

Considerations for Metsulfuron-based Herbicides and Application Timings on Tall Fescue Pastures and Hay Fields in Missouri



Influence of Metsulfuron-based Products and Application Timings on Early Summer Forage Yield (Columbia, 2009)



Treatments	Rate	Application Timing	
		Spring	Boot Stage
	Product/A	Forage Yield (lbs/A)	
Untreated	-----	2327	1900
Grazon	2 pts	1872	1737
Chaparral	2 ozs	755	998
Chaparral	2.5 ozs	863	843
Chaparral	3.3 ozs	673	752
Cimarron	0.25 oz	1050	1030
Cimarron	0.3 oz	1380	1076
Cimarron	0.4 oz	865	755
Cimarron	0.5 oz	689	906
Cimarron Max	Rate I	1556	1327
Cimarron Max	Rate II	1180	1439
Cimarron Plus	0.25 oz	1050	1085
Cimarron Plus	0.375 oz	651	837
Cimarron Plus	0.5 oz	784	769
LSD (0.05):		377	

Influence of Metsulfuron-based Products and Application Timings on Early Summer Forage Yield (Columbia, 2010)



Treatments	Rate Product/A	Application Timing	
		Spring	Boot Stage
		----- Forage Yield (lbs/A) -----	
Untreated	-----	4402	4223
Grazon	2 pts	5098	4674
Chaparral	2 ozs	2472	3374
Chaparral	2.5 ozs	2279	3387
Chaparral	3.3 ozs	1806	3262
Cimarron	0.25 oz	2776	3401
Cimarron	0.3 oz	2461	3076
Cimarron	0.4 oz	2098	3425
Cimarron	0.5 oz	2209	3266
Cimarron Max	Rate I	3630	3882
Cimarron Max	Rate II	2829	3613
Cimarron Plus	0.25 oz	2180	3623
Cimarron Plus	0.375 oz	1978	3150
Cimarron Plus	0.5 oz	2264	3857
LSD (0.05):		695	

Influence of Metsulfuron-based Products & Application Timings on Fescue Yield & Seedhead Reduction

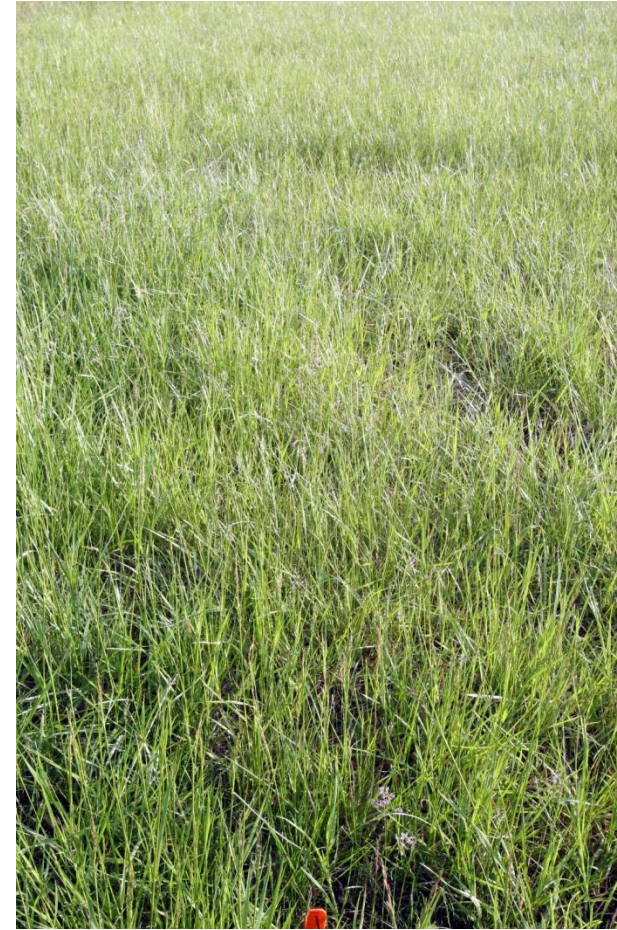
pictures taken 30 days after early spring application



**2.5 ozs Chaparral
Early Spring Application**



**Rate 1 Cimarron Max
Early Spring Application**



**Untreated
Early Spring Application**

Influence of Metsulfuron-based Products and Application Timings on Fescue Seedhead Reduction (Columbia, 2009)



Treatments	Rate	Application Timing	
		Spring	Boot Stage
		--- Fescue Seedheads (#/m2) ---	
Untreated	-----	81	78
Grazon	2 pts	99	75
Chaparral	2 ozs	45	12
Chaparral	2.5 ozs	45	15
Chaparral	3.3 ozs	64	12
Cimarron	0.25 oz	48	27
Cimarron	0.3 oz	72	12
Cimarron	0.4 oz	42	18
Cimarron	0.5 oz	63	6
Cimarron Max	Rate I	78	54
Cimarron Max	Rate II	60	27
Cimarron Plus	0.25 oz	66	30
Cimarron Plus	0.375 oz	81	21
Cimarron Plus	0.5 oz	54	3
LSD (0.05):		10	

Influence of Metsulfuron-based Products and Application Timings on Fescue Seedhead Reduction (Columbia, 2010)



Treatments	Rate	Application Timing	
		Spring	Boot Stage
	Product/A	---- Fescue Seedheads (#/m ²) ----	
Untreated	-----	136	109
Grazon	2 pts	134	120
Chaparral	2 ozs	42	22
Chaparral	2.5 ozs	39	17
Chaparral	3.3 ozs	41	29
Cimarron	0.25 oz	55	26
Cimarron	0.3 oz	58	36
Cimarron	0.4 oz	43	8
Cimarron	0.5 oz	61	15
Cimarron Max	Rate I	109	36
Cimarron Max	Rate II	66	29
Cimarron Plus	0.25 oz	40	33
Cimarron Plus	0.375 oz	39	29
Cimarron Plus	0.5 oz	31	22
LSD (0.05):		32	

Influence of Metsulfuron-based Products and Application Timings on Late Summer Forage Yield (Columbia, 2009)

Treatments	Rate Product/A	Application Timing		
		Spring ----- Sept.	Boot Stage Forage Yield (lbs/A)	Summer -----
Untreated	-----	2528	1955	1924
Grazon	2 pts	2258	2024	2202
Chaparral	2 ozs	2102	2240	1738
Chaparral	2.5 ozs	1931	2369	1361
Chaparral	3.3 ozs	2034	3039	1648
Cimarron	0.25 oz	2305	1961	1843
Cimarron	0.3 oz	2053	2514	2028
Cimarron	0.4 oz	2300	2138	1906
Cimarron	0.5 oz	2264	2378	1708
Cimarron Max	Rate I	2687	2189	2463
Cimarron Max	Rate II	2394	2494	1994
Cimarron Plus	0.25 oz	2270	2010	2204
Cimarron Plus	0.375 oz	1820	1836	2096
Cimarron Plus	0.5 oz	2462	2494	2044
LSD (0.05):		NS		



Influence of Metsulfuron-based Products and Application Timings on Late Summer Forage Yield (Columbia, 2010)



Treatments	Rate Product/A	Application Timing		
		Spring	Boot Stage	Summer
		----- Sept.	Forage Yield (lbs/A)	-----
Untreated	-----	2383	2348	2268
Grazon	2 pts	2573	2579	2582
Chaparral	2 ozs	2492	2696	2585
Chaparral	2.5 ozs	2937	2680	2647
Chaparral	3.3 ozs	2669	2207	2542
Cimarron	0.25 oz	3103	3125	2407
Cimarron	0.3 oz	3032	2905	2202
Cimarron	0.4 oz	3646	2672	2293
Cimarron	0.5 oz	3112	3098	2290
Cimarron Max	Rate I	2720	2919	2260
Cimarron Max	Rate II	2654	2952	2615
Cimarron Plus	0.25 oz	2796	2774	2286
Cimarron Plus	0.375 oz	2777	2777	2031
Cimarron Plus	0.5 oz	3127	2638	2649
	LSD (0.05):		765	

Experiments to Determine the Effects of Spring Chaparral Treatment on Forage Characteristics and Beef Steer Performance in Missouri





Materials and Methods

- 12, 2.5 acre paddocks;
6 E+, 6 E-
- April 1: 2 ozs Chaparral
+ 1 qt 2,4-D sprayed on
3 E+ and 3 E-paddocks;
1 qt 2,4-D sprayed on
remaining 3 E+ and 3 E-
paddocks
- Forage harvests
conducted monthly
from April – July

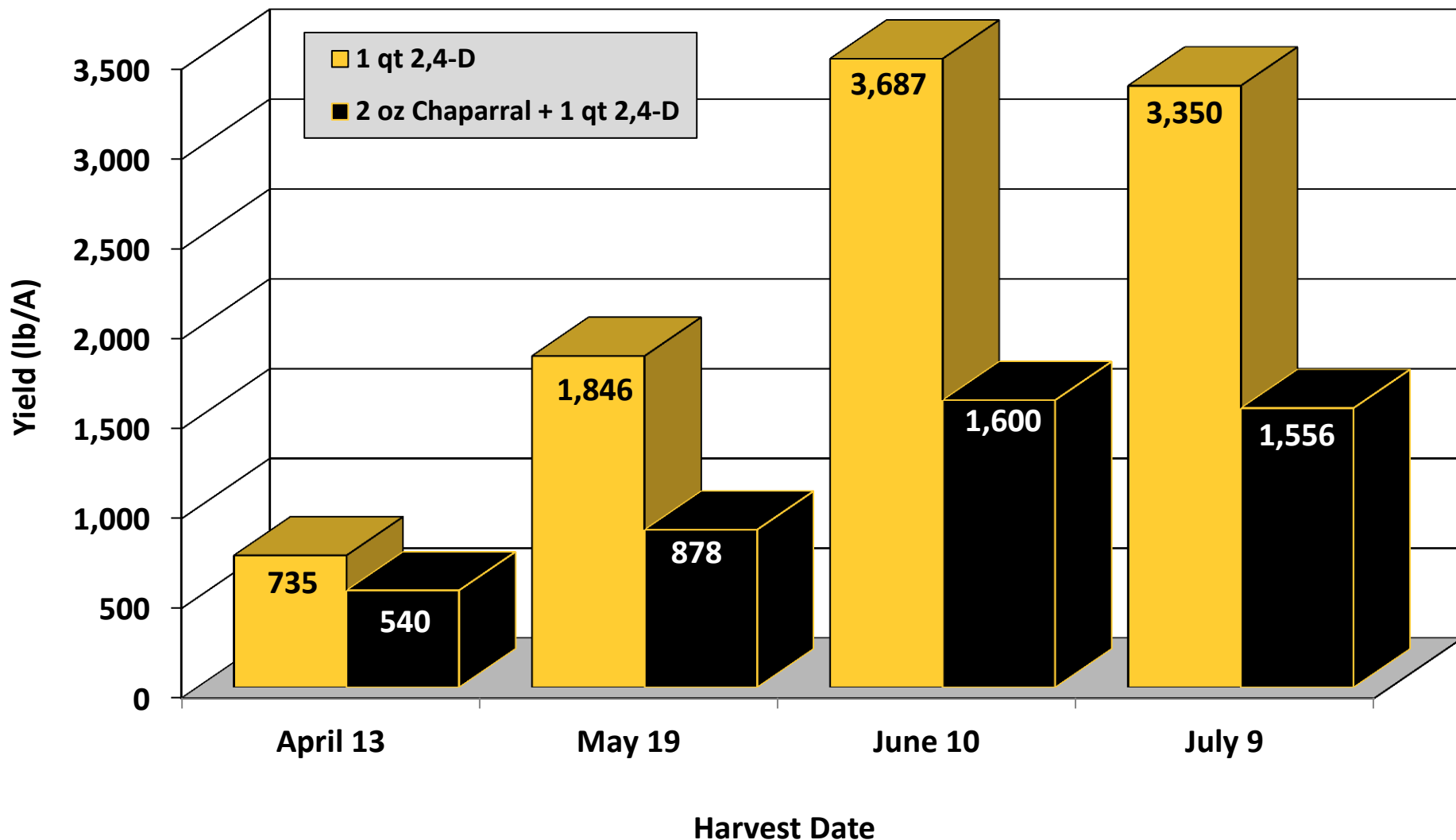
Sprayed with 2 ozs Chaparral + 1 qt 2,4-D/A on April 1, Photo Taken May 5



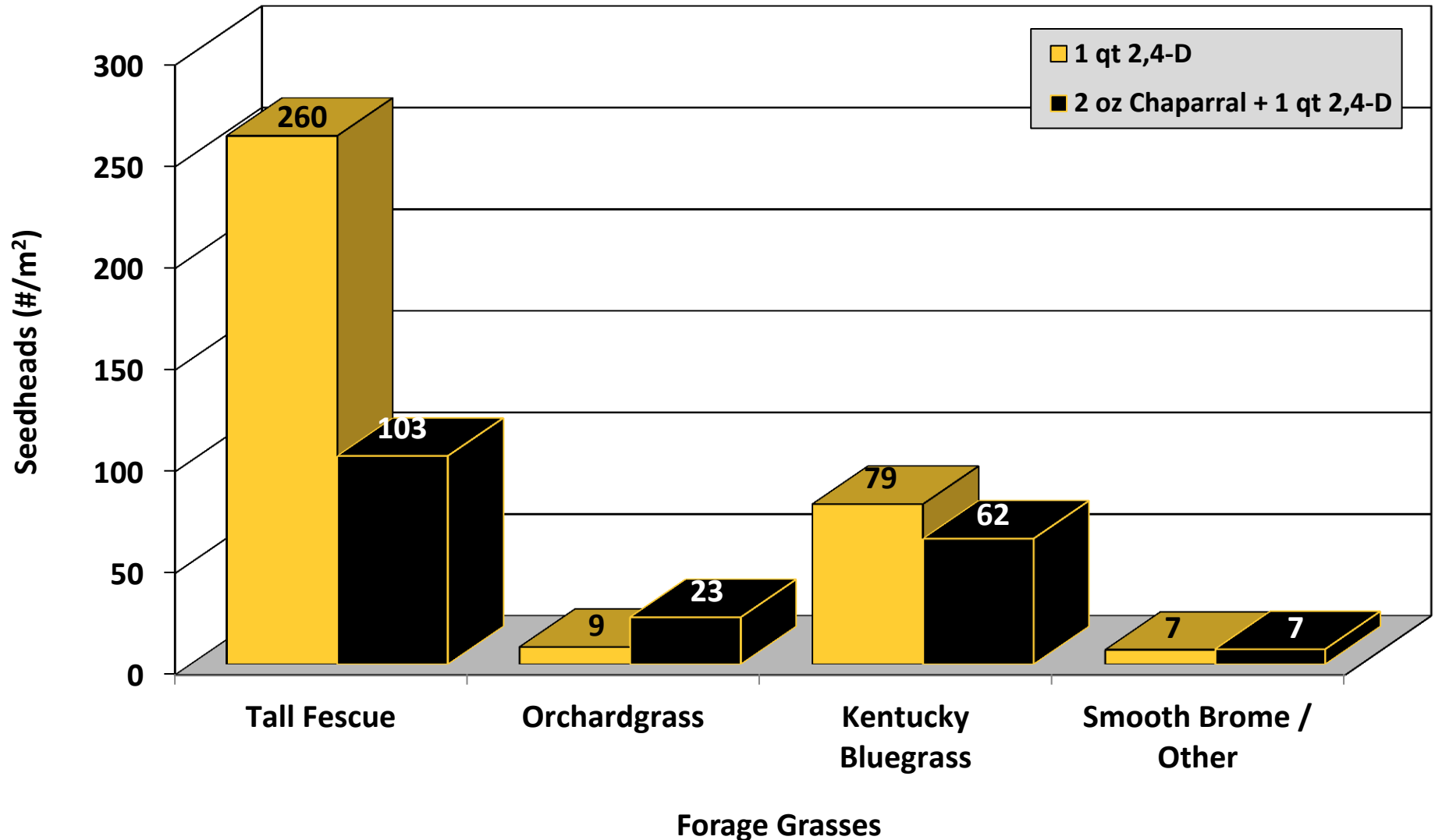
Sprayed with 1 qt 2,4-D/A on April 1, Photo Taken May 5



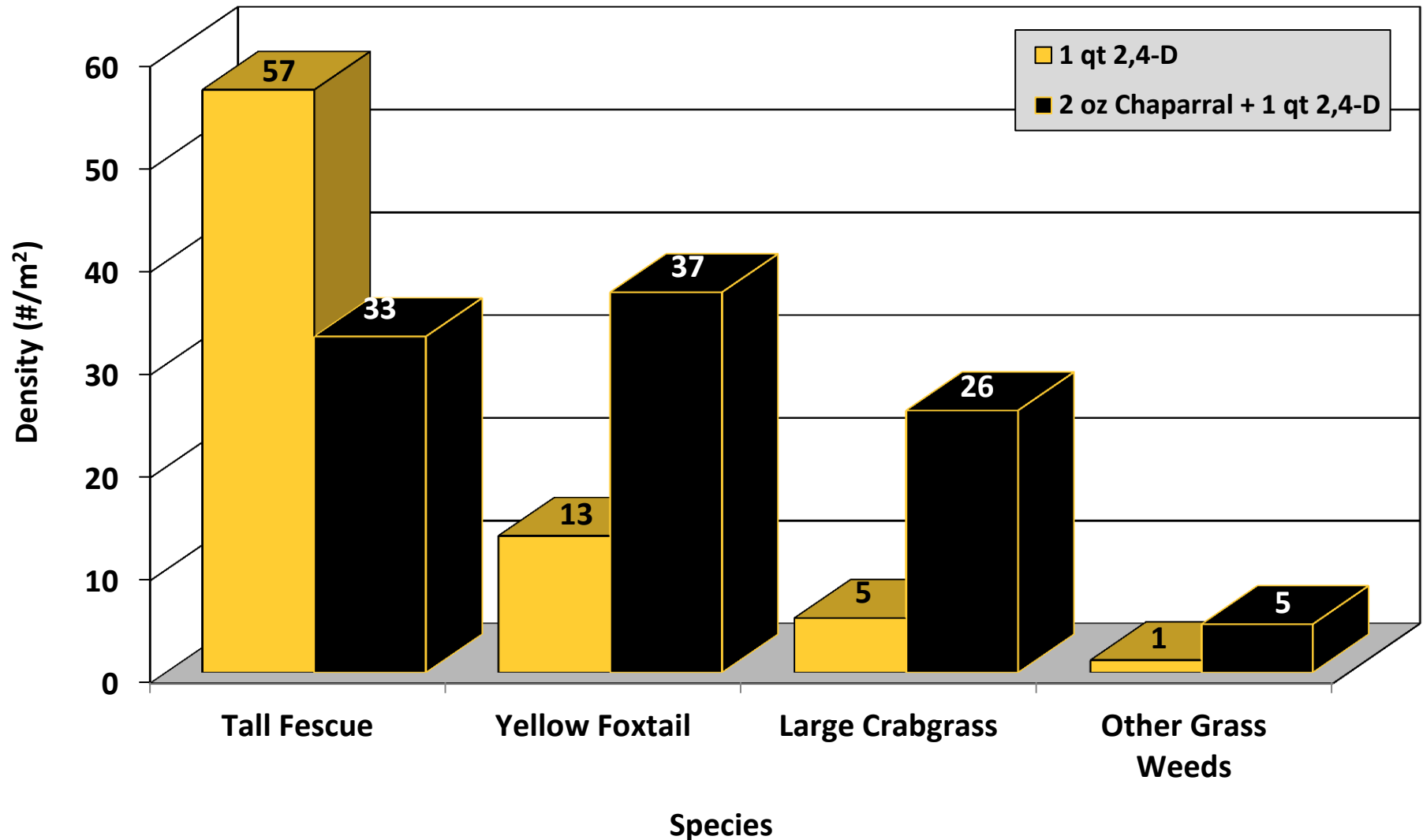
Influence of Spring Chaparral Application on Total Forage Yields from April - July (Columbia, MO 2010)



Influence of Spring Chaparral Application on Forage Grass Seedheads at the July Harvest (Columbia, MO 2010)



Influence of Spring Chaparral Application on Tall Fescue and Grass Weed Density in September (Columbia, MO 2010)



Influence of Endophyte Level and Chaparral Treatment on Steer Performance (Columbia, MO 2010)

Item	Control		Chaparral		SEM ^a	P =		
	E-	E+	E-	E+		Trt ^b	Endo ^c	Trt x End
Initial wt, lbs ^d	475.4	469.4	486.1	488.6	10.6	0.19	0.87	0.69
Final wt, lbs	658.3	621.9	639.7	646.8	16.5	0.85	0.38	0.21
ADG, lbs /day	2.24	1.83	2.15	2.08	0.12	0.47	0.07	0.18
Grazing days	82.0	84.0	71.3	76.0	1.3	< 0.001	0.03	0.34
Slick hair, % ^e	53.3	63.2	56.6	93.2		0.08	0.03	0.13

^a Largest standard error of least squared means

^b Broadleaf weed control method

^c Pasture endophyte presence

^d Two day full weight at pasture turnout

^e Percent of cattle exhibiting slick hair coat

Spring Treatment:
Chaparral + 2,4-D



Spring Treatment:
2,4-D Only




Picture Taken on Sept. 9



Spring Trtmt. of 1 qt 2,4-D/A
Picture Taken Sept. 9





**Spring Trtmt. of 2 ozs
Chaparral + 1 qt 2,4-D/A
Picture Taken Sept. 9**