

AOSA Rules Webinar



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Overview

- Rules Proposal Process
 - Guidelines
 - Timeline
- 2011 Rules Changes
 - 26 proposals received
 - 25 proposals published
 - 24 proposals passed

Rules Proposal Process

- The *AOSA Rules for Testing Seeds* is a set of dynamic, continually evolving documents that reflect current research in seed testing. Information contained therein is based on collaboration and research-based scientific methods. Using clearly stated, standardized test methods, seed laboratory test results are reliable and reproducible within and across laboratories.
- Detailed guidelines for proposing Rules changes are published on the AOSA and SCST websites.

What is included in the AOSA Rules?

The *AOSA Rules for Testing Seeds* includes:

- Volume 1, Principles and Procedures
- Volume 2, Uniform Blowing Procedure
- Volume 3, Uniform Classification of Weed and Crop Seeds
- Volume 4, Seedling Evaluation.

Criteria for AOSA Rules Proposals

- The proposed method is equal to or better than one currently in the AOSA Rules.
- The proposed method is repeatable within a laboratory and among laboratories.
- The proposed method is necessary to meet the needs of seed analysts or the seed industry or regulatory agencies.
- Supporting data shall be used to determine that the above criteria have been met.

Who May Submit A Rule Change Proposal?

- Rule change proposals must be sponsored either by an AOSA Laboratory, AOSA Committee, AOSA Subcommittee, or SCST Registered Member.

Components of an AOSA Rules Proposal

- 1. PURPOSE OF PROPOSAL**
- 2. PRESENT RULE**
- 3. PROPOSED RULE**
- 4. HARMONIZATION AND IMPACT STATEMENT**
- 5. SUPPORTING EVIDENCE**
- 6. SUBMITTED BY**
- 7. DATE SUBMITTED**

How to Submit a Rule Change Proposal

- All rule change proposal forms must be submitted to the AOSA Rules Chair by **October 15th** for review by the Rules Committee. After review, you may receive confirmation of acceptance by the Rules Committee for publication in the newsletter, or receive a request to amend your proposal and provide additional information for clarification, or the proposal may be rejected.

Submitting an AOSA Rules Change Proposal

- Rule change proposals must be submitted in electronic format (WordPerfect or MS Word) via e-mail or CD to the AOSA Rules Chair. Supporting evidence should also be submitted in an electronic format (WordPerfect, MS Word or MS Excel).

Timeline for Submitting a Rules Change Proposal

- October 15 – deadline for submitting proposals to Rules Committee Chair
- October 16 - January 1 – Rules Committee review process; proposals needing revision or rejected sent back to authors
- January 15 – deadline for final form of proposals to be published for membership
- February – Rules proposals published in February Newsletter and on AOSA/SCST websites

Timeline, cont.

- May/June Annual AOSA/SCST Meeting:
 - Open Rules meeting held prior to voting in which discussion and amendments to proposals are made
 - AOSA/SCST Business Meeting: Rules proposals are voted on and must pass by a “supermajority” in both organizations
- October 1 – New version of AOSA Rules published including changes to the Rules that were voted on and passed by membership

What is a Tentative Rule?

- A tentative Rule is a proposal submitted to the AOSA Rules Committee, and subsequently approved by the AOSA Executive Board.
- Use of the tentative rule is not mandatory, but an opportunity to utilize a new method.
- This change is effective immediately. For this change to become permanently incorporated into the Rules, a formal proposal must be submitted and go through the traditional process of review and membership voting as any other change.

2011 Rules Changes

- 26 proposals received
 - One withdrawn by author after review by Rules Committee
- 25 proposals published
- 24 proposals passed
 - 6 proposals were amended at the open Rules meeting
 - Proposal 5 did not receive a supermajority from both organizations

2011 Rules Change Proposal 1

Purpose of Proposal: To add a definition for dead seeds to Volume 1, of the AOSA rules, Principal and Procedures, Section 6 (Germination tests).

New Rule:

6.3e. Dead seeds. -- Seeds that at the end of the test period are neither hard nor dormant nor have produced any part of a seedling.

2011 Rules Change Proposal 2 **Amended**

Purpose of the Proposal: To eliminate paired germination testing and pre-chilling as a specific requirement on *Linum lewisii*.

New Rule:

Kind of seed	Substrata	Temp. (oC)	First count (days)	Second count (days)	Specific requirements and notes	Fresh and dormant seed
<i>Linum lewisii</i> Lewis flax	TB	15; 10-20	10	28	Light.	Ungerminated seeds: see sec. 6.2e and 6.9m

2011 Rules Change Proposal 3

Purpose of Proposal: To add *Encelia* spp. to the Uniform Classification Table of the AOSA Rules.

New Rule:

NOMEN #	SCIENTIFIC NAME	COMMON NAME	FAMILY	SPP. CLASS	CONTAMINATING CLASSIFICATION						
					A	F	H	R	S	T	V
447408	<i>Encelia californica</i> Nutt.	sunflower, California	Asteraceae	F, R, S	W	C	W	C	C	W	W
15137	<i>Encelia farinosa</i> A. Gray ex Torr.	brittlebush	Asteraceae	F, R, S	W	C	W	C	C	W	W
15138	<i>Encelia frutescens</i> (A. Gray) A. Gray	encelia, bush; brittlebush, button; brittlebush	Asteraceae	F, R, S	W	C	W	C	C	W	W
448135	<i>Encelia virginensis</i> A. Nelson	brittlebush, Virgin River	Asteraceae	F, R, S	W	C	W	C	C	W	W
	<i>Encelia</i> spp.	brittlebush	Asteraceae	F, R, S	W	C	W	C	C	W	W

2011 Rules Change Proposal 4

Purpose of Proposal: To clarify the “Specific requirements” in Table 6A of the AOSA Rules, Volume 1, for *Centaurea americana*, *Cucurbita* spp., and *Lagenaria* spp., regarding clipping the radicle end of seeds, and to remove the “Hard seeds” note for *Centaurea americana*.

New Rule: (See next slide)

Kind of Seed	Substrata ^a	Temperature (°C)	First count (days)	Final count (days)	Specific requirements and notes	Fresh and dormant seed
<i>Centaurea americana</i> basketflower	B, T	20-30	5 ^b	14 ^c	Clip radicle end of seed coat for rapid response ^d	
<i>Cucurbita</i> spp., etc. gourds: small-seeded large-seeded	TB, B, T TB, B, T	20-30 20-30	3 ^b 4 ^b	7 ^c 10 ^c	Some cultivars need radicle end of seed coat clipped for prompt response ^d	
<i>Lagenaria</i> spp., etc. gourds: small-seeded large-seeded	TB, B, T TB, B, T	20-30 20-30	3 ^b 4 ^b	7 ^c 10 ^c	Some cultivars need radicle end of seed coat clipped for prompt response ^d	
<i>Sorghum</i> 'Sorghass' ^e sorghass	B, T, S	20-35; 15-35	5	21		Prechill at 5°C for 5 days

^d Avoid injury to the radicle or other embryo structures.

2011 Rules Change Proposal 6

Purpose of Proposal: To change the pure seed unit definition for *Achillea millefolium* (common yarrow) from PSU Number 27 to PSU Number 50.



New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram	Approximate number of seeds per ounce
		Grams	Grams	Number	Number
50	<i>Achillea millefolium</i> L. common yarrow	0.4	4	6,325	179,314

2011 Rules Change Proposal 7

Purpose: To correct the improper assignment of the pure seed unit definition for *Calocedrus decurrens*, incense cedar. The assignment will change from PSU 5 to PSU 4.



New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
4	<i>Calocedrus decurrens</i> (Torr.) incense cedar	87	-	29	815

2011 Rules Change Proposal 8

Purpose: To reassign *Pinus echinatus* (shortleaf pine), *P. elliotii* (slash pine), *Pinus rigida* (pitch pine), and *P. taeda* (loblolly pine) from Pure Seed Unit 5 to PSU 2 because these species are marketed in the de-winged format.



New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
2	<i>Pinus echinata</i> Mill. shortleaf pine	28	-	88	2,505
2	<i>Pinus elliottii</i> Engelm. slash pine	96	-	26	735
2	<i>Pinus rigida</i> Mill. pitch pine	20	-	135	3,880
2	<i>Pinus taeda</i> L. loblolly pine	67	-	38	1,065

2011 Rules Change Proposal 9

Purpose: To correct the improper assignment of the pure seed unit for *Thuja occidentalis*, northern white cedar, and *T. plicata*, western red cedar. *The* assignment will change from PSU 2 to PSU 4.



New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
4	<i>Thuja occidentalis</i> L. northern white cedar, eastern arborvitae	3	-	765	21,600
4	<i>Thuja plicata</i> Donn ex D. Don western red cedar, giant arborvitae	3	-	915	25,900

2011 Rules Change Proposal 10

Purpose: To assign all forms (i.e., ‘in burs’ and ‘out of burs’) of *Medicago polymorpha* (California burclover) and *M. arabica* (spotted burclover) to Pure Seed Unit 9 and to clarify the PSU 9 definition in cases where seed lots are marketed as hulled seed as opposed to seed lots marketed as pods or burs.

New Rule: (see next slide)

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
9	<i>Medicago arabica</i> (L.) Huds. spotted burclover: in bur out of bur	50 5	500 50	50 550	1,390 15,620
9	<i>Medicago polymorpha</i> L. burclover: in bur out of bur	50 7	500 70	375	10,650

PSU Number	Description of Pure Seed Unit
9	<p>Intact pod, with or without calyx or bracts, whether or not a seed is present.</p> <p>Piece of broken pod larger than one-half of the original size, unless no seed is present.</p> <p>Seed, with at least a portion of seed coat attached, with or without aril.</p> <p>Piece of broken seed larger than one-half the original size, with at least a portion of seed coat attached, with or without aril.</p> <p>Special consideration:</p> <p><u>For seed lots marketed as hulled seed: occasional intact or broken fruits are to be opened and the seeds with at least a portion of the seed coat intact are to be classified as pure seed and the remaining fruit structure classified as inert matter. For seed lots marketed as fruits (burs or pods), the fruits are to be classified as pure seed if they fit the criteria stated above.</u></p> <p>For Fabaceae:</p> <ul style="list-style-type: none"> • Cotyledons that are broken apart but held together by the seed coat shall be classified as pure seed. • Cotyledons that have separated and are not held together by the seed coat are regarded as inert matter irrespective of whether or not the radicle-plumule axis and/or more than half of the seed coat may be attached. • Chalcid-damaged seeds in Fabaceae that are puffy, soft, or dry and crumbly are considered inert matter.

2011 Rules Change Proposal 11 **Amended**

Purpose: To modify the Pure Seed Unit 11.



New Rule:

PSU Number	Description of Pure Seed Unit
11	Intact schizocarp or mericarp, with or without carpophore and/or pedicel , whether or not a seed is present. Piece of broken schizocarp or mericarp larger than one-half of the original size, unless no seed is present. Seed or piece of broken seed, with or without seed coat, larger than one-half the original size.

APPENDIX 4: GLOSSARY OF TERMS FOR PURE SEED UNITS

Carpophore. A slender extension of the receptacle between the two carpels of the fruits in some species of the Apiaceae or carrot family.

2011 Rules Change Proposal 12

Purpose: To modify Pure Seed Unit 16 to include a reference to the glossary for rame internode to be consistent with terminology used for other PSU definitions involving grasses that are members of the Andropogoneae.

New Rule:

PSU Number	Description of Pure Seed Unit
16	Spikelet group that disarticulates as a unit with attached rachis and internode, or spikelet with or without attached rachis segment (also see rame internode in glossary), pedicel and sterile spikelet, with or without awn(s), provided a caryopsis with some degree of endosperm development can be detected (either by slight pressure or by examination over light). Caryopsis or piece of broken caryopsis larger than one-half of the original size.



2011 Rules Change Proposal 13

Purpose: To modify the definition for Pure Seed Unit 26 to only consider the size of seed-bearing portion of the fruit (samara) when evaluating the size of broken fruits in determining pure seed versus inert matter.

New Rule : (see next slide)

PSU Number	Description of Pure Seed Unit
26	<p>Intact samara with or without wing(s), with or without attached styles, whether or not a seed is present.</p> <p>Piece of broken samara larger than one-half of the original size <u>(exclusive of the wing)</u>, unless no seed is present.</p> <p>Seed with or without pericarp/seed coat.</p> <p>Piece of broken seed, with or without pericarp/seed coat, larger than one-half the original size.</p> <p><u>Special consideration:</u></p> <ul style="list-style-type: none"> • <u>When determining the size of a piece of broken samara, the original size is based only on the size of the seed bearing portion of the samara. Any wing fragment without attached seed bearing portion is classified as inert matter.</u>



2011 Rules Change Proposal 14

Purpose: To modify the definition for Pure Seed Unit 38 and add botanical terms to Appendix 4.

New Rule:

PSU Number	Description of Pure Seed Unit
38	<p>Intact utricle with or without perianth, <u>enclosed or not enclosed by fruiting bracts (bracteoles)</u>, whether or not a seed is present.</p> <p>Piece of broken utricle larger than one-half the original size, unless no seed is present.</p> <p>Seed with or without seed coat.</p> <p>Piece of broken seed, with or without seed coat, larger than one-half the original size. Special consideration:</p> <ul style="list-style-type: none">• For <i>Bassia prostrata</i>, seed units that are retained on a 1mm opening square-hole sieve, when shaken for 30 seconds shall be considered pure seed units. Seed units that pass through the 1-mm sieve shall be classified as inert matter.

APPENDIX 4: GLOSSARY OF TERMS FOR PURE SEED UNITS

Bracteole – a small bract subtending a flower or fruit.

Fruiting bract – A small or rudimentary leaf or leaf-like structure near the base of a fruit that may or may not enclose the fruit.

2011 Rules Change Proposal 15

Purpose: To modify Pure Seed Unit 50 to include the persistent enclosing bract of the ray achene for *Layia spp.*

New Rule: (see next slide)

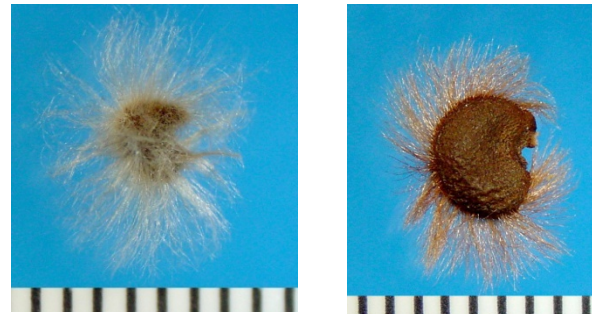


PSU Number	Description of Pure Seed Unit
50	<p>Intact achene, with or without one or more of the following structures: beak, bristle, hairs, pappus, wing, or firmly attached floral remnants, provided a true seed with some degree of embryo development can be detected (either by slight pressure or by examination over light).</p> <p>Piece of broken achene larger than one-half of the original size, unless no seed is present.</p> <p>Seed, with or without pericarp/seed coat.</p> <p>Piece of broken seed, with or without pericarp/seed coat, larger than one-half the original size.</p> <p><u>Special consideration:</u></p> <ul style="list-style-type: none">• <u>For <i>Layia</i>, the persistent bract enclosing the ray achene is part of the pure seed unit.</u>

2011 Rules Change Proposal 16

Purpose: To reassign the pure seed unit for *Hibiscus spp.* from PSU 1 to PSU 8.

New Rule:



Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
8	<i>Hibiscus spp.</i> hibiscus	-	-	-	-

2011 Rules Change Proposal 17

Purpose: To reassign the pure seed unit for *Bouteloua dactyloides* (buffalograss) and *Pennisetum ciliare* (buffelgrass) marketed as hulled caryopses from PSU 18 and 19 to PSU 25.

New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
19	<i>Bouteloua dactyloides</i> (Nutt.) Columbus buffalograss (burs) (caryopses)	20	200	110	3,120
25		3	30	740	20,960
25	<i>Pennisetum ciliare</i> (L.) Link buffelgrass (caryopses) (fascicles)	2	20	1,940	55,095
18		6	60	357	10,120

2011 Rules Change Proposal 18

Purpose: To correct the improper assignment of the pure seed unit for *Bothriochloa ischaemum* (yellow bluestem). The assignment will change from PSU 14 to PSU 15.

New Rule:



Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis ^a	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^b	Approximate number of seeds per ounce ^c
		Grams	Grams	Number	Number
15	<i>Bothriochloa ischaemum</i> (L.) Keng yellow bluestem	1	10	1,945	55,170

2011 Rules Change Proposal 19 Amended

Purpose of Proposal: To add purity and germination methods for *Diplotaxis* spp. (wallrocket, wild arugula) to the AOSA Rules.

New Rule:

Pure Seed Unit #	Kind of seed	Minimum weight for purity analysis	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram	Approximate number of seeds per ounce
		Grams	Grams	Number	Number
2	<i>Diplotaxis</i> spp. wallrocket; wild arugula, wild rocket	0.7	7	3,890	110,270

Kind of Seed	Substrata ^a	Temperature (°C)	First count (days)	Final count (days)	Specific requirements and notes	Fresh and dormant seed
<i>Diplotaxis</i> spp. wallrocket, wild arugula, wild rocket	P	20-30	4	10	Light; KNO3	

NOMEN #	SCIENTIFIC NAME	COMMON NAME	FAMILY	SPP. CLASS	CONTAMINATING CLASSIFICATION						
					A	F	H	R	S	T	V
317046	<i>Diplotaxis</i> spp.	wallrocket; arugula, wild rocket, wild	Brassicaceae	V	W	W	W	W	W	W	W
316651	<i>Diplotaxis tenuifolia</i> (L.)DC.	wallrocket; arugula, wild rocket, wild	Brassicaceae	V	W	W	W	W	W	W	W

2011 Rules Change Proposal 20

Purpose of Proposal: To change the first count (days) requirement from 6 to 10 for Vegetable and Ornamental Pepper (*Capsicum* spp.)

New Rule:

Kind of Seed	Substrata	Temperature (°C)	First count (days)	Final count (days)	Specific requirements and notes	Fresh and dormant seed
<i>Capsicum</i> spp. vegetable and ornamental pepper	T, B, TB, RB, P	20-30	10	14		Light and KNO ₃ . See footnotes b and c for ornamental varieties

2011 Rules Change Proposal 21 **Amended**

Purpose of Proposal: To clarify and add details to the rules on calculating percentage germination when multiple germination tests are made.

New Rule: (Details can be seen on the AOSA website)

6.7 Calculation of percentage germination

b. *When more than one test is made **on the same submitted sample***

1) If more than one test is made using the same official method, the results of such tests or retests that fall within one tolerance range shall be averaged and reported as the percentage germination. . . .

2011 Rules Change Proposal 22 **Amended**

Purpose: To move Appendix 3 for determination of sample working weights for kinds not listed in Table 2A (non-mechanical seed counts) into a newly created section on non-mechanical seed counts and to clarify the appropriate use of the procedure, the source of the seed to be used for non-mechanical seed counts, and calculation of the results. No significant changes are made to the current AOSA procedure.

New Rule: (Details can be seen on the AOSA website)

SECTION 13: NON-MECHANICAL SEED COUNT AND WORKING WEIGHT DETERMINATIONS

Procedures outlined in this section may be used to determine the number of seeds per gram and the appropriate weights for purity analysis and noxious weed seed exam working samples for submitted samples of kinds with unusually small or large seeds or for kinds not listed in Table 2A.

13.1 General procedures that apply to non-mechanical seed counts. . .

2011 Rules Change Proposal 23

Purpose: To fine-tune the current Uniform Blowing Procedure (UBP) for side-oats grama (*Bouteloua curtipendula*), keeping some of the efficiencies it offers, but hand-picking the light portion for florets containing caryopses at least $\frac{1}{3}$ the length of the floret and classifying as pure seed. Also changing the PSU number 25 for seed lots comprised of only caryopses, to PSU number 21 for single florets and/or caryopses.

New Rule: (Details can be seen on the AOSA website)

- Changes to Volume 1, including:
 - Table 2A, Weights for working samples
 - Table 3A, Pure seed unit definitions
 - Section 3.6, Uniform Blowing Procedure
- Changes to Volume 2, including:
 - Introduction
 - Section 5.5
 - Section 6.7

2011 Rules Change Proposal 25 **Amended**

Purpose: Change the title of Table 13H and further clarify the use of the tolerances for comparing the percentage of pure seed of two tests based on the fluorescence test of ryegrass, the copper sulfate-ammonia test for sweet clover or other tests for separation of species based on morphological characteristics.

New Rule: (Details can be seen on the AOSA website)

13.4 Tolerances for comparing the percentage of pure seed of two tests based on the fluorescence test for ryegrass, the copper sulfate-ammonia test for sweet clover or other tests used for the separation of species based on morphological characteristics.

These tolerances are applicable when two independent tests have been made on the same properly mixed bulk lot. The chances of differences between the two tests exceeding the tolerance will not be greater than 5%. (Leggatt, 1939). . .

2011 Rules Change Proposal 26

Purpose of Proposal: To add *Pittosporum undulatum* to the Uniform Classification Table of the AOSA Rules.

New Rule:

NOMEN #	SCIENTIFIC NAME	COMMON NAME	FAMILY	SPP. CLASS	CONTAMINATING CLASSIFICATION						
					A	F	H	R	S	T	V
28757	<i>Pittosporum undulatum</i> Vent.	box, Victorian	Pittosporaceae	S	W	W	W	W	W	W	W