counter. Start the counter and run it until all the seeds have been counted. The seeds should not touch as they run through the counter. Record the number of seeds as displayed on the counter read out. The seed count should not vary more than ±2 seeds from 1,000. If the count is not within this tolerance, clean the mirrors, adjust the feed rate and/or reading sensitivity. Rerun the calibration sample until it is within the ±2 seed tolerance. If the seed counter continues to fail the calibration procedure and the calibration sample has been checked to ensure that it contains 1,000 seeds, do not use the counter until it has been repaired~~.~~ and then verified using the 1,000 seed calibration sample.

CAUTION: If the 1,000 seed calibration sample for a non-listed seed kind being counted always varies more than the permitted ±2 seeds from 1,000, then the use of the mechanical seed counter is not appropriate for that seed kind and must not be used for counting.

**4. HARMONIZATION AND IMPACT STATEMENT:** (ISTA/FSA/Canadian Methods & Procedures)

N/A

**5. SUPPORTING EVIDENCE:**

The author of this proposal has tested rice, cotton, and hemp seed following the procedures outlined in AOSA Rules Volume 1 Section 12. The sample weight for the seed kinds tested was the weight of the purity exam listed in AOSA Rules Volume 1 Table 2A. A 1,000 seed calibration sample was created for each seed kind tested [ref. section 12.2(a)]. The calibration samples were used to successfully determine the proper settings for the mechanical seed counter for each seed kind and meet the required ±2 seeds from 1,000 [ref. section 12.2(b)]. Referee to “Proposal 11 Evidence”.

Additionally, the preliminary findings of the 2024 Seed Count Proficiency Test have found that analysts have been conducting mechanical seed counts on seed kinds, other than the four seed kinds listed in AOSA Rules Volume 1 Section 12. Of the current 55 responses, 15 respondents (i.e., 27%) stated they are using the mechanical seed counter for seed kinds not listed in Section 12. The method that is being used by these analysts to calibrate and verify their mechanical seed counter for these seed kinds was not requested and is unknown at this time.

**6.** **SUBMITTED BY:**

David M. Johnston – RST/CSA Germination and Purity

Program Coordinator Seed Programs

Louisiana Dept. of Agriculture and Forestry

5825 Florida Blvd. – Suite 3004

Baton Rouge, LA 70806

Phone: (225) 952-8059

Email: djohnston@ldaf.state.la.us

**7.** **DATE SUBMITTED:**

 July 14, 2022