AOSA RULE CHANGES FOR 1999
AOSA/SCST ANNUAL MEETINGS - OMAHA, NEBRASKA

Effective October 1, 1999

RULE PROPOSAL NO. 1

AOSA RULES FOR TESTING SEEDS, section 2.3b, page 4

2.3 Weight of working samples

b. *Kinds of seed not listed in Table 1.* — The weight of the purity working sample and its corresponding noxious-weed seed working sample may be determined from Table 1 by a kind of seed that is similar in size and weight, and which would provide approximately the equivalent weight of 2,500 pure seed units in the purity working sample.

OR

The weight of that kind may be determined by using the Weight Determination Method (adapted from: International Seed Testing Association. 1999. International Rules for Seed Testing. Section 10.4.3. Seed Sci. and Technol. 27:pp. 51-52) in Appendix 4.

AOSA RULES FOR TESTING SEEDS, New Appendix 4, page 122

APPENDIX 4

DETERMINATION OF WEIGHT OF WORKING SAMPLES FOR KINDS NOT LISTED IN TABLE 1

To determine the weight of the purity working sample and its corresponding noxious-weed seed working sample the Weight Determination Method will be followed.

From the working sample count out at random, by hand or with a germination counter, eight replicates, each of 100 seeds. Weigh each replicate in grams to four significant figures (see Appendix 2). With small-seeded kinds it is not necessary to weigh the replicates with greater precision than four decimal places.

Calculate the variance, standard deviation and coefficient of variation as follows:

$$Variance = \frac{n(\Sigma x^2) - (\Sigma x)^2}{n(n-1)}$$

Where x = weight of each replicate in grams
n = number of replicates
Σ = sum of

Standard deviation(s) = $\sqrt{Variance}$

Coefficient of variation = $\frac{s}{\bar{x}} \times 100$

where $\bar{x}$ = mean weight of 100 seeds

If the coefficient of variation does not exceed 6.0 for chaffy seeds, or 4.0 for other seeds, the result of the determination can be calculated.

If the coefficient of variation exceeds whichever of these limits is appropriate, count and weigh a further eight replicates and calculate the standard deviation for the 16 replicates. Discard any replicates that diverge from the mean by more than twice the standard deviation so calculated.

To calculate the minimum weight for purity analysis (grams): multiply the mean weight of 100 seeds by 25 (2,500 seed weight).

To calculate the minimum weight for noxious weed seed or bulk examination (grams): multiply the minimum weight for purity analysis by 10.

To calculate the approximate number of seeds per gram: divide 100 (the number of seeds) by the mean weight (of the 100 seed replicates).

To calculate the approximate number of seeds per ounce: multiply the approximate number of seeds per gram by 28.35.

For species which have small and large seeded varieties, more than one morphological seed form, or have seed weights which may vary with processing, counts should be made for each type.

RULE PROPOSAL NO. 2

AOSA RULES FOR TESTING SEEDS, Table 1, page 35

Section 2.4, Table 1. Weights for working samples

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
Achillea ptarmica L. The Pearl, achillea	0.6	6	4200	119,070
Alcea rosea L. Hollyhock	24	240	105	2,977
Ageratum houstonianum Miller Ageratum	0.6	6	3,920	111,132
Alyssum saxatile L. Golden tuft alyssum, basket-of-gold	3	30	920	26,082
Amaranthus spp. Amaranthus	2	20	1,475	41,816
Arabis spp. Rockcress	0.6	6	4,050	114,818
Asclepias tuberosa L. Butterfly milkweed	12	120	215	6,095
Aubrieta deltoidea (L.) DC. Aubrieta	1	10	2,500	70,875
Bellis perennis L. English daisy	0.4	4	5,620	159,327
Browallia spp. Browallia	0.6	6	4,445	126,016

Calendula officinalis L. Calendula	18	180	140	3,969
Callistephus chinensis (L.) Nees China-aster	5	50	495	14,033
Catharanthus roseus (L.) G. Don Vinca, periwinkle	4	40	685	19,420
Celosia spp. L. Cockscomb, celosia	2	20	1,365	38,698
Mimosa pudica L. Sensitive plant	15	150	170	4,820
Moluccella leavis L. Bells-of-Ireland	14	140	180	5,103
Nicotiana alata Link & Otto, N. x *sanderae* W. Watson Nicotiana	0.3	3	9,435	267,482
Nierembergia spp. Nierembergia	0.4	4	6,330	179,456
Petunia spp. Petunia	0.2	2	10,415	295,313
Physalis alkekengi Chinese lantern	4	40	660	18,711
Salpiglossis sinuata Ruiz & Pavon 'Gloxiniiflora' Salpiglossis	0.6	6	4,310	122,189
Schizanthus spp. Schizanthus	2	20	1,440	40,824
Thunbergia alata Sims. Thunbergia, clockvine	66	500	40	1,134

RULE PROPOSAL NO. 3

AOSA RULES FOR TESTING SEEDS, Table 1, page 35

Section 2.4, Table 1. Weights for working samples

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
Abies concolor (Gordon & Gleninning) Hildebrand white fir	83		30	855
Abies grandis (D. Don) Lindley grand fir	66		38	1,070
Abies procera Rehder noble fir	95		26	750
Calocedrus decurrens (Torrey) Florin incense cedar	87		29	815
Cornus florida L. flowering dogood	190		13	375
Fraxinus pennsylvanica Marshall var. *lanceolata* (Borkhausen)				

Sargent green ash	50	50	1,420
Liquidamber straciflua L. sweetgum	10	247	7,010
Liriodendron tulipifera L. yellow poplar	58	43	1,215
Pinus banksiana Lambert jack pine	9	281	7,965
Pinus caribaea Morelet Caribbean pine	45	55	1,560
Pinus clausa (Chapman) Vasey sand pine	25	101	2,875
Pinus contorta Loudon (incl. var. *latifolia* Engelmann) shore pine, lodgepole pine	11	228	6,455
Pinus echinata Miller shortleaf pine	28	88	2,505
Pinus elliottii Engelmann slash pine	96	26	735
Pinus monticola D. Don western white pine	47	53	1,500
Pinus palustris Miller longleaf pine	224	11	315
Pinus ponderosa P. & C. Lawson ponderosa pine, western yellow pine	98	25	720
Pinus resinosa Aiton Red pine, Norway pine	23	110	3,130
Pinus strobus L. eastern white pine	46	54	1,525
Pinus sylvestris L. Scotch pine	18	141	3,990
Pinus taeda L. loblolly pine	67	38	1,065
Pinus virginiana Miller Virginia pine, scrub pine	24	106	3,000
Platanus occidentalis L. American sycamore	8	307	8,715
Tsuga heterophylla (Rafinesque) Sargent western hemlock	5.5	460	13,025

RULE PROPOSAL NO. 4

UNIFORM CLASSIFICATION OF WEED AND CROP SEED
Contribution No. 25 to the Handbook on Seed Testing, page 73

Scientific/Common name	Family	Classification						
		Spp.	contaminating					
		Class	A	F	H	R	S	T	V
Lespedeza thunbergii ---Thunberg's lespedeza ---shrub lespedeza	(Fabaceae)	R, S	W	W	W	C	W	W	W

RULE PROPOSAL NO. 5

UNIFORM CLASSIFICATION OF WEED AND CROP SEED
Contribution No. 25 to the Handbook on Seed Testing, page 73

Scientific/Common name	Family	Classification						
		Spp.	contaminating					
		Class	A	F	H	R	S	T	V
Lespedeza virgata ---wand lespedeza	(Fabaceae)	R	W	W	W	C	W	W	W

RULE PROPOSAL NO. 6

UNIFORM CLASSIFICATION OF WEED AND CROP SEED
Contribution No. 25 to the Handbook on Seed Testing, page 3

Scientific/Common name	Family	Classification						
		Spp.	contaminating					
		Class	A	F	H	R	S	T	V
Aeschynomene americana ---American jointvetch ---deervetch	(Fabaceae)	R	W	W	W	C	W	W	W

RULE PROPOSAL NO. 7

UNIFORM CLASSIFICATION OF WEED AND CROP SEED
Contribution No. 25 to the Handbook on Seed Testing, page 123

Scientific/Common name	Family	Classification						
		Spp.	contaminating					
		Class	A	F	H	R	S	T	V
Stenotaphrum secundatum ---St. Augustinegrass	(Poaceae)	T	C	W	W	C	W	C	W

RULE PROPOSAL NO. 8

AOSA RULES FOR TESTING SEEDS, Table 1, page 45

Section 2.4, Table 1. Weights for working samples

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
Hesperostipa comata (Trin. & Rupr.) Barkworth needle-and-thread	15	150	100-350 (200)	2,800-9,900

AOSA RULES FOR TESTING SEEDS, Table 3, page 74

Section 4.10, Table 3. Methods of testing for laboratory germination.

Kind of Seed	Substrata	Tempera - ture °C	First count days	Final count days	Additional Directions See Sec. 4.2 and 4.9
Hesperostipa comata needle-and-thread					
Method 1	P	15-25	10	21	See sec. 4.8q.
Method 2	P	15-25	10	21	See sec. 4.8q.

AOSA RULES FOR TESTING SEEDS, section 4.7d, page 21

4.7d

For *Nasella viridula*, *Penstemon pendlandii*, *Penstemon eatonii*, *Penstemon* spp., and *Hesperostipa comata*, report results of Method 2 (see Table 3 and sections 4.8k, 4.8m, 4.8p, and 4.8q), as percentage germination. If the number in Method 2 is less than in Method 1, subtract results of Method 2 from Method 1 and report the difference as dormant seed percentage.

AOSA RULES FOR TESTING SEEDS, section 4.8q, page 23

4.8q

Needle-and-thread (*Hesperostipa comata*)--Two test methods as prescribed in Table 3 shall be used on each sample. For Method 1, place 400 seeds on blotters moistened with 0.055% (500 ppm) GA_3 and germinate for 21 days (15/25° C) in the dark. Post-test viability determination of ungerminated seeds is required (sec. 4.9k). As an alternative to Method 1, conduct a TZ test on 400 seeds. For Method 2, plant 400 seeds on water-moistened blotters, prechill for 14 days (2-5° C), and germinate in dark for 21 days (15/25° C); count normal seedlings. Refer to section 4.5a for tests infected with fungi. Refer to 4.7d for calculation and reporting of results.

RULE PROPOSAL NO. 9

AOSA RULES FOR TESTING SEEDS, Table 1, page 43

Section 2.4, Table 1. Weights for working samples

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]
Ephedra nevadensis Wats. Nevada ephedra, Nevada Mormon-tea	60		45	1,280

AOSA RULES FOR TESTING SEEDS, Table 3, page 70

Section 4.10, Table 3. Methods of testing for laboratory germination.

Kind of Seed	Substrata	Temperature °C	First count days	Final count days	Additional Directions See Sec. 4.2 and 4.9
Ephedra nevadensis Nevada ephedra, Nevada	B, T	15		28	Prechill dormant lots 28 days.

RULE PROPOSAL NO. 10

AOSA RULES FOR TESTING SEEDS, Table 1, page 41

Section 2.4, Table 1. Weights for working samples

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
Collinsia heterophylla Buist Chinese-houses	3	30	810	22,964
Consolida ajacis (L.) Schur Larkspur, annual	6	60	405	11,482

RULE PROPOSAL NO. 11

AOSA RULES FOR TESTING SEEDS, Table 1, page 45

Section 2.4, Table 1. Weights for working samples

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
Lactuca sativa L. lettuce	3	30	1,036	29,371

RULE PROPOSAL NO. 12

AOSA RULES FOR TESTING SEEDS, section 2.6b(10), page 6

2.6b (10) Hardened involucre in *Coix lacryma-jobi.*

AOSA RULES FOR TESTING SEEDS, section 2.7g(1), page 7

2.7g (1) Intact burs of buffalograss *(Buchloe dactyloides)* and intact involucres of Job's tears (*Coix lacryma-jobi*) shall be considered pure seed whether or not a caryopsis is present. Refer to section 2.10 a(9) for the classification of burs and involucres for these species which are visibly empty.

AOSA RULES FOR TESTING SEEDS, section 2.10a(9)

2.10a(9) Broken seed units of Chenopodiaceae and fruit portions of fragments of monogerm beets (*Beta vulgaris*), New Zealand spinach (*Tetragonia tetragonioides*), buffalograss (*Buchloe dactyloides*), Job's tears (*Coix lacryma-jobi*), and families in which the seed unit may be a dry, indehiscent one-seeded fruit which visibly does not contain a seed. Refer to sections 2.6b(6), 2.6b(10), 2.6g, 2.7f, 2.7g(1) and 2.7i.

RULE PROPOSAL NO. 13

AOSA RULES FOR TESTING SEEDS, section 2.6e, page 6

2.6 e. Schizocarps and mericarps in the Apiaceae andTropaeolaceae;

RULE PROPOSAL NO. 14

AOSA RULES FOR TESTING SEEDS, section 2.6c, page 6

2.6 c. Dry indehiscent fruits in the following plant families: Aceraceae, Asteraceae, Betulaceae, Brassicaceae, Casuarinaceae, Chenopodiaceae, Fabaceae, Fagaceae, Geraniaceae, Juglandaceae, Magnoliaceae, Nyctaginaceae, Nyssaceae, Oleaceae, Plantanaceae, Polygonaceae, Rosaceae, Simaroubaceae, Ulmaceae, and Valerianaceae;

RULE PROPOSAL NO. 15

AOSA RULES FOR TESTING SEEDS, section 2.7k, page 7

2.7 k. True seeds with attached structures such as arils, caruncles, wings, except as specified in section 2.10a(6). Refer to section 2.10 a(6) for classification of tree and shrub seed and fruit wings.

RULE PROPOSAL NO. 16

AOSA RULES FOR TESTING SEEDS, Table 1, page 48

Section 2.4, Table 1. Weights for working samples

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
Ocimum basilicum L. Basil	4	40	702	19,902

RULE PROPOSAL NO. 17

AOSA RULES FOR TESTING SEEDS, Table 1, page 38

Section 2.4, Table 1. Weights for working samples

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
Borago officinalis L. Borage	48	480	53	1,503

RULE PROPOSAL NO. 18

AOSA RULES FOR TESTING SEEDS, Table 1, page 37

Section 2.4, Table 1. Weights for working samples

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
Anthriscus cerefolium (L.) Hoffmann Chervil	6.5	65	405	11,487

RULE PROPOSAL NO. 19

AOSA RULES FOR TESTING SEEDS, Table 1, page 43

Section 2.4, Table 1. Weights for working samples

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
Eruca sativa Miller Roquette	4.5	45	575	16,301

RULE PROPOSAL NO. 20

AOSA RULES FOR TESTING SEEDS, Table 1, page 41

Section 2.4, Table 1. Weights for working samples

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
Coriandrum sativum L. Coriander	27	270	95	2,703

RULE PROPOSAL NO. 21

AOSA RULES FOR TESTING SEEDS, Table 1, page 48

Section 2.4, Table 1. Weights for working samples

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
Origanum majorana L. sweet marjoram	0.6	6	4335	122,910

RULE PROPOSAL NO. 22

UNIFORM CLASSIFICATION OF WEED AND CROP SEEDS
Contribution No. 25 to the Handbook on Seed Testing, page 3

Scientific /Common Name	Family	Classification Spp. Class	contaminating A	F	H	R	S	T	V
Achnatherum thurberianum --needlegrass, Thurber	(Poaceae)	R	W	W	W	C	W	W	W

RULE PROPOSAL NO. 23

UNIFORM CLASSIFICATION OF WEED AND CROP SEEDS
Contribution No. 25 to the Handbook on Seed Testing, page 80

Scientific /Common Name	Family	Classification Spp. Class	contaminating A	F	H	R	S	T	V
Machaeranthera tanacetifolia --aster, tansy --daisy, tahoka	(Asteraceae)	F	W	C	W	C	W	W	W

RULE PROPOSAL NO. 24

UNIFORM CLASSIFICATION OF WEED AND CROP SEEDS
Contribution No. 25 to the Handbook on Seed Testing, page 99

Scientific /Common Name	Family	Classification Spp. Class	contaminating A	F	H	R	S	T	V
Pisum sativum subsp. sativum var. arvense --pea, field	(Fabaceae)	A	C	C	C	C	C	C	C
Pisum sativum subsp. sativum var. sativum --pea, garden	(Fabaceae)	V	C	C	C	C	C	C	C

AOSA RULES FOR TESTING SEEDS, Table 1, page 52

Section 2.4, Table 1. Weights for working samples

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
Pisum sativum L. subsp. *sativum* var. *arvense* (L.) Poir. field pea	500	500	4	115
Pisum sativum L. subsp. *sativum* var. *sativum* garden pea	500	500	3	85

AOSA RULES FOR TESTING SEEDS, Table 3, page 85

Table 3. Methods of testing for laboratory germination. (cont.)

Kind of Seed	Substrata	Tempera-ture °C	First Count Days	Final count days	Additional Directions See Sec. 4.2 and 4.9
Pisum sativum subsp. *sativum* var. *arvense* field pea	B, T, S	20	3	8	Hard seeds: see sec. 4.2 d and 4.9 k(6).
Pisum sativum subsp. *sativum* var. *sativum* garden pea	B, T, S	20	5	8	Hard seeds: see sec. 4.2 d and 4.9 k(6).

RULE PROPOSAL NO. 25

UNIFORM CLASSIFICATION OF WEED AND CROP SEEDS
Contribution No. 25 to the Handbook on Seed Testing, page 113

Scientific/Common Name	Family	Classification						
		Spp.	contaminating					
		Class	A	F	H	R	S	T	V
Sanguisorba minor	(Rosaceae)	A	C	W	W	C	W	W	W
--burnet, little									
--burnet, small									