

TURFGRASS RESEARCH 2014



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Evaluation of Selective Herbicide Combinations and a Plant Growth Regulator on Rough Bluegrass Control¹

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Summary. Three applications of Velocity 17.6 SG at 6 oz/a consistently reduced rough bluegrass cover and provided up to 92% control 16 weeks after initial treatment (WAIT).

Rationale. Rough bluegrass (*Poa trivialis* L.) is a problematic weed in cool-season turfgrasses in the transition zone and northern United States. Velocity (bispyribac-sodium) is the only product currently labeled for selective rough bluegrass control in cool-season turfgrasses, but it can be used only on sod farms and golf courses.

Objectives. Evaluate several herbicides, Xonerate 4 SC (amicarbazone), Tenacity 4 SC (mesotrione), combinations of Xonerate 4 SC + Tenacity 4 SC, Velocity 17.6 SG, and a plant growth regulator, Trimmit 2 SC (paclobutrazol), for rough bluegrass control.

Study Description. Field studies were conducted in 2013 at the Rocky Ford Turfgrass Research Center in Manhattan, KS, and the John Seaton Anderson Turf Research Center in Mead, NE, in rough bluegrass monostands and at a

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commercial golf course in Hutchinson, KS, in a mixed stand of rough bluegrass and perennial ryegrass (*Lolium perenne* L.). Treatments were applied one to three times beginning in late June at approximately 10-day intervals in 87 gal/a of water. Rough bluegrass control was visually estimated at 2, 4, 8, 12, and 16 WAIT. Data were subjected to analysis of variance, and Fisher's protected LSD ($P \leq 0.05$) was used to detect treatment differences.

Results. Rough bluegrass was not effectively controlled by applications of Xonerate 4 SC, Tenacity 4 SC, combinations of Xonerate 4 SC + Tenacity 4 SC, or Trimmit 2 SC (Table 1). Velocity 17.6 SG was the only treatment that consistently reduced rough bluegrass coverage (Figures 1 and 2), but it was also injurious to perennial ryegrass at 8 WAIT (data not shown).

Table 1. Effect of treatments on rough bluegrass control

Treatment and rate/a	Applications ³	Control (%) ¹		
		16 WAIT ²	12 WAIT	16 WAIT
		Manhattan	Hutchinson	Mead
1. Untreated	0	17 d ⁴	0 b	3 bc
2. Xonerate 4 SC (1.4 fl oz)	2	54 bc	0 b	3 bc
3. Xonerate 4 SC (2.8 fl oz)	1	45 bcd	0 b	0 c
4. Xonerate 4 SC (2.8 fl oz)	2	63 ab	0 b	2 bc
5. Tenacity 4 SC (4.0 fl oz)	1	46 bcd	0 b	4 bc
6. Tenacity 4 SC (4.0 fl oz)	2	56 bc	13 b	8 b
7. Tenacity 4 SC (4.0 fl oz)	3	50 bc	17 b	2 bc
8. Xonerate 4 SC (1.4 fl oz) + Tenacity 4 SC (4.0 fl oz)	2	42 bcd	7 b	1 c
9. Xonerate 4 SC (2.8 fl oz) + Tenacity 4 SC (4.0 fl oz)	1	48 bcd	0 b	0 c
10. Xonerate 4 SC (2.8 fl oz) + Tenacity 4 SC (4.0 fl oz)	2	49 bcd	0 b	3 bc
11. Trimmit 2 SC (16.0 fl oz)	3	27 cd	23 b	4 bc
12. Velocity 17.6 SG (6 oz)	3	92 a	58 a	16 a

¹ Percentage rough bluegrass control was determined by comparing cover on each rating date to initial cover in each plot [if % cover on rating date \geq initial % cover, then % control = 0; otherwise, % control = (initial % cover - % cover on rating date) / initial % cover \times 100].

² Weeks after initial treatment.

³ Treatments were applied in Manhattan on June 27, July 8, and July 18; in Hutchinson on July 2, July 15, and July 29; and in Mead on June 27, July 10, and July 22.

⁴ Within columns, means with followed by the same letter are not significantly different according to Fisher's Protected LSD ($P \leq 0.05$).



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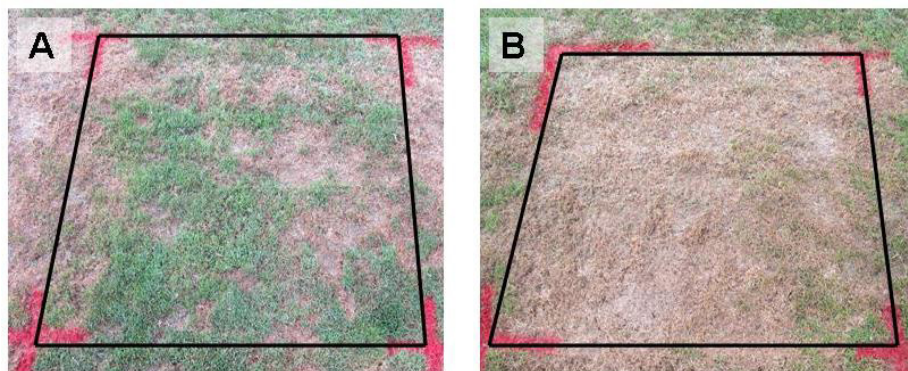


Figure 1. Effects of treatments in Manhattan, KS: A) untreated and B) Velocity 17.6 SG on July 26, 4 weeks after initial treatment. Decline in the untreated plot is due to abiotic stress.

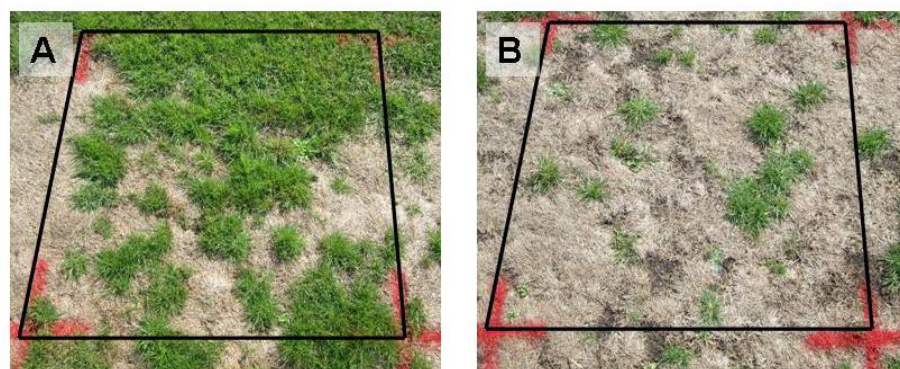


Figure 2. Effects of treatments in Manhattan, KS: A) untreated and B) Velocity 17.6 SG on October 17, 16 weeks after initial treatment. Note rough bluegrass recovery in B compared with Figure 1.

