

Smooth Bromegrass Control in Cool-season Turfs

Introduction

Smooth bromegrass (*Bromus inermis*) is a difficult perennial grass to control in cool-season turf. Currently there are no ways to selectively control smooth bromegrass, and thus nonselective herbicides such as glyphosate are often used. In this study we explored potential options to selectively control smooth bromegrass in cool-season turfs.

Objective

The objective of this research was to evaluate mesotrione, topramezone, and glyphosate for controlling smooth bromegrass at various times of the year.

Materials and Methods

- John Seaton Anderson Turf Research Facility near Mead, NE
- 2014 and 2015 field studies
 - 3 replications (RCBD)
- 4 Treatments
 - Mesotrione 0.28 kg a.i. ha⁻¹
 - 2 applications (10 DAIT)
 - Mesotrione 0.175 kg a.i. ha⁻¹
 - 3 applications (10 & 20 DAIT)
 - Topramezone 0.037 kg a.i. ha⁻¹
 - 2 applications (10 DAIT)
 - Glyphosate 1.9 kg a.i. ha⁻¹
 - 1 application
- Untreated
- 3 Timings
 - May 1, June 1, or July 1
- Treatments were applied to a smooth bromegrass stand established the prior fall and mowed to 3.5" weekly.
- Cover ratings of bromegrass were taken on a 0-100% range bi-weekly.
- Analysis of variance was performed with SAS using the GLIMMIX Procedure.

Results

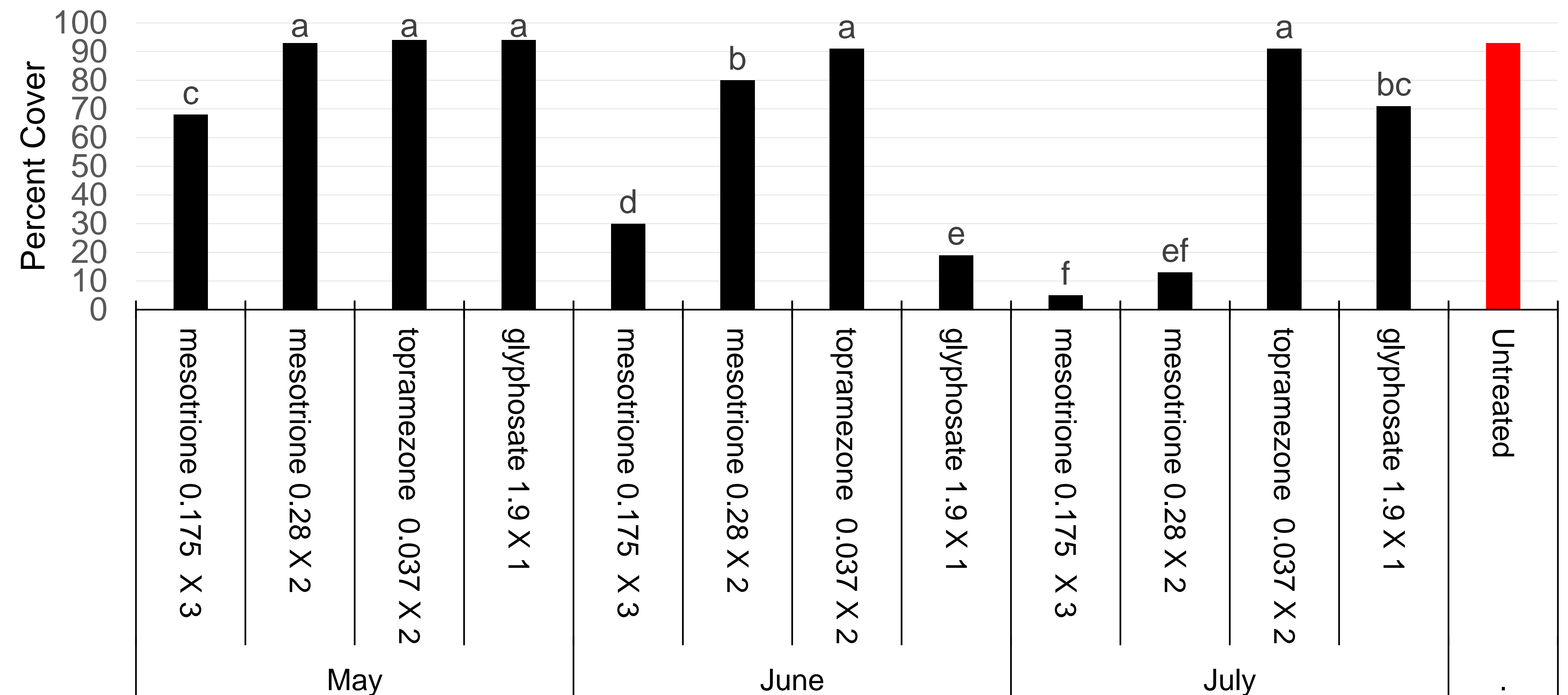


Figure 1. Percent cover smooth bromegrass on September 15th following various herbicide applications at multiple timings.

Means over 2 years and 3 replications

Means followed by the same letter are not significantly different ($P \leq 0.05$)



Figure 2. Mesotrione 0.175 kg 80 DAIT July timing



Figure 3. Glyphosate 1.9 kg 80 DAIT July timing

Conclusions

- Treatments applied in May produced the least control resulting in >60% bromegrass cover, likely due to recovery through rhizomes.
- Mesotrione at 0.175 kg ha⁻¹ X 3 or 0.28 kg ha⁻¹ X 2 applied in July resulted in <15% bromegrass cover 80 DAIT.
- Topramezone had little activity on bromegrass resulting in no control.
- Glyphosate applied in June produced 20% cover versus >70% cover when applied in May or June.
- Mesotrione applied at 0.175 kg ha⁻¹ X 3 or 0.28 kg ha⁻¹ X 2 applied in July were the most effective treatments for controlling smooth bromegrass in this study.