

## Rule Change Proposal No. 4

**Purpose:** To contribute seed weights of additional species to Table 1 of the AOSA Rules for Testing Seeds. New species to the AOSA Rules will be added to Handbook 25. Standardization of common names listed in the AOSA Rules and Handbook 25 is addressed.

**Present Rule:** Table 1. Weights for working samples.

### Proposed New Rules

Pure Seed Unit #	Kind of seed	Min. weight for purity analysis (grams)	Min. weight for noxious-weed or bulk exam. (grams)	Approximate number of seeds per gram	Approximate number of seeds per ounce	Purity Weight in ISTA Rules (grams)
*	<i>Sanvitalia procumbens</i> Lam. Mexican creeping zinnia	2	20	1,635	46,350	2
*	<i>Tagetes erecta</i> L. African marigold	8	80	320	9,070	10
*	<i>Tagetes patula</i> L. French marigold	7	70	345	9,780	10
*	<i>Tagetes tenuifolia</i> Cav. signet marigold	2	20	1,260	35,720	<u>5</u>
*	<i>Zinnia angustifolia</i> Kunth. zinnia	1	10	2,435	69,030	-
28	<i>Zinnia haageana</i> Regel Mexican zinnia	4	40	565	16,015	<u>6</u>
*	<i>Zinnia violacea</i> Cav. common zinnia					
	large-seeded	20	200	125	3,545	-
	small-seeded	13	130	200	5,670	-

\* = PSU included in 2002 AOSA Rules

\_ = no purity weight provided in ISTA Rules

### Additions to Handbook 25: Classification Section

Scientific Name/Common Name	Family	Spp. Class	Contaminating Classification						
			A	F	H	R	S	T	V
<i>Tagetes erecta</i> L. African marigold	Asteraceae	F	W	C	C	W	W	W	W

<i>Tagetes patula</i> L. French marigold	Asteraceae	F	W	C	W	W	W	W	W
<i>Tagetes tenuifolia</i> Cav. signet marigold	Asteraceae	F	W	C	W	W	W	W	W
<i>Zinnia haageana</i> Regel Mexican zinnia	Asteraceae	F	W	C	W	W	W	W	W

## Additions and changes to Handbook 25: Appendix A

### **Common Name**

### **Scientific Name**

Marigold, African  
Marigold, French  
Marigold, signet  
Zinnia, Mexican

*Tagetes erecta*  
*Tagetes patula*  
*Tagetes tenuifolia*  
*Zinnia haageana*

~~Zinnia, creeping~~

~~*Sanvitalia procumbens*~~

Zinnia, Mexican creeping

*Sanvitalia procumbens*

~~Zinnia~~

~~*Zinnia violacea*~~

Zinnia, common

*Zinnia violacea*

## Additions to Handbook 25: Appendix B

### **Nomen #**

### **Scientific Name**

36197

***Tagetes erecta* L.**

36202

***Tagetes patula* L.**

36205

***Tagetes tenuifolia* Cav.**

42260

***Zinnia haageana* Regel**

## Harmonization

Regarding the harmonization of Pure Seed Unit (PSU) designations between AOSA and ISTA, there is no conflict. Here, *Zinnia haageana* is assigned AOSA PSU definition #28, which does not conflict with ISTA definition #9. The *Zinnia* spp. which are included in the current AOSA Rules are designated PSU definition #28. Regarding the harmonization of working weights for purity analyses, the weights underlined in the far right column of this table are those weights for which there is a discrepancy with ISTA weights. The seed weight data presented in the supporting evidence of this proposal serve to substantiate the proposed purity weights.

In order to eliminate discrepancies in common names, the following changes should be made in the AOSA Rules and the AOSA Handbook 25:

- The common name of *Sanvitalia procumbens* should be listed as “Mexican creeping zinnia” in both the AOSA Rules and the AOSA Handbook 25.
- The common name of *Zinnia violacea* should be listed as “common zinnia” in both the AOSA Rules and the AOSA Handbook 25.

**Supporting Evidence:** Common name changes proposed are based on GRIN. See attached tables.

**Submitted By**

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**Date Submitted:** August 11, 2003 Revised January 14, 2004

**Species:** *Sanvitalia procumbens* Lam. - creeping zinnia

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	221 Creeping Zinnia	0.0507	0.0475	0.0506	0.0476	0.0488	0.0492	0.0495	0.0496	0.0492	0.000001	0.0012	2.4383
	616 Creeping Zinnia	0.0483	0.0493	0.0495	0.0478	0.0512	0.0492	0.0492	0.0489	0.0492	0.000001	0.0010	2.0270
	E1036 Creeping Zinnia	0.0778	0.0824	0.0832	0.0820	0.0766	0.0799	0.0776	0.0790	0.0798	0.000006	0.0025	3.1014
	3651 Creeping Zinnia	0.0707	0.0703	0.0748	0.0717	0.0724	0.0698	0.0710	0.0687	0.0712	0.000003	0.0018	2.5991
	5081 Creeping Zinnia	0.0567	0.0580	0.0550	0.0583	0.0540	0.0552	0.0550	0.0558	0.0560	0.000002	0.0015	2.7383
	5769 Creeping Zinnia	0.0632	0.0622	0.0618	0.0600	0.0593	0.0603	0.0588	0.0632	0.0611	0.000003	0.0017	2.8280
mean										0.0611			

**Species:** *Tagetes erecta* L. - African marigold

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	3976 Crackerjack	0.3125	0.3107	0.3160	0.3110	0.3187	0.3110	0.3114	0.3041	0.3119	0.000018	0.0043	1.3685
	3977 Hawaii	0.3255	0.3173	0.3181	0.3198	0.3197	0.3164	0.3164	0.3294	0.3203	0.000022	0.0047	1.4677
	3978 Crackerjack	0.2989	0.3087	0.3172	0.3001	0.3101	0.3135	0.3095	0.3106	0.3086	0.000039	0.0062	2.0178
	3979 Crackerjack	0.3602	0.3798	0.3723	0.3665	0.3825	0.3673	0.3561	0.3617	0.3683	0.000087	0.0094	2.5391
	5526 Crackerjack	0.3445	0.3684	0.3397	0.3635	0.3438	0.3549	0.3544	0.3541	0.3529	0.000098	0.0099	2.8090
	6194 Crackerjack	0.3491	0.3242	0.3379	0.3338	0.3382	0.3326	0.3275	0.3464	0.3362	0.000074	0.0086	2.5530
	6794 Crackerjack	0.3474	0.3346	0.3675	0.3412	0.3351	0.3351	0.3452	0.3318	0.3422	0.000135	0.0116	3.3929
	1188 Gold Coin	0.2296	0.2173	0.2181	0.2281	0.2224	0.2151	0.2309	0.2311	0.2241	0.000044	0.0066	2.9584
	1188.158 Gold Coin	0.2338	0.2321	0.2416	0.2434	0.2458	0.2286	0.2328	0.2456	0.2380	0.000047	0.0069	2.8790
mean										0.3114			

**Species:** *Tagetes patula* L. - French marigold

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	50 Sparky	0.3458	0.3455	0.3445	0.3474	0.3455	0.3396	0.3465	0.3452	0.3450	0.000006	0.0023	0.6807
	140 Brocade	0.3433	0.3405	0.3448	0.3708	0.3514	0.3487	0.3486	0.3486	0.3496	0.000086	0.0093	2.6506
	3980 Sparky	0.3033	0.2951	0.2884	0.2989	0.2986	0.2984	0.2954	0.2991	0.2972	0.000019	0.0043	1.4624
	3987 Brocade	0.2876	0.2888	0.2951	0.2846	0.2908	0.2745	0.2787	0.2926	0.2866	0.000049	0.0070	2.4480
	5237 Lemon Drop	0.2371	0.2411	0.2482	0.2478	0.2446	0.2397	0.2404	0.2397	0.2423	0.000017	0.0041	1.6796
	5685 Lemon Drop	0.2614	0.2569	0.2539	0.2555	0.2515	0.2494	0.2539	0.2527	0.2544	0.000013	0.0037	1.4348
	6793 Lemon Drop	0.2481	0.2392	0.2344	0.2352	0.2258	0.2341	0.2402	0.2389	0.2370	0.000041	0.0064	2.6960

**Species:** *Tagetes patula* L. - French marigold (cont.)

7648 Sparky	0.2191	0.2372	0.2307	0.2415	0.2245	0.2371	0.2156	0.2295	0.2294	0.000084	0.0092	3.9979
1191.13017 Sophia	0.3446	0.3308	0.3242	0.3373	0.3391	0.3408	0.3345	0.3305	0.3352	0.000043	0.0066	1.9603
1191.15439 Sophia	0.3253	0.3247	0.3166	0.3231	0.3194	0.3113	0.3188	0.3349	0.3218	0.000049	0.0070	2.1850
1191.17521 Sophia	0.2671	0.2768	0.2789	0.2785	0.2734	0.2877	0.2801	0.2768	0.2774	0.000034	0.0059	2.1092
7698 Orange Boy	0.3191	0.3273	0.3196	0.3292	0.3157	0.3271	0.3306	0.3256	0.3243	0.000029	0.0054	1.6701
									mean	0.2917		

**Species:** *Tagetes tenuifolia* Cav. - Signet marigold

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	512 Tangerine Gem	0.0689	0.0721	0.0727	0.0728	0.0692	0.0731	0.0736	0.0718	0.0718	0.000003	0.0018	2.4697
1410.16814	Lemon Gem	0.0709	0.0755	0.0747	0.0767	0.0766	0.0751	0.0765	0.0778	0.0755	0.000004	0.0021	2.7835
1410.24	Lemon Gem	0.0809	0.0814	0.0763	0.0808	0.0755	0.0806	0.0796	0.0777	0.0791	0.000005	0.0023	2.8939
1411.15776	Tangerine Gem	0.0851	0.0814	0.0821	0.0844	0.0846	0.0811	0.0903	0.0831	0.0840	0.000009	0.0030	3.5140
1411.22		0.0892	0.0911	0.0859	0.0882	0.0856	0.0897	0.0849	0.0853	0.0875	0.000006	0.0024	2.6962
	5100 Golden Gem	0.0815	0.0791	0.0777	0.0761	0.0790	0.0758	0.0758	0.0792	0.0780	0.000004	0.0020	2.6210
	5688 Tangerine Gem	0.0844	0.0828	0.0786	0.0806	0.0789	0.0800	0.0822	0.0828	0.0813	0.000004	0.0021	2.5531
	5690 Lemon Gem	0.0784	0.0815	0.0764	0.0813	0.0800	0.0756	0.0758	0.0823	0.0789	0.000007	0.0027	3.4635
	19711 Lemon Gem	0.0756	0.0770	0.0791	0.0786	0.0788	0.0772	0.0796	0.0757	0.0777	0.000002	0.0015	1.9903
	5688 Tangerine Gem	0.0785	0.0790	0.0818	0.0783	0.0813	0.0794	0.0780	0.0780	0.0793	0.000002	0.0015	1.8688
									mean	0.0793			

**Species:** *Zinnia angustifolia* Kunth. - zinnia

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	241 Star Bright	0.0374	0.0344	0.0357	0.0348	0.0364	0.0346	0.0371	0.0371	0.0359	0.000002	0.0012	3.4175
	613 Star Bright	0.0435	0.0433	0.0425	0.0412	0.0434	0.0415	0.0438	0.0415	0.0426	0.000001	0.0011	2.4737
	614 Star Bright	0.0395	0.0379	0.0374	0.0374	0.0387	0.0382	0.0399	0.0396	0.0386	0.000001	0.0010	2.5988
	2528 Star Bright	0.0437	0.0439	0.0437	0.0444	0.0442	0.0448	0.0446	0.0447	0.0443	0.000000	0.0004	1.0034
	3328 Linearis	0.0342	0.0359	0.0355	0.0365	0.0341	0.0349	0.0338	0.0353	0.0350	0.000001	0.0009	2.7075
	3888 Linearis	0.0430	0.0439	0.0415	0.0411	0.0425	0.0420	0.0428	0.0433	0.0425	0.000001	0.0009	2.2046
	5728 White Star	0.0406	0.0391	0.0375	0.0387	0.0388	0.0391	0.0372	0.0396	0.0388	0.000001	0.0011	2.8072
	5730 Linearis	0.0418	0.0449	0.0402	0.0426	0.0424	0.0449	0.0438	0.0427	0.0429	0.000003	0.0016	3.7044
	6017 Linearis	0.0557	0.0559	0.0522	0.0513	0.0527	0.0512	0.0515	0.0541	0.0531	0.000004	0.0019	3.6294

**Species:** *Zinnia angustifolia* Kunth. – zinnia (cont..)

6171 Linearis	0.0395	0.0385	0.0366	0.0396	0.0395	0.0383	0.0373	0.0401	0.0387	0.000002	0.0012	3.1841
6854 White Star	0.0390	0.0395	0.0388	0.0402	0.0406	0.0398	0.0393	0.0392	0.0396	0.000000	0.0006	1.5528
									mean	0.0411		

**Species:** *Zinnia haageana* Regel - Mexican zinnia

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	Z.H. Rose Pinwheel	0.2207	0.2266	0.2267	0.2398	0.2246	0.2303	0.2326	0.2341	0.2294	0.000036	0.0060	2.6316
	737 Persian Carpet	0.1918	0.1871	0.1839	0.1962	0.1843	0.1776	0.1751	0.1846	0.1851	0.000047	0.0069	3.7137
	772 Persian Carpet	0.1957	0.1782	0.1884	0.1903	0.1768	0.1917	0.1911	0.1963	0.1886	0.000054	0.0073	3.8861
	773 Persian Carpet	0.1816	0.1810	0.1820	0.1932	0.1950	0.1888	0.1950	0.1847	0.1877	0.000037	0.0061	3.2577
	774 Persian Carpet	0.1375	0.1407	0.1385	0.1403	0.1300	0.1410	0.1352	0.1430	0.1383	0.000017	0.0041	2.9732
	5297 Persian Carpet	0.1828	0.1872	0.1866	0.1809	0.1752	0.1709	0.1760	0.1739	0.1792	0.000037	0.0061	3.3870
	7650 Persian Carpet	0.1721	0.1681	0.1623	0.1672	0.1718	0.1701	0.1711	0.1649	0.1685	0.000012	0.0035	2.0856
	7652 Persian Carpet	0.1716	0.1698	0.1852	0.1782	0.1839	0.1772	0.1707	0.1774	0.1768	0.000034	0.0058	3.2898
	7653 Persian Carpet	0.1524	0.1521	0.1641	0.1573	0.1646	0.1587	0.1523	0.1566	0.1573	0.000025	0.0050	3.2067
	7654 Old Mexico	0.1573	0.1531	0.1481	0.1599	0.1475	0.1527	0.1485	0.1513	0.1523	0.000020	0.0045	2.9330
										mean	0.1763		

**Species:** *Zinnia violacea* Cav. - common zinnia large-seeded

Lot No.	Variety	100 seed weight (grams)								mean	variance	sd	var. coeff.
		1	2	3	4	5	6	7	8				
	690 Cactus-flowered	0.8027	0.8535	0.8391	0.8605	0.8241	0.7935	0.7958	0.8131	0.8228	0.000674	0.0260	3.1549
	2577 Blue point	0.7626	0.7605	0.7606	0.7611	0.7666	0.7320	0.7212	0.7369	0.7502	0.000301	0.0173	2.3115
	2581 Yoga	1.0364	1.0553	0.9973	1.0615	1.0395	1.0570	1.0902	1.0426	1.0475	0.000700	0.0265	2.5263
	2582 Yoga	0.8313	0.7970	0.7894	0.7740	0.8183	0.7820	0.8254	0.7922	0.8012	0.000447	0.0211	2.6394
	2847 California giants	0.6267	0.6372	0.6328	0.6273	0.6446	0.6461	0.6359	0.6423	0.6366	0.000055	0.0074	1.1673
	3219 Z. elegans	0.6839	0.7265	0.6962	0.7486	0.6890	0.7493	0.6955	0.7117	0.7126	0.000683	0.0261	3.6667
	3461 Lilac time	0.8195	0.8819	0.8306	0.8571	0.8802	0.8257	0.8151	0.8521	0.8453	0.000703	0.0265	3.1367
	3462 Giant cactus	0.7302	0.7383	0.7233	0.7421	0.7458	0.7406	0.7422	0.7421	0.7381	0.000057	0.0075	1.0188
	3463 Cherry time	0.8578	0.8784	0.8671	0.8413	0.8857	0.8869	0.8901	0.8933	0.8751	0.000332	0.0182	2.0824
	7651 DK Jewel mix	0.7427	0.7151	0.7353	0.7391	0.7185	0.7552	0.7354	0.7129	0.7318	0.000223	0.0149	2.0386
										mean	0.7961		

**Species:** *Zinnia violacea* Cav. - common zinnia small-seeded

		100 seed weight (grams)											
Lot No.	Variety	1	2	3	4	5	6	7	8	mean	variance	sd	var. coeff.
	52 Pumila	0.5689	0.5452	0.5412	0.5553	0.5135	0.5384	0.5619	0.5583	0.5478	0.000304	0.0174	3.1809
	53 Thumbellina	0.4011	0.4425	0.4339	0.4195	0.4048	0.4260	0.4083	0.4412	0.4222	0.000268	0.0164	3.8746
	534 Thumbellina	0.4268	0.4365	0.4477	0.4487	0.4241	0.4566	0.4554	0.4466	0.4428	0.000153	0.0124	2.7893
	2929 Thumbellina	0.3893	0.4047	0.4003	0.4085	0.4052	0.3884	0.3917	0.3946	0.3978	0.000062	0.0078	1.9727
	3925 Lilliput	0.5117	0.5261	0.5296	0.5137	0.5171	0.5265	0.5172	0.5213	0.5204	0.000042	0.0065	1.2514
	4497 Sprite Mix	0.5911	0.6132	0.6332	0.6526	0.6183	0.6562	0.6431	0.6556	0.6329	0.000557	0.0236	3.7289
	4626 Thumbellina	0.4489	0.4436	0.4622	0.4396	0.4487	0.4301	0.4545	0.4550	0.4478	0.000101	0.0100	2.2398
	5639 Lilliput	0.6580	0.6358	0.6168	0.6437	0.5987	0.6289	0.6415	0.5953	0.6273	0.000491	0.0222	3.5337
	6054 Thumbellina	0.4409	0.4296	0.4311	0.4329	0.4284	0.4352	0.4456	0.4354	0.4349	0.000034	0.0059	1.3453
	7486 Envoy	0.5961	0.5931	0.5818	0.5876	0.5971	0.5711	0.5727	0.5868	0.5858	0.000099	0.0100	1.7010
mean										0.5060			