

2016 AOSA Rules Change Proposal 4

Purpose of Proposal: To add Virginia wildrye (*Elymus virginicus*) AOSA Rules, Vol. 1, Table 2A and to assign a pure seed unit definition for this species.

Present Rule and Proposed Rule:

Table 2A

Pure Seed Unit #	Chaffy Seed ^a	Kind of seed	Minimum weight for purity analysis ^b	Minimum weight for noxious-weed seed or bulk examination	Approximate number of seeds per gram ^c	Approximate number of seeds per ounce ^d
			Grams	Grams	Number	Number
21	Yes	<i>Elymus canadensis</i> L. Canada wildrye	11	110	190	5,385
21	Yes	<i>Elymus elymoides</i> (Raf.) Swezey bottlebrush-squirreltail	9	90	190-520 (300)	5,400-14,800
21	Yes	<i>Elymus trachycaulus</i> (Link) Gould ex Shinnery subsp. <i>trachycaulus</i> slender wheatgrass	7	70	295	8,335
<u>22</u>	<u>Yes</u>	<u><i>Elymus virginicus</i> L. Virginia wildrye</u>	-	-	-	-
21	Yes	<i>Leymus cinereus</i> (Scribn. & Merr.) Á. Löve basin wildrye	8	80	317	9,000
22	Yes	<i>Pascopyrum smithii</i> (Rydb.) Barkworth & D. R. Dewey western wheatgrass	10	100	250	7,115
21	Yes	<i>Pseudoroegneria spicata</i> (Pursh) Á. Löve beardless wheatgrass	8	80	275	7,855
22	Yes	<i>Thinopyrum intermedium</i> (Host) Barkworth & D.R. Dewey subsp. <i>intermedium</i> intermediate wheatgrass	15	150	160-190 (175)	4,595-5,415
22	Yes	<i>Thinopyrum ponticum</i> (Podp.) Barkworth & D.R. Dewey tall wheatgrass	15	150	165	4,650-4,765

Table 3A. Pure seed unit definitions

PSU Number	Description of Pure Seed Unit
22	<p>Multiple floret spikelet, multiple floret, or floret, with or without pedicel, with or without awn(s), provided there is a caryopsis at least one-third the length of the palea measured from the base of the rachilla.</p> <p>Caryopsis or piece of broken caryopsis larger than one-half of the original size.</p> <p>The amount of inert matter attached to the multiple units shall be determined by the method described in section 3.7.</p> <p>Special consideration:</p> <p>* When coated seed units are de-coated for purity analysis the method in section 3.7 shall not be used. Separation of multiple units shall be as follows:</p> <p>- A fertile floret attached to another fertile floret shall be separated.</p>

	<p>- Attached glumes and empty florets extending to or beyond the tip of the fertile floret shall be removed and classified as inert matter.</p> <p><u>* In case of <i>Elymus virginicus</i> (Virginia wildrye) :</u></p> <p><u>- The method described in section 3.7 shall not be applied.</u></p> <p><u>- Upon request, the percentage by weight of multiple seed units found in a sample can be reported under other determination on the certificate of analysis.</u></p>
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Harmonization and Impact Statement: *Elymus virginicus* (Virginia wildrye) is not included in the Federal Seed Act, ISTA Rules or Canadian M&P; therefore, no conflict with other officially recognized testing methods exists. This species is usually marketed with the naturally persistent glumes remaining attached to the basal floret of the spikelet; therefore, requiring the removal of the basally attached glumes for the purpose of purity analysis would give an inaccurate assessment of the true planting unit and could adversely affect the value of the seed lot.

Supporting Evidence:

Spikelets of *Elymus virginicus*, Virginia wildrye, usually contain three or four florets. Disarticulation of the spikelet occurs below the glumes and usually below each floret, except for below the basal floret. In this species the two glumes remain persistently attached to the lowest floret of the spikelet and are very difficult to manually detach (Waibel and Larsen, personal communication). For this reason, seed units of Virginia wildrye are typically marketed with glumes attached.

The purpose of seed testing is to determine the planting value of a seed sample. A seed unit (single or multiple) that contains at least one fertile floret has planting value. Since Virginia wildrye is similar to other wildrye and wheatgrass species it seems reasonable to assign this species to a pure seed unit definition in which the caryopsis must be at least one-third the length of the palea. Considering the glumes are persistent, the best pure seed unit definition currently in the AOSA Rules is PSU 22, provided the amount of inert matter attached to the seed units is not calculated using the multiple unit procedure described in sec. 3.7. Upon customer request, the percentage by weight of multiple seed units, as defined under 3.7, can be provided on the report of analysis under other determinations. Given the glumes remain attached the seed does not flow freely and should be considered chaffy.

Working sample weights are not added here since they must be based on a standardized PSU definition.

Virginia wildrye – florets without glumes (left three) and with basally attached glumes (right three).



References: See attached personal communications.

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