

Effect of Certainty and Velocity on cultivars of *Poa trivialis*

Debbie Morton and Zac Reicher

Objective:

Compare effectiveness of Velocity and Certainty on different *Poa trivialis* cultivars and safety on creeping bentgrass and Kentucky bluegrass.

Rationale:

Poa trivialis has become a major weed problem on golf courses, athletic fields and home lawns. Two promising selective herbicides for *Poa trivialis* are Certainty and Velocity. Cultivar variability could potentially affect the effectiveness of both Certainty and Velocity in controlling *Poa trivialis*. A 2004 study tested the effectiveness of Certainty on 14 different *Poa trivialis* phenotypes and effectiveness varied widely among the different phenotypes. It is important to understand the potential variable effects of those herbicides on *Poa trivialis*. It is feasible that one herbicide may be more effective on certain cultivars than the other herbicide.

Materials and Methods:

This study was conducted at the W.H. Daniel Turfgrass Research and Diagnostic Center, West Lafayette, IN. Experimental design was a randomized split-plot design with three replications. The areas were seeded on August 29, 2005 and September 1, 2005 at 2 lbs/1000ft². Eight *Poa trivialis* cultivars were studied in this project and these included 'Sabre II', 'Sun-up', 'Bariviera', 'Winterlinks', 'Racehorse', 'Pulsar', 'Proam', and 'Laser'. The plots were mowed at 0.5" or 2". Each main plot consisted of one cultivar. The 0.5" study also included a creeping bentgrass (L93) treatment and the 2" plots included a Kentucky bluegrass treatment for comparison. Each main plot was split into three sub-plots, which received herbicide treatments including Certainty, Velocity, and an untreated check (Table 1). Certainty treatments included MON 0818 surfactant at 0.25% v/v. Initial applications were made on June 13, 2006. Percent cover was rated visually every week. Phytotoxicity was also rated every week on a scale of 9 to 1 where 9=no phytotoxicity, 7=acceptable, and 1=brown.

What we know so far:

0.5" mowing height:

- Separation of symptoms became evident at 6 WAIT (weeks after initial treatment).
- By 6 WAIT, both Certainty and Velocity had reduced the percent cover of all *Poa trivialis* cultivars to less than 25% (Figure 1).
- By 12 WAIT, Velocity had reduced the percent cover of the *Poa trivialis* to below 2% cover (Figure 2).
- Certainty had reduced the percent cover to 6% or less except for on the cultivar 'Laser' at 12 WAIT which had 17% cover. This suggests that *Poa trivialis* cultivar 'Laser' is less sensitive to Certainty than the other cultivars tested.
- There was little to no effect on percent cover of the creeping bentgrass. Some discoloration was detected, but it was above acceptable levels and the turf had completely recovered by 8 WAIT (data not shown).

2" mowing height:

- Separation of symptoms became evident at 7 WAIT.

- By 7 WAIT, Certainty had reduced percent cover in each plot from 5 to 13% (Figure 3). However, Velocity had reduced percent cover from 50 to 83%. This difference could have been due to Certainty rates being too low for turf mowed at 2”.
- The turf slowly started to recover and by 12 WAIT, the reduction in percent cover was <15% from both Velocity and Certainty (Figure 4). This suggests that *Poa trivialis* mowed at 2” is less sensitive to Certainty and Velocity than *Poa trivialis* mowed at 0.5”.
- There was no reduction in the percent cover of the Kentucky bluegrass. Certainty and Velocity treatments both caused minor phytotoxicity, but it was within acceptable levels. By 9 WAIT, the Kentucky bluegrass had completely recovered (data not shown).

Table 1. Herbicide treatments

Herbicide	Rate	Application Dates
Certainty	0.25 + 0.25 oz/A	6/13, 6/27
Velocity	0.65 + 0.65 + 0.65 + 0.65 oz/A	6/13, 6/27, 7/10, 7/26
Check		

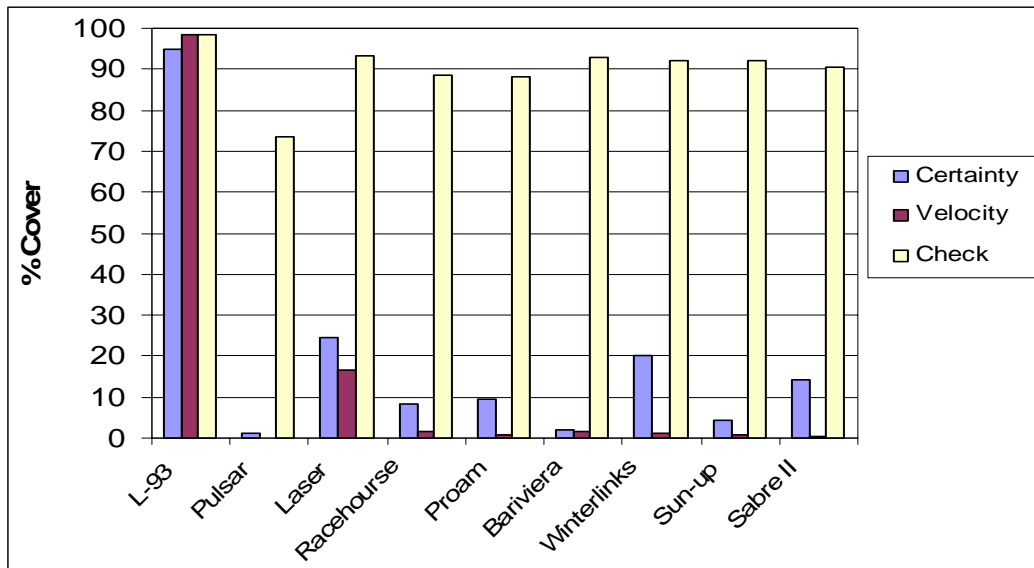


Figure 1. Percent cover as affected by Certainty and Velocity 6 WAIT on 0.5” mowed turf.

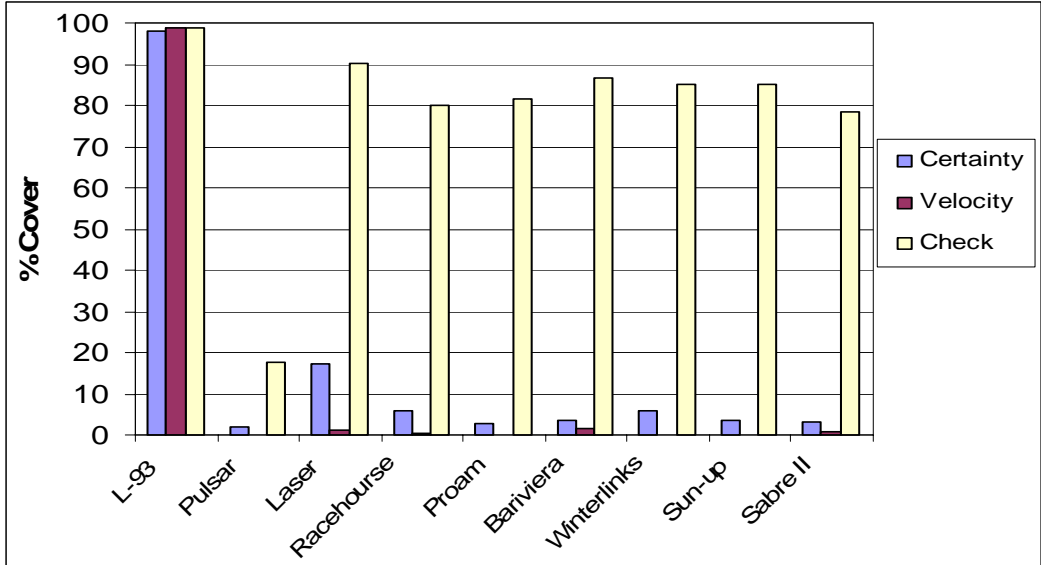


Figure 2. Percent cover as affected by Certainty and Velocity 12 WAIT on 0.5" mowed turf.

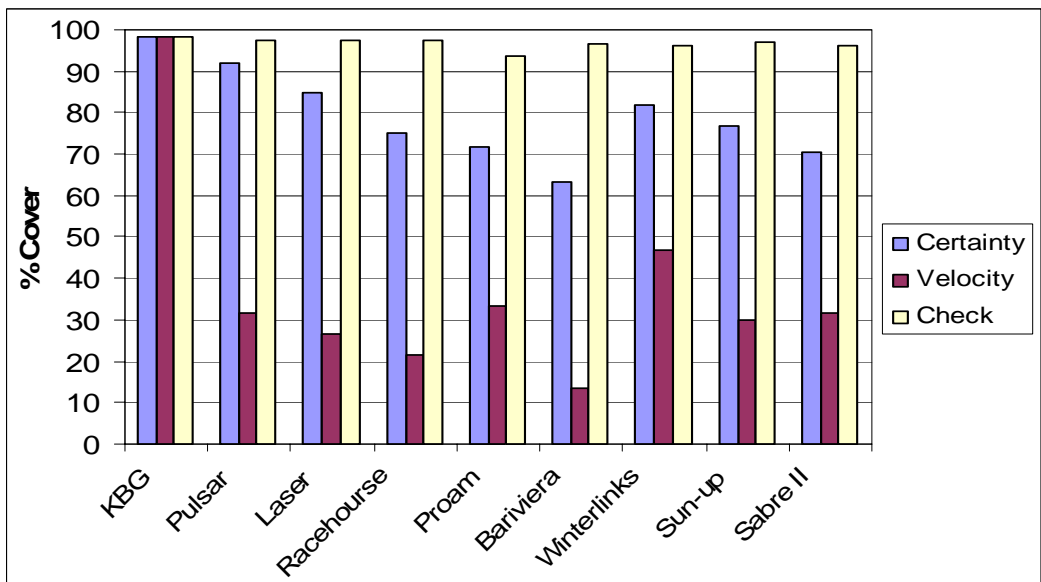


Figure 3. Percent cover as affected by Certainty and Velocity 7 WAIT on 2" mowed turf

Figure 4. Percent cover as affected by Certainty and Velocity 12 WAIT on 2" mowed turf.

