Turf Tolerance of QuickSilver MAS as Compared to QuickSilver EW

Zac Reicher and Dan Weisenberger

Background/Objective: To determine the efficacy of single applications of QuickSilver MAS, QuickSilver EW and Drive for weed control and turf tolerance in creeping bentgrass seedlings.

Site Information

Location:		William H. Daniel Research and Diagnostic Center
Turfgrass Species:		'L93' creeping bentgrass
Turf Condition:		good
Turf Management:	**Mowing Height in:**	0.5
	Fertilization:	To encourage establishment
	Irrigation:	To encourage germination and establishment
Target Pest:		NA
Growth Stage:		seedling

Application Information

Application Dates: in 2005	21 Sept	28 Sept	12 Oct
Spray Volume gal 1000 ft^{-2}:	2		
Spray Equipment:	CO_2 backpack		
Experimental Design:	Randomized complete block		
Replications:	3		
Plot Size ft:	5 X 5		

Results:

QuickSilver alone did not cause phytotoxicity to the creeping bentgrass regardless of application timing. However, Drive alone, Drive + MSO, or Drive + QuickSilver MSA caused some significant phytotoxicity to the seedling bentgrass. However, none of the treatments resulted in stand thinning and thus damage was not extensive. Though broadleaf control was rated, there was little weed pressure on this area. QuickSilver EW and MSA both appear to be equally safe on L93 creeping bentgrass.

Table 1. Phytotoxicity[a] to seedling L93 creeping bentgrass after treatment with broadleaf herbicides.

Treatment	Rate of application	Application timing	26 Sept	28 Sept	3 Oct	13 Oct	19 Oct	27 Oct
	ai/A	DAE[b]						
QuickSilver EW	0.03	7	9.0	9.0	9.0	9.0	9.0	9.0
QuickSilver MSA	0.03	7	9.0	9.0	9.0	9.0	9.0	9.0
QuickSilver MSA	0.03	7	7.7	9.0	9.0	9.0	8.7	9.0
Drive	0.75							
Drive	0.75	7	8.0	9.0	9.0	9.0	8.7	9.0
Drive	0.75	7	7.7	9.0	8.3	9.0	8.3	9.0
MSO	1[c]							
QuickSilver EW	0.03	14	-	-	9.0	9.0	9.0	9.0
QuickSilver MSA	0.03	14	-	-	9.0	9.0	9.0	9.0
QuickSilver MSA	0.03	14	-	-	9.0	9.0	9.0	9.0
Drive	0.75							
Drive	0.75	14	-	-	9.0	9.0	8.3	9.0
QuickSilver EW	0.03	28	-	-	-	-	9.0	9.0
QuickSilver MSA	0.03	28	-	-	-	-	8.7	9.0
QuickSilver MSA	0.03	28	-	-	-	-	7.7	9.0
Drive	0.75							
Drive	0.75	28	-	-	-	-	8.0	9.0
Check			9.0	9.0	9.0	9.0	9.0	9.0
LSD (0.05)			0.4	NS	0.3	NS	0.6	NS

[a] Phytotoxicity was rated on a scale of 1 to 9 where 1 = completely brown turf, 7 = acceptable damage, and 9 = no phytotoxicity.
[b] Application timing was days after emergence, with applications on Sept 21, Sept 28, and Oct 12 respectively.
[c] Rate of application was percent volume per volume.

Table 2. Percent cover of bentgrass or broadleaves in seedling L93 creeping bentgrass after treatment with broadleaf herbicides.

Treatment	Rate of application	Application timing	Bentgrass[a] 13 Oct	Bentgrass[a] 11 Nov	Broadleaves[b] 11 Nov
	ai/A	DAE[c]			
QuickSilver EW	0.03	7	91.7	96.3	0.0
QuickSilver MSA	0.03	7	94.0	97.0	0.0
QuickSilver MSA	0.03	7	90.0	95.3	0.0
Drive	0.75				
Drive	0.75	7	90.3	95.7	1.7
Drive	0.75	7	86.7	92.0	2.3
MSO	1[d]				
QuickSilver EW	0.03	14	88.7	95.3	0.0
QuickSilver MSA	0.03	14	90.0	96.0	0.0
QuickSilver MSA	0.03	14	90.0	95.3	0.3
Drive	0.75				
Drive	0.75	14	91.7	96.7	3.0
QuickSilver EW	0.03	28	-	95.7	0.0
QuickSilver MSA	0.03	28	-	94.7	0.7
QuickSilver MSA	0.03	28	-	92.7	0.3
Drive	0.75				
Drive	0.75	28	-	93.7	2.0
Check			94.0	96.7	2.0
LSD (0.05)			NS	NS	1.6

[a] Percent of the plot area covered by creeping bentgrass.
[b] Percent of the plot area covered by broadleaf weeds.
[c] Application timing was days after emergence, with applications on Sept 21, Sept 28, and Oct 12 respectively.
[d] Rate of application was percent volume per volume.