Guidelines for Submitting AOSA Rule Proposals

Analysts who are preparing rule proposals must follow these guidelines for conducting studies. Authors must contact the appropriate technical committee chairs (e.g., purity, germination, TZ) for guidance in designing the study, and the statistics committee for experimental design and data before starting the study.

Analysts preparing rule proposals are responsible for conducting the studies based on sound scientific bases following the appropriate experimental design and data analysis. This will enhance the objectivity and validity of proposals and increase the chances of accepting them for voting.

Changes to the AOSA Rules for Testing Seeds

The AOSA *Rules for Testing Seeds* is a set of dynamic, continually evolving documents that reflect current research in seed testing, including principles and procedures (vol. 1), uniform blowing procedure (vol. 2), uniform classification of weed and crop seeds (vol. 3), and seedling evaluation (vol. 4).

Guidelines for Submitting an AOSA Rules Proposal

1. All rule change proposals must be submitted to the AOSA Rules Committee Chair via email by **October 15** for review by the rules committee.
2. Proposals must follow the format described below and be concise, exclusive, and accurate. Additional information or supporting data can be included as appendices. Proposals must be submitted on the Rule Change Submission Template.
3. Proposals should have one technical topic. For example, validation/change of germination temperature of one species.
4. Proposals must use appropriate terminology.
5. Following committee review, the proposal will be either accepted for publication, returned to the author for amendment/clarification, or rejected. Revised proposals must be resubmitted by **January 15**.
6. Accepted proposals will be published in the *Seed Technologist* newsletter and posted online.
7. Proposals and any respective amendments will be openly discussed at or before the annual meeting, in advance of the voting by the AOSA and SCST memberships. Comments received prior to the annual meeting will be noted in the discussion of the respective proposal.
8. Comments from any sector of the seed industry regarding published proposals are welcome. These can be posted on the Rules Committee webpage next to the corresponding proposal.

Important Considerations in Preparing Rule Proposal

(1) The proposed method must achieve similar or better results than the current method in the AOSA rules.

(2) The proposed method must be repeatable within a laboratory and among laboratories.

(3) The proposed method must meet the needs of seed analysts, seed industry, and regulatory agencies.

(4) Evidence and data must be provided to support the proposed change.

Who is Eligible to Submit a Rule Proposal?

Rule change proposals may be submitted by an AOSA laboratory, AOSA committee/subcommittee, or a SCST registered Seed Technologist. Collaborations are strongly encouraged.

Proposal Format

The following format must be followed in all AOSA rule change proposals. Use the Rule Change Submission Template.

1. **Purpose of Proposal:** Give a concise objective for submitting the rule proposal.
2. **Present Rule:** If the rule proposal is to change or amend a present rule, provide the wording of the present rule as it appears in the current AOSA Rules. If the proposal is a new rule, state "**New Rule**."
3. **Proposed Rule:** Provide your proposed rule change as you would like to see it worded in the AOSA Rules.
4. **Harmonization and Impact Statement:** Indicate whether the proposal harmonizes with the Federal Seed Act, Canadian Methods & Procedures, and the ISTA Rules. If not, explain the differences and rationale.

   A) State how this change will affect the seed industry and State regulatory officials. State communication and collaboration with potentially affected groups.

   B) State how the proposal will impact other rules volumes. For example, if the proposal is to add a purity testing method for a new species, the author should also submit a proposal for a germination testing method for that species.

5. Supporting Evidence: The author(s) must provide information that substantiates the rule change. This information can be included at the bottom of the Rule Change Submission Template, or as separate attachments. Examples include experimental data, source citations, logical arguments, historical documents, etc. Below are listed the categories of supporting evidence, and the types of proposal they are associated with.

Proposal category	**Supporting evidence**
Clarification	Logical argument
Nomenclature change	Source citation
Method change	Experimental data
Reporting requirements	Logical argument
Guidance	Logical argument

Proposal categories

- Clarification: A change in the wording of a rule for easier comprehension. Since the nature of the rule is not changed, experimental data is not required.
- Nomenclature change: A change in the scientific or common name of a given kind. This must include a source citation, such as GRIN
- Method change: Addition of a new method or modification of an existing method require experimental validation (see 5a below). Supporting evidence for method removal can include experimental data if the method is no longer adequate. It can also include data such as time

studies, cost studies, equipment availability and historical references if removal is being proposed for reasons other than performance of the method.

- Reporting requirements: A change in how results are reported on a Report of Analysis.
- Guidance: New information to assist analysts. Examples include seedling evaluation criteria, chemical storage recommendations, and changes to Pure Seed Unit definitions.

Supporting evidence categories

- Experimental data: See 5a below. Data must be reviewed by the statistics committee
- Source citations: Includes GRIN, scientific publications, websites etc.
- Logical argument: If justification for the change cannot be statistically validated, an explanation of why the change is necessary, based on other factors. Example: removal of a germination method because the given substrate is no longer commercially available
- Survey: Summarizes the opinion or current practices of AOSA/SCST laboratories, to provide a broader context for the proposed change. Must be accompanied by other supporting evidence, such as a logical argument or experimental data.

5a Experimental evidence

Steps of Designing a Study

Following are the major steps of conducting scientific research.

1. Identify the problem you want to solve.
2. Identify the specific objectives and establish hypotheses.
3. Select the appropriate experimental design; identify treatments, variables, and experimental units.
4. Consult with the Statistics committee, and other committees relevant to the study (Germination, Purity, etc.)
5. Prepare the seed materials, the procedures/protocols to follow, and the equipment needed for the study. Always use a control check treatment.
6. Determine the observations to be collected, when to collect them, and conduct the study.
7. Consider a preliminary study before starting a bigger scale study, to reduce the number of treatments.
8. Analyze the data. Use ANOVA, mean separation tests, and/or tolerances whenever appropriate. See the Statistics Committee's webpage for online statistics tools.
9. Interpret the results, draw conclusions, and prepare a final report, rule proposal, or a publication.

Purity Proposals for Adding a New Species- If a new species is being proposed, the following supporting evidence must accompany the proposal in addition to the criteria identified previously:

(1) Seed counts in accordance with sec. 13 of the AOSA Rules vol. 1 are required for adding new species to Table 2A. A minimum of six lots must be used.

(2) Pure seed unit (PSU; Table 3A, vol. 1) classification for kinds being added to purity or germination. Authors must consult with the Purity Subcommittee for assignment of a proper pure seed unit number.

(3) AOSA Rules vol. 3 Uniform Classification of Weed & Crop Seeds scheme for new kinds being added for purity or germination methods. Authors should consider potential invasiveness of the new species when suggesting contaminating classifications for the new species.

Germination Proposals- the following supporting evidence must accompany germination proposals:

a. A minimum of six lots must be used. Additional lots may be appropriate, especially with non-uniform species. Fewer lots may be used for kinds that are not readily available or expensive species (example: native species) with few lots in production. Evidence and/or documentation must be presented for why the researcher did not include six lots. Seed lots of varying quality should be used.

b. For dormancy breaking methods, recently harvested seed must be used when dormancy is in its peak.

c. Any new temperatures proposed must be compared with the temperatures currently stated in the AOSA Rules

d. Light vs. dark requirements must be tested separately from a temperature experiment to avoid the compound effects.

e. Germination substrata must be compared with the substrata used in the current rule.

f. Seedling evaluation guidelines in vol. 4 should be used in germination studies.

g. Germination Tolerances (Tables 14J and K) should be used whenever appropriate.

h. Appropriate photos, illustrating drawings, as well as clear descriptions must be presented for proposals to change or add seedling evaluation criteria as supporting evidence.

6. Submitted BY: Name(s) of individual(s) submitting the proposal, committee name, and contact person, address, phone, fax, and email address should be included.

7. Date of Submission: The date of submission to the Rules Committee must be stated. If revised, the revision date must also be stated.

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