

EVALUATION OF HERBICIDES FOR CONTROL OF ROUGH BLUEGRASS AND INJURY TO KENTUCKY BLUEGRASS, 1998

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Research to evaluate herbicides for control of rough bluegrass in Kentucky bluegrass was initiated in 1993. A wide variety of herbicide combinations were screened early in the process. In subsequent years, the objective has been to evaluate treatments with the most promise, and fine-tune application rates and timings for the most effective herbicide combinations. In addition, several new herbicides have been evaluated, as they have become available.

The objective of the research this year was to determine the best timing and rate of a spring application of Beacon following a fall application of Sinbar plus Karmex or Beacon plus Karmex. Timings evaluated were a single treatment in March or April, or a split application made in both March and April. A new herbicide, Milestone, was included in the evaluation at two application rates.

Plots were placed in three commercial grass seed fields to evaluate control of 'Cypress' and 'Saber II' rough bluegrass and injury to 'Crest' Kentucky bluegrass. Treatments included a November 4 application of Sinbar at 0.5 lb/a plus Karmex at 2 lb/a and Beacon at 0.38 oz/a plus Karmex at 2 lb/a alone or followed by a spring application of Beacon. Beacon was applied either March 30, April 24, or both at 0.76 oz/a following Sinbar plus Karmex and at 0.38 oz/a following Beacon plus Karmex. New product evaluations included a November 4 application of Milestone at 2 oz/a and 4 oz/a.

Treatments were applied with a CO₂ pressurized, hand-held, boom sprayer at 40 psi and 20 gal/a water. Plots 10 ft x 20 ft were replicated three times in a randomized complete block design. A nonionic surfactant was applied at 1 qt/100 gal in combination with all herbicides.

A visual evaluation for percent reduction in biomass to established plants was conducted March 24 on rough bluegrass. Pre-harvest evaluations of percent reduction in seed set were conducted on both rough bluegrass and Kentucky bluegrass June 4.

The effect of herbicide applications for control of rough bluegrass is provided in Table 1, and reduction in yield to Kentucky bluegrass is shown in Table 2. In comparing fall applications alone, Sinbar plus Karmex provided better control of rough bluegrass than Beacon plus Karmex. Beacon applied in either March or April provided greater con-

trol of rough bluegrass following the fall application of Sinbar plus Karmex than following Beacon plus Karmex. However, the least injury to Kentucky bluegrass was with Beacon applied in March following Beacon plus Karmex in November. There were no consistent differences between March and April applications of Beacon. Beacon applied as a split application in March and April did not increase control of rough bluegrass, but may have caused slightly less injury to Kentucky bluegrass.

Table 2. Effect of herbicides applied November 4, 1997 alone or followed by Beacon applied March 30 and/or April 24 to Kentucky bluegrass. Yield reduction was evaluated June 4, 1998.

Treatments	Rate (product/a)	Yield reduction ¹ Crest Kentucky bluegrass
		(%)
1. Sinbar	0.5 lb	53 a ²
+Karmex	2.0 lb	
2. Beacon	0.76 oz	57 a
+Karmex	2.0 lb	
3. Sinbar	0.5 lb	60 a
+Karmex	2.0 lb	
Beacon (Mar)	0.76 oz	
4. Sinbar	0.5 lb	53 a
+Karmex	2.0 lb	
Beacon (Apr)	0.76 oz	
5. Sinbar	0.5 lb	43 a
+Karmex	2.0 lb	
Beacon (Mar)	0.38 oz	
Beacon (Apr)	0.38 oz	
6. Beacon	0.38 oz	13 b
+Karmex	2.0 lb	
Beacon (Mar)	0.38 oz	
7. Beacon	0.38 oz	50 a
+Karmex	2.0 lb	
Beacon (Apr)	0.38 oz	
8. Milestone	2.0 oz	33 a
9. Milestone	4.0 oz	40 a
10. Untreated	---	0 b

¹Data based on visual evaluation of reduction in seed set.

²Mean separation with Student-Newman-Keuls ($P \leq 0.05$).

Milestone at 4 oz/a compared to 2 oz/a provided more control of rough bluegrass, but also more injury to Kentucky bluegrass. Early plant injury to rough bluegrass declined later in the season causing less reduction in seed set.

The most effective treatment for control of rough bluegrass continues to be a fall application of Sinbar at 0.5 lb/a plus

Karmex at 2 lb/a followed by a Beacon application in late March or early April.

Table 1. Effect of herbicides applied November 4, 1997 alone or followed by Beacon applied March 30 and/or April 24 to rough bluegrass. Crop reduction was evaluated March 24, 1998 and yield reduction was evaluated June 4, 1998.

Treatments	Rate (product/a)	Crop reduction ¹		Yield reduction ²	
		Fuzzy	Saber II	Fuzzy	Saber II
		------(%)-----			
1.	Sinbar +Karmex	0.5 lb 2.0 lb	83 a ³	50 ab	60 ab 30
2.	Beacon +Karmex	0.76 oz 2.0 lb	60 a	47 ab	45 b 10
3.	Sinbar +Karmex	0.5 lb 2.0 lb	87 a	47 ab	97 a 60
4.	Beacon (Mar) Sinbar +Karmex	0.76 oz 0.5 lb 2.0 lb	87 a	60 ab	93 a 37
5.	Beacon (Apr) Sinbar +Karmex	0.76 oz 0.5 lb 2.0 lb	82 a	57 ab	98 a 33
6.	Beacon (Mar) Beacon (Apr)	0.38 oz 0.38 oz			
6.	Beacon +Karmex	0.38 oz 2.0 lb	33 b	32 ab	55 ab 33
7.	Beacon (Mar) Beacon (Apr)	0.38 oz 0.38 oz			
7.	Beacon +Karmex	0.38 oz 2.0 lb	22 bc	15 b	65 ab 3
8.	Beacon (Apr) Milestone	0.38 oz 2.0 oz			
8.	Milestone	2.0 oz	15 bc	12 b	35 bc 20
9.	Milestone	4.0 oz	85 a	80 a	35 bc 40
10.	Untreated	---	0 c	0 b	0 c 0
NS					

¹Data based on visual evaluation of reduction in biomass.

²Data based on visual evaluation of reduction in seed set.

³Mean separation with Student-Newman-Keuls ($P \leq 0.05$).