

Rule Change Proposal No. 4

PURPOSE: Addition of minimum working weights for purity analysis, noxious weed seed and bulk examinations, and seed counts to Table 1 (Weights for Working Samples), and the germination test requirements to Table 3 (Methods of testing for laboratory germination) for *Allium fistulosum* L., welsh onion.

PRESENT RULE: New rule.

PROPOSED NEW RULE

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
<i>Allium fistulosum</i> L. Welsh onion	5	50	465	13,174

Table 3. Methods for 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
<i>Allium fistulosum</i> L. Welsh onion	B, T	20	6	10	

SUPPORTING EVIDENCE

Welsh onion is a member of the Liliaceae and as such the seed units are described under Sec.2.6a. Seed counts were conducted by the Purity Subcommittee following the procedure outlined in Appendix 4 of the AOSA rules. Please refer to the data below. The mean purity weight based on 14 samples tested was 5.4 grams, this was rounded to the nearest whole number. The noxious weed seed or bulk exam weight was calculated at ten times this value. By comparison the ISTA Rules specify 5 grams as the purity working weight and FSA requires 10 grams.

Lot No.	Mean Wt. (gm) Per 100 Seed	Mean No. Seed/gm	Mean No. Seed/oz	Minimum Purity Working Wt. (gm)	Minimum Noxious Working Wt. (gm)
1*	0.1904	525	14890	4.8	48
2*	0.2198	455	12898	5.5	55
3*	0.2158	463	13137	5.4	54
4*	0.2161	463	13119	5.4	54
5*	0.2136	468	13272	5.3	53
6*	0.192	521	14766	4.8	48
7*	0.2325	430	12194	5.8	58
8*	0.2331	429	12162	5.8	58
9*	0.1947	514	14561	4.9	49
10*	0.2081	481	13623	5.2	52
11*	0.207	483	13696	5.2	52
12*	0.22	455	12886	5.5	55
13*	0.2158	463	13137	5.4	54
14*	0.2544	393	11144	6.4	64
Mean	0.2152	465	13174	5.4	54

* based on 8 replicates of 100 seeds.

In 2000-01, the AOSA Referee - SCST Research Southwest Region conducted a referee to determine appropriate

germination methods for *A. fistulosum* (Waymack 2001). The referee indicated 15 and 20 °C produced similar results for the high quality lot tested, while 20°C produced slightly better results for the poor quality lot tested. Comments from the referee indicated that some seedlings appeared small and difficult to evaluate at the end of the 10 day test period. To be consistent with FSA Rules, 10 days is recommended for the proposal with the possibility for extending the test should the need arise (refer to AOSA Rules Sec. 4.9.d. Duration of Test).

Specifications for testing of *A. fistulosum* in FSA (Federal Seed Act) and ISTA, and for similar species in the AOSA and ISTA rules and are listed below.

SAMPLE WORKING WEIGHTS

Kind of seed	Rules	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
<i>Allium fistulosum</i> L. - Welsh onion	FSA	10	50		
<i>Allium fistulosum</i> L. - Welsh onion	ISTA	5	50		
<i>Allium cepa</i> L. – Onion	AOSA	7	50	340	9,665
<i>Allium porrum</i> L. - Leek	AOSA	7	50	395	11,225
<i>Allium schoenoprasum</i> L. - Chives	AOSA	5	50		
<i>Allium schoenoprasum</i> L. - Chives	ISTA	3	30		

GERMINATION REQUIREMENTS

Kind of seed	Rules	Substrata	Temperature °C	First count days	Final count days	Additional Directions See Sec. 4.2 and 4.9
<i>Allium fistulosum</i> L.	FSA	B, T	20	6	10	
<i>Allium fistulosum</i> L.	ISTA	TP, BP, S	20; 15	6	12	
<i>Allium cepa</i> L.	AOSA	B, T	20	6	10	
alternate method		S	20	6	12	
<i>Allium cepa</i> L.	ISTA	TP, BP, S	20; 15	6	12	
<i>Allium porrum</i>	AOSA	B, T	20	6	14	
<i>Allium porrum</i>	ISTA	TP, BP, S	20; 15	6	14	
<i>Allium schoenoprasum</i>	AOSA	B, T	20	6	14	
<i>Allium schoenoprasum</i>	ISTA	TP, BP, S	20; 15	6	14	

References

Waymack, M.A. 2001. Establishing a Method for Germination of Welsh Onion (*Allium fistulosum* L.) Comparing Effects of Testing at 15 and 20 °C. AOSA Referee/SCST Research Southwest Region Project Report 2000-2001.
 AOSA Rules for Testing Seeds 2000
 ISTA Rules for Seed Testing 1999
 Federal Seed Act Regulations 2001

SUBMITTED BY

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