

Herbicide safety and efficacy over seedling buffalograss-2012

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Once established, buffalograss can be maintained with extremely low maintenance. However, significant inputs are often needed to maximize buffalograss establishment depending on the setting. The optimum period to seed buffalograss is early- to mid-May in order to maximize establishment before winter. However, crabgrass and other summer annual weeds are also germinating at this time and thus weed control is critical to maximize establishment, along with frequent irrigation, monthly fertilization, and mowing. New cultivars have been released and new herbicides have been labeled since the latest UNL research on this topic in 2006 (<http://turf.unl.edu/pdfcaextpub/HerbicideToleranceofBuffalograss.pdf>). Therefore our objective was to evaluate herbicide safety and efficacy when applied before and shortly after seeding of 'Bowie' or "Sundancer" buffalograss.

Both cultivars were seeded in separate but adjacent areas at 3.0 lbs burrs/1000 sq ft on freshly tilled silt loam soil and incorporated shallow into the soil surface. Areas were managed to maximize buffalograss germination and establishment. Thus areas were irrigated as needed to keep the soil surface moist during germination and as needed thereafter to prevent even minimum stress on the buffalograss, mowed at 2" weekly and 0.5 lbs N/1000 sq ft were applied every 28 days. Herbicides were applied to 5' by 5' plots in 2 gals water/1000 sq ft on the day of seeding (23 May 2012), at the 1-3 leaf stage of buffalograss (8 June 2012), or at the 2-3 tiller stage (26 June 2012). Herbicides were applied at their recommended label rate and did not include recommended surfactants due to their potential damage at seeding. Percent buffalograss cover and percent weed cover were rated through the end of July when most plots reached 90 to 100% cover. Weed species on these areas were primarily common purslane and redroot pigweed. Though experiment design is a 3 X 13 factorial, preliminary data was analyzed as a randomized complete block. Data will be fully analyzed after the second year of this trial in 2013.

Results:

Bowie

Applied at seeding, all herbicides resulted in similar cover of 'Bowie' by the end of the study except Plateau, Barricade, or Kerb (Table 1). Applied at 1-3 leaf stage, SquareOne resulted in 97% cover of 'Bowie' by the end of the study, which was statistically similar to the rest of the herbicides except Princep Caliber or Plateau. Applied at the 2-3 tiller stage, Dismiss, Echelon, flucarbazone, SquareOne, or Kerb resulted in the highest cover of 'Bowie' by the end of the study.

Applied at seeding, all herbicides resulted in similar weed cover in 'Bowie' by the end of the study except Barricade or Kerb (Table 2). Applied at 1-3 leaf stage, SquareOne resulted in only 2% weed cover in 'Bowie' by the end of the study, which was statistically similar to the rest of the herbicides except Tenacity or Princep Calliber. Applied at the 2-3 tiller stage, Dismiss resulted in 5% weed cover by the end of the study, which was similar to the rest of the herbicides except QuickSilver, Drive, Plateau, or Barricade.

Sundancer

Exactly as in 'Bowie', all herbicides applied at resulted in similar cover of 'Sundancer' by the end of the study except Plateau, Barricade, and Kerb (Table 3). Applied at 1-3 leaf stage, SquareOne also resulted in 97% cover of 'Sundancer' by the end of the study, which was statistically similar to the rest of the herbicides except Tenacity, Princep Caliber, or Plateau. Applied at the 2-3 tiller stage, Dismiss, Echelon, flucarbazone, SquareOne, or Kerb resulted in the highest cover of 'Sundancer' by the end of the study. Applied at seeding, all herbicides resulted in similar weed cover in 'Sundancer' by the end of the study except Barricade or Kerb (Table 4). Applied at 1-3 leaf stage, Dismiss, Solitaire, Echelon, or SquareOne resulted in 2% or less weed cover in 'Sundancer' by the end of the study, which was statistically similar to the rest of the herbicides except Tenacity, Princep Caliber, or Kerb. Applied at the 2-3 tiller stage, Dismiss again resulted in only 5% weed cover by the end of the study, which was similar to the rest of the herbicides except QuickSilver, Princep, Drive, Plateau, or Barricade.

Decisions on herbicide use over seedlings is a compromise over balancing potential damage to the desired turf and minimizing competition from weeds. In many cases with high weed pressure, minimal turf damage is acceptable because of the tremendous benefit of reducing the weed competition and slightly damaged turf quickly recovers in the absence of significant weed competition. There was little difference in response to herbicides between the cultivars, but substantial differences occurred among herbicides in safety and efficacy, depending on timing of application. However, it appears many herbicides have the potential to be used safely and effectively over buffalograss seedlings. The herbicides used in this study may not currently be labelled for buffalograss and/or not labelled for application as soon after seeding as used here, so refer to labels for specifics.

Table 1. Bowie ground cover from various herbicides applied at seeding, OWAE, or 2 WAE

Description				bowie	bowie	bowie	bowie
Rating Date				6/12/2012	6/25/2012	7/6/2012	7/24/2012
Rating Type				ground	ground	ground	ground
Rating Unit				%	%	%	%
Number of Subsamples				1	1	1	1
Trt	Treatment	Rate	Appl				
No.	Name	Unit	Code	1	3	5	7
1	Untreated Check			13 a-e	23 b-h	30 h-k	48 ghi
2	Tenacity	5 fl oz/a	At seeding	12 a-e	23 b-h	62 a-e	97 a
3	Quicksilver	1 fl oz/a	At seeding	12 a-e	27 a-f	60 a-f	73 a-h
4	Princep Caliber 90	1.1 lb/a	At seeding	18 a	35 a	82 a	96 ab
5	Dismiss	8 fl oz/a	At seeding	8 d-h	21 c-h	63 a-e	98 a
6	Solitaire	16 oz/a	At seeding	8 d-h	25 a-g	55 a-h	98 a
7	Echelon	18 fl oz/a	At seeding	5 fgh	8 ijk	25 ijk	94 abc
8	Drive	64 fl oz/a	At seeding	11 b-f	23 b-h	47 c-i	75 a-g
9	Amicarbazone	5 oz/a	At seeding	12 a-e	30 a-d	65 a-d	92 a-d
10	Flucarbazone	0.3 oz/a	At seeding	10 c-f	23 b-h	47 c-i	69 a-h
11	SquareOne	12 oz/a	At seeding	10 c-f	20 d-h	43 c-j	80 a-g
12	Plateau	4 fl oz/a	At seeding	3 gh	3 k	7 k	27 i
13	Barricade 4FL	10 fl oz/a	At seeding	3 h	4 jk	7 k	23 i
14	Kerb SC T&O	1.25 pt/a	At seeding	10 c-f	18 e-i	50 b-i	58 c-i
15	Tenacity	5 fl oz/a	1-3 leaf	9 c-g	17 f-i	30 h-k	52 f-i
16	Quicksilver	1 fl oz/a	1-3 leaf	13 a-e	33 ab	67 abc	74 a-g
17	Princep Caliber 90	1.1 lb/a	1-3 leaf	11 b-f	15 g-j	18 jk	48 ghi
18	Dismiss	8 fl oz/a	1-3 leaf	14 a-d	32 abc	67 abc	86 a-f
19	Solitaire	16 oz/a	1-3 leaf	14 a-d	25 a-g	58 a-g	91 a-e
20	Echelon	18 fl oz/a	1-3 leaf	13 a-e	28 a-e	67 abc	88 a-f
21	Drive	64 fl oz/a	1-3 leaf	12 b-e	27 a-f	37 e-j	78 a-g
22	Amicarbazone	5 oz/a	1-3 leaf	17 ab	22 c-h	40 c-j	73 a-h
23	Flucarbazone	0.3 oz/a	1-3 leaf	14 a-d	28 a-e	48 b-i	73 a-h
24	SquareOne	12 oz/a	1-3 leaf	15 abc	28 a-e	75 ab	97 a
25	Plateau	4 fl oz/a	1-3 leaf	12 b-e	13 h-k	17 jk	37 hi
26	Barricade 4FL	10 fl oz/a	1-3 leaf	17 ab	27 a-f	47 c-i	74 a-g
27	Kerb SC T&O	1.25 pt/a	1-3 leaf	13 a-e	28 a-e	37 e-j	68 a-h
28	Tenacity	5 fl oz/a	2-3 tiller	8 d-h	23 b-h	25 ijk	59 b-i
29	Quicksilver	1 fl oz/a	2-3 tiller	12 b-e	25 a-g	33 f-k	57 d-i
30	Princep Caliber 90	1.1 lb/a	2-3 tiller	8 e-h	20 d-h	32 g-k	48 ghi
31	Dismiss	8 fl oz/a	2-3 tiller	10 c-f	23 b-h	47 c-i	91 a-e
32	Solitaire	16 oz/a	2-3 tiller	12 b-e	25 a-g	43 c-j	51 f-i
33	Echelon	18 fl oz/a	2-3 tiller	9 c-g	23 b-h	48 b-i	84 a-g
34	Drive	64 fl oz/a	2-3 tiller	14 a-d	22 c-h	38 d-j	55 e-i
35	Amicarbazone	5 oz/a	2-3 tiller	9 c-h	25 a-g	40 c-j	55 e-i
36	Flucarbazone	0.3 oz/a	2-3 tiller	8 d-h	23 b-h	28 h-k	72 a-h
37	SquareOne	12 oz/a	2-3 tiller	13 a-e	32 abc	60 a-f	85 a-g
38	Plateau	4 fl oz/a	2-3 tiller	12 a-e	23 b-h	27 ijk	37 hi
39	Barricade 4FL	10 fl oz/a	2-3 tiller	11 b-f	22 c-h	28 h-k	52 f-i
40	Kerb SC T&O	1.25 pt/a	2-3 tiller	13 a-e	28 a-e	52 b-i	67 a-h
LSD (P=.05)				6	11.17	27.21	36.9
Standard Deviation				3.67	6.84	16.66	22.6
CV				32.59	29.69	38.07	32.49
Replicate F				22.68	21.339	23.117	7.581
Replicate Prob(F)				0.0001	0.0001	0.0001	0.001
Treatment F				2.392	3.131	3.482	2.492
Treatment Prob(F)				0.0005	0.0001	0.0001	0.0003

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Table 2. Weed ground cover in a bowie seeding from various herbicides applied at seeding, 0WAE, or 2 WAE

Description				bowie	bowie	bowie	bowie
Rating Date				6/12/2012	6/25/2012	7/6/2012	7/24/2012
Rating Type				ground	ground	ground	ground
Rating Unit				%	%	%	%
Number of Subsamples				1	1	1	1
Trt Treatment	Rate	Rate	Appl				
No. Name	Unit	Unit	Code	2	4	6	8
1 Untreated Check				30 c-j	40 a-d	62 ab	48 a
2 Tenacity	5 fl oz/a		At seeding	1 k	1 i	2 kl	3 gh
3 Quicksilver	1 fl oz/a		At seeding	6 h-k	14 e-i	20 f-l	24 a-h
4 Princep Caliber 90	1.1 lb/a		At seeding	1 jk	2 i	2 kl	3 fgh
5 Dismiss	8 fl oz/a		At seeding	0 k	0 i	0 l	0 h
6 Solitaire	16 oz/a		At seeding	0 k	0 i	0 l	1 h
7 Echelon	18 fl oz/a		At seeding	0 k	0 i	0 l	1 h
8 Drive	64 fl oz/a		At seeding	10 f-k	18 d-i	33 b-i	20 a-h
9 Amicarbazone	5 oz/a		At seeding	3 ijk	4 i	4 jkl	7 d-h
10 Flucarbazone	0.3 oz/a		At seeding	27 c-k	23 b-i	43 a-g	27 a-h
11 SquareOne	12 oz/a		At seeding	17 e-k	13 e-i	25 d-l	17 b-h
12 Plateau	4 fl oz/a		At seeding	5 ijk	8 ghi	15 g-l	19 a-h
13 Barricade 4FL	10 fl oz/a		At seeding	4 ijk	7 hi	15 g-l	37 a-d
14 Kerb SC T&O	1.25 pt/a		At seeding	4 ijk	14 e-i	22 e-l	33 a-f
15 Tenacity	5 fl oz/a		1-3 leaf	43 a-e	48 ab	53 a-d	43 ab
16 Quicksilver	1 fl oz/a		1-3 leaf	1 jk	7 hi	11 h-l	21 a-h
17 Princep Caliber 90	1.1 lb/a		1-3 leaf	27 c-k	22 c-i	45 a-f	38 abc
18 Dismiss	8 fl oz/a		1-3 leaf	1 jk	4 i	7 i-l	12 c-h
19 Solitaire	16 oz/a		1-3 leaf	1 k	1 i	2 kl	7 d-h
20 Echelon	18 fl oz/a		1-3 leaf	2 jk	2 i	4 jkl	10 c-h
21 Drive	64 fl oz/a		1-3 leaf	25 c-k	25 b-i	47 a-f	17 b-h
22 Amicarbazone	5 oz/a		1-3 leaf	8 g-k	19 d-i	26 d-l	20 a-h
23 Flucarbazone	0.3 oz/a		1-3 leaf	15 e-k	32 a-h	40 a-g	22 a-h
24 SquareOne	12 oz/a		1-3 leaf	0 k	1 i	1 kl	2 gh
25 Plateau	4 fl oz/a		1-3 leaf	17 e-k	10 f-i	35 a-i	25 a-h
26 Barricade 4FL	10 fl oz/a		1-3 leaf	17 e-k	30 a-h	40 a-g	23 a-h
27 Kerb SC T&O	1.25 pt/a		1-3 leaf	37 b-g	32 a-h	48 a-f	30 a-h
28 Tenacity	5 fl oz/a		2-3 tiller	63 ab	52 a	63 a	32 a-g
29 Quicksilver	1 fl oz/a		2-3 tiller	52 a-d	52 a	57 abc	37 a-d
30 Princep Caliber 90	1.1 lb/a		2-3 tiller	70 a	47 abc	50 a-e	35 a-e
31 Dismiss	8 fl oz/a		2-3 tiller	32 c-i	35 a-f	30 c-k	5 e-h
32 Solitaire	16 oz/a		2-3 tiller	39 b-f	37 a-e	39 a-h	22 a-h
33 Echelon	18 fl oz/a		2-3 tiller	30 c-j	38 a-e	32 c-j	10 c-h
34 Drive	64 fl oz/a		2-3 tiller	37 b-g	48 ab	52 a-d	38 abc
35 Amicarbazone	5 oz/a		2-3 tiller	35 b-h	40 a-d	35 a-i	32 a-g
36 Flucarbazone	0.3 oz/a		2-3 tiller	35 b-h	42 a-d	50 a-e	29 a-h
37 SquareOne	12 oz/a		2-3 tiller	43 a-e	33 a-g	22 e-l	10 c-h
38 Plateau	4 fl oz/a		2-3 tiller	47 a-d	48 ab	52 a-d	43 ab
39 Barricade 4FL	10 fl oz/a		2-3 tiller	53 abc	53 a	62 ab	38 abc
40 Kerb SC T&O	1.25 pt/a		2-3 tiller	24 d-k	25 b-i	32 c-j	23 a-h
LSD (P=.05)				29.3	25.09	28.83	30.42
Standard Deviation				17.94	15.36	17.65	18.63
CV				83.33	66.22	60.04	86.13
Replicate F				17.022	4.825	10.329	7.223
Replicate Prob(F)				0.0001	0.0106	0.0001	0.0013
Treatment F				3.638	4.136	4.023	1.621
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0356

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Table 3. Sundancer ground cover from various herbicides applied at seeding, 0WAE, or 2 WAE

Description				sundancer	sundancer	sundancer	sundancer	
Rating Date				6/12/2012	6/25/2012	7/6/2012	7/24/2012	
Rating Type				ground	ground	ground	ground	
Rating Unit				%	%	%	%	
Number of Subsamples				1	1		1	
Trt	Treatment	Rate	Rate Unit	Appl Code	9	11	13	15
1	Untreated Check				12 a-d	23 a-e	40 e	42 h-k
2	Tenacity	5 fl oz/a		At seeding	13 abc	27 a-d	63 abc	94 ab
3	Quicksilver	1 fl oz/a		At seeding	11 a-d	28 abc	62 a-d	73 a-h
4	Princep Caliber 90	1.1 lb/a		At seeding	14 abc	22 b-e	52 a-e	93 abc
5	Dismiss	8 fl oz/a		At seeding	12 a-d	25 a-d	60 a-e	97 a
6	Solitaire	16 oz/a		At seeding	11 a-d	25 a-d	62 a-d	96 a
7	Echelon	18 fl oz/a		At seeding	2 f	4 h	15 f	91 a-d
8	Drive	64 fl oz/a		At seeding	11 a-d	23 a-e	65 ab	73 a-h
9	Amicarbazone	5 oz/a		At seeding	13 abc	22 b-e	48 a-e	92 a-d
10	Flucarbazone	0.3 oz/a		At seeding	13 abc	25 a-d	55 a-e	69 a-i
11	SquareOne	12 oz/a		At seeding	14 abc	28 abc	57 a-e	80 a-g
12	Plateau	4 fl oz/a		At seeding	4 ef	6 gh	8 f	20 jk
13	Barricade 4FL	10 fl oz/a		At seeding	2 f	3 h	12 f	17 k
14	Kerb SC T&O	1.25 pt/a		At seeding	10 b-e	22 a-e	48 a-e	58 c-i
15	Tenacity	5 fl oz/a		1-3 leaf	14 abc	27 a-d	58 a-e	62 a-i
16	Quicksilver	1 fl oz/a		1-3 leaf	9 cde	22 b-e	50 a-e	88 a-e
17	Princep Caliber 90	1.1 lb/a		1-3 leaf	12 a-d	20 c-f	40 e	52 f-k
18	Dismiss	8 fl oz/a		1-3 leaf	7 def	15 efg	45 b-e	93 abc
19	Solitaire	16 oz/a		1-3 leaf	9 cde	18 def	45 b-e	76 a-h
20	Echelon	18 fl oz/a		1-3 leaf	11 a-d	27 a-d	65 ab	88 a-e
21	Drive	64 fl oz/a		1-3 leaf	17 a	32 a	58 a-e	78 a-g
22	Amicarbazone	5 oz/a		1-3 leaf	14 abc	22 b-e	47 a-e	73 a-h
23	Flucarbazone	0.3 oz/a		1-3 leaf	12 a-d	25 a-d	48 a-e	73 a-h
24	SquareOne	12 oz/a		1-3 leaf	10 b-e	27 a-d	62 a-d	97 a
25	Plateau	4 fl oz/a		1-3 leaf	11 a-d	12 fgh	17 f	37 ijk
26	Barricade 4FL	10 fl oz/a		1-3 leaf	15 abc	32 a	67 a	74 a-h
27	Kerb SC T&O	1.25 pt/a		1-3 leaf	13 abc	27 a-d	55 a-e	68 a-i
28	Tenacity	5 fl oz/a		2-3 tiller	11 a-d	20 c-f	45 b-e	59 b-i
29	Quicksilver	1 fl oz/a		2-3 tiller	10 b-e	25 a-d	47 a-e	57 d-i
30	Princep Caliber 90	1.1 lb/a		2-3 tiller	16 ab	25 a-d	55 a-e	48 g-k
31	Dismiss	8 fl oz/a		2-3 tiller	12 a-d	27 a-d	63 abc	91 a-d
32	Solitaire	16 oz/a		2-3 tiller	13 abc	23 a-e	53 a-e	51 f-k
33	Echelon	18 fl oz/a		2-3 tiller	10 b-e	22 b-e	57 a-e	84 a-f
34	Drive	64 fl oz/a		2-3 tiller	13 abc	32 a	65 ab	55 e-j
35	Amicarbazone	5 oz/a		2-3 tiller	10 b-e	22 b-e	45 b-e	55 e-j
36	Flucarbazone	0.3 oz/a		2-3 tiller	12 a-d	28 abc	58 a-e	72 a-i
37	SquareOne	12 oz/a		2-3 tiller	17 a	25 a-d	65 ab	85 a-f
38	Plateau	4 fl oz/a		2-3 tiller	13 abc	30 ab	42 de	37 ijk
39	Barricade 4FL	10 fl oz/a		2-3 tiller	12 a-d	20 c-f	43 cde	52 f-k
40	Kerb SC T&O	1.25 pt/a		2-3 tiller	10 b-e	28 abc	60 a-e	67 a-i
LSD (P=.05)				6.14	9.52	20.76	35.43	
Standard Deviation				3.76	5.83	12.71	21.7	
CV				32.95	25.54	25.41	31.38	
Replicate F				5.384	14.716	39.363	8.269	
Replicate Prob(F)				0.0065	0.0001	0.0001	0.0006	
Treatment F				2.209	4.131	4.052	2.822	
Treatment Prob(F)				0.0015	0.0001	0.0001	0.0001	

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Table 4. Weed ground cover in a sundancer seeding from various herbicides applied at seeding, 0WAE, or 2 WAE

Description				sundancer	sundancer	sundancer	sundancer
Rating Date				6/12/2012	6/25/2012	7/6/2012	7/24/2012
Rating Type				ground	ground	ground	ground
Rating Unit				%	%	%	%
Number of Subsamples				1	1	1	1
Trt	Treatment	Rate	Appl				
No.	Name	Unit	Code	10	12	14	16
1	Untreated Check			33 ab	40 a	52 a	55 a
2	Tenacity	5 fl oz/a	At seeding	1 fg	2 ij	6 c-g	5 fgh
3	Quicksilver	1 fl oz/a	At seeding	1 fg	5 g-j	10 b-g	24 b-h
4	Princep Caliber 90	1.1 lb/a	At seeding	1 fg	3 hij	13 b-g	7 e-h
5	Dismiss	8 fl oz/a	At seeding	1 fg	1 j	1 fg	0 h
6	Solitaire	16 oz/a	At seeding	1 fg	1 j	1 fg	1 h
7	Echelon	18 fl oz/a	At seeding	0 g	8 f-j	2 efg	2 gh
8	Drive	64 fl oz/a	At seeding	3 fg	13 d-j	17 b-g	20 b-h
9	Amicarbazone	5 oz/a	At seeding	1 fg	14 d-j	20 b-g	7 e-h
10	Flucarbazone	0.3 oz/a	At seeding	12 b-g	22 a-h	28 a-d	27 b-h
11	SquareOne	12 oz/a	At seeding	7 d-g	9 f-j	22 b-g	17 b-h
12	Plateau	4 fl oz/a	At seeding	5 efg	10 e-j	25 b-f	19 b-h
13	Barricade 4FL	10 fl oz/a	At seeding	2 fg	2 ij	10 b-g	32 a-f
14	Kerb SC T&O	1.25 pt/a	At seeding	5 efg	15 d-j	28 a-d	33 a-e
15	Tenacity	5 fl oz/a	1-3 leaf	11 c-g	12 d-j	20 b-g	32 a-f
16	Quicksilver	1 fl oz/a	1-3 leaf	1 fg	2 ij	12 b-g	11 c-h
17	Princep Caliber 90	1.1 lb/a	1-3 leaf	7 d-g	11 e-j	27 b-e	35 a-d
18	Dismiss	8 fl oz/a	1-3 leaf	1 fg	0 j	0 g	0 h
19	Solitaire	16 oz/a	1-3 leaf	1 fg	0 j	1 fg	0 h
20	Echelon	18 fl oz/a	1-3 leaf	1 fg	1 j	1 fg	0 h
21	Drive	64 fl oz/a	1-3 leaf	10 c-g	11 e-j	23 b-g	17 b-h
22	Amicarbazone	5 oz/a	1-3 leaf	7 d-g	16 c-j	16 b-g	20 b-h
23	Flucarbazone	0.3 oz/a	1-3 leaf	25 a-e	27 a-f	33 ab	22 b-h
24	SquareOne	12 oz/a	1-3 leaf	0 g	1 ij	1 fg	2 h
25	Plateau	4 fl oz/a	1-3 leaf	2 fg	2 ij	15 b-g	25 b-h
26	Barricade 4FL	10 fl oz/a	1-3 leaf	5 efg	8 f-j	15 b-g	23 b-h
27	Kerb SC T&O	1.25 pt/a	1-3 leaf	7 d-g	17 b-j	32 ab	30 a-f
28	Tenacity	5 fl oz/a	2-3 tiller	30 abc	35 ab	7 c-g	32 a-f
29	Quicksilver	1 fl oz/a	2-3 tiller	40 a	35 ab	28 a-d	37 a-d
30	Princep Caliber 90	1.1 lb/a	2-3 tiller	32 abc	30 a-d	30 abc	35 a-d
31	Dismiss	8 fl oz/a	2-3 tiller	14 b-g	23 a-g	4 d-g	5 fgh
32	Solitaire	16 oz/a	2-3 tiller	27 a-e	34 abc	7 c-g	22 b-h
33	Echelon	18 fl oz/a	2-3 tiller	28 a-d	28 a-e	13 b-g	10 d-h
34	Drive	64 fl oz/a	2-3 tiller	25 a-e	18 b-j	18 b-g	38 abc
35	Amicarbazone	5 oz/a	2-3 tiller	22 a-f	20 b-i	32 ab	32 a-f
36	Flucarbazone	0.3 oz/a	2-3 tiller	11 c-g	12 d-j	22 b-g	29 a-g
37	SquareOne	12 oz/a	2-3 tiller	22 a-g	27 a-f	5 d-g	10 d-h
38	Plateau	4 fl oz/a	2-3 tiller	10 c-g	23 a-g	25 b-f	43 ab
39	Barricade 4FL	10 fl oz/a	2-3 tiller	20 a-g	25 a-f	30 abc	38 abc
40	Kerb SC T&O	1.25 pt/a	2-3 tiller	2 fg	9 f-j	14 b-g	23 b-h
LSD (P=.05)				21.83	18.94	24.57	27.26
Standard Deviation				13.37	11.6	15.04	16.69
CV				122.63	80.85	90.18	81.3
Replicate F				6.612	9.576	17.169	8.6
Replicate Prob(F)				0.0022	0.0002	0.0001	0.0004
Treatment F				2.199	2.939	1.882	2.161
Treatment Prob(F)				0.0016	0.0001	0.009	0.0019

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.