

Effect of season-long fungicide programs on survival of *Poa trivialis*
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Objective:

Determine the effect of aggressive fungicide use on performance of *Poa trivialis* and indirectly determine if disease plays a role in the summer dormancy or death of *Poa trivialis* at fairway height.

Rationale:

Poa trivialis or Rough bluegrass has become a major weed problem on golf courses, athletic fields and home lawns. Even though we have two promising selective herbicides for *Poa trivialis* control in Certainty and Velocity, we need a better understanding of the weed's biology to make these herbicides most effective. Additionally, attempting control is not always practical with this weed so refining management strategies for optimal performance is necessary.

Materials and Methods:

This study was conducted at the W.H. Daniel Turfgrass Research and Diagnostic Center in West Lafayette, IN. Plot area was a two year old 'Sabre II' *Poa trivialis* maintained like a typical fairway consisting of 0.5" mowing height, regular irrigation, and 2.5 lbs N/1000 ft²/year. Fungicide treatments began in late May and were applied every two weeks. Fungicides treatments included:

| | <u>Fungicide</u> | <u>oz/1000ft²</u> | <u>Target disease(s)</u> |
|----|------------------|------------------------------|--|
| 1. | Emerald 70WP | 0.18 | Dollar spot |
| 2. | Prostar 70WP | 2.2 | Brown patch |
| | Subdue Maxx L | 1.0 | Pythium |
| 3. | Emerald 70WP | 0.18 | Dollar spot |
| | Prostar 70WP | 2.2 | Brown patch |
| 4. | Emerald 70WP | 0.18 | Dollar spot |
| | Subdue Maxx L | 1.0 | Pythium |
| 5. | Prostar 70WP | 2.2 | Brown patch |
| | Subdue Maxx L | 1.0 | Pythium |
| 6. | Emerald 70WP | 0.18 | Dollar spot |
| | Prostar 70WP | 2.2 | Brown patch |
| | Subdue Maxx L | 1.0 | Pythium |
| 7. | Emerald 70WP | 0.18 | Dollar spot |
| | Prostar 70WP | 2.2 | Brown patch |
| | Subdue Maxx L | 1.0 | Pythium |
| | Heritage 50 WDG | 0.4 | Summer patch, brown patch, pythium etc |
| 8. | Control | 0 | None |

Experimental design was a randomized complete block design with three replications. Percent cover was rated visually every week.

What we learned:

- The *Poa trivialis* performed as expected and started to thin in late July with dramatically increasing temperatures.
- Though we thought that dollar spot was a primary cause of the decline in *Poa trivialis*, plots with treatments that controlled dollar spot declined at the same rate as those plots with treatments labeled to control dollar spot.
- The tankmix of Emerald+Prostar+Subdue+Heritage provided virtually 100% cover throughout the summer compared to 6% or less cover by late August from the rest of the fungicide treatments and check.
- Fungicides programs used in this study are not commercially viable and also above label recommendations in some cases. However, this research does show that the late summer decline of *Poa trivialis* is in part mediated by disease.
- This study will be refined in 2007 to further pinpoint which disease(s) play a role in *Poa trivialis* decline. This study is part of a larger project examining the biology and control of *Poa trivialis*.

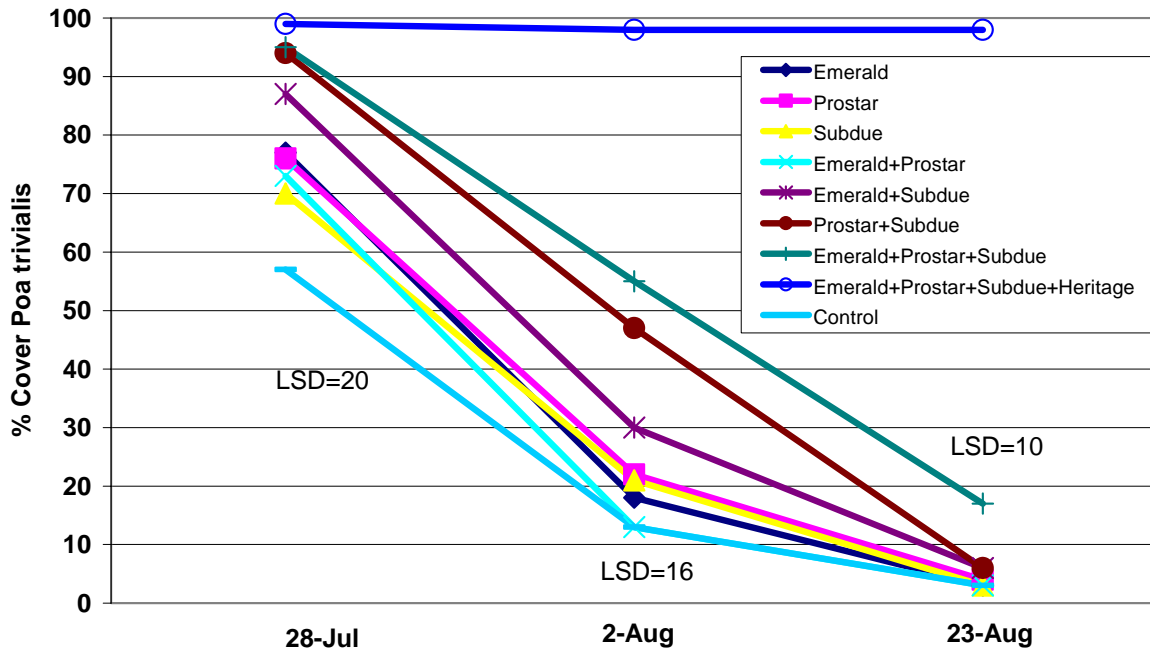


Figure 1. Effect of fungicide applications made every other week from from May through September on fairway height Sabre II *Poa trivialis*. Fungicides had little effect except for the tankmix of Emerald+Prostart+Subdue+Heritage.