

***Poa trivialis* Control with Several Herbicide Application Programs**

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Objective

Our objective was to determine the efficacy of two herbicides and several application timings for control of *Poa trivialis*.

Rationale

Poa trivialis has become a wide spread weed in creeping bentgrass fairways across Indiana and the Midwest. Currently, there are no selective pesticidal controls of *Poa trivialis* available. Cultural control techniques alone have not provided satisfactory results. This research was undertaken in an attempt to identify commercially available herbicides that may have the potential to control *Poa trivialis*.

How It Was Done

Sabre' *Poa trivialis* was seeded on 3 Sep-97 in a silt loam soil at the William H. Daniel Turfgrass Research and Diagnostic Center at 2 lbs seed/ 1000 ft². A starter fertilizer was applied immediately prior to seeding at 0.5 lbs N, 1.5 lbs P₂O₅, and 1.0 lbs K₂O/1000 ft². Mowing height was gradually reduced until the experimental site was mowed at 0.75 inches three times per week. Turf was irrigated to prevent any sign of drought stress. Fungicides were applied to prevent dollar spot and the site received 3.5 lbs N/ 1000 ft² per year using a fairway grade fertilizer. Treatments were applied 1 June-00 using a CO₂ powered hand-held spray boom in 2 gal H₂O/1000 ft². Data collected were percent of plot area covered by *Poa trivialis* and phytotoxicity damage to the *Poa trivialis* turf.

Results

Phytotoxicity to *Poa trivialis* was rated on 5, 10, 15 and 22 June. Several herbicide treatments caused phytotoxicity to *Poa trivialis* that was significantly different than phytotoxicity in the untreated check (Table 1). Acclaim Extra applied at 20 fl oz/A and higher caused phytotoxicity different from the untreated check on 10 and 15 June. On the 22 June rating date phytotoxicity to *Poa trivialis* treated with Acclaim Extra at all rates had become much less severe and damage was considered acceptable. Prograss at all rates caused phytotoxicity to *Poa trivialis* that was significantly different than phytotoxicity in the untreated check on some or all rating dates. Prograss applied at 6.0 and 9.0 lbs ai/A caused severe phytotoxicity to *Poa trivialis* on 15 and 22 June (Table 1).

Percent cover of *Poa trivialis* on 10 June was significantly lower than the untreated check in plots treated with Acclaim Extra at 20.0, 28.0 and 39.0 fl oz A (Table 1). On 15 June plots treated with Acclaim Extra at 20.0, 28.0, and 39.0 fl oz/A and Prograss at 6.0 and 9.0 lbs ai/A had significantly less *Poa trivialis* cover than the untreated check. By the 30 June and 12 July rating dates only plots treated with Prograss at 6.0 and 9.0 lbs ai/A had significantly less cover by *Poa trivialis* than the untreated check. By the 12 July rating date some recovery of *Poa trivialis* was observed in plots treated with Prograss at 6.0 and 9.0 lbs ai/A.

While Acclaim Extra at 20.0, 28.0, and 39.0 fl oz/A caused phytotoxicity to *Poa trivialis* and caused some thinning of the turf, recovery occurred fairly rapidly and it appears Acclaim Extra is not an effective means of *Poa trivialis* control. Prograss applied at 6.0 and 9.0 lbs ai/A caused severe thinning of *Poa trivialis* but complete control was not achieved and recovery of *Poa trivialis* was observed toward the end of the experiment. This causes doubt as to whether Prograss will provide acceptable *Poa trivialis* control.

Table 1. Phytotoxicity to *Poa trivialis* turf caused by application of Acclaim Extra or Prograss.

Treatment	Rate of application	Phytotoxicity				Cover			
		5 June	10 June	15 June	22 June	10 June	15 June	30 June	12 July
	fluid oz/A	----- % -----							
Check	---	9.0 ^a	8.7	9.0	9.0	81.7 ^b	88.3	93.3	88.3
Acclaim Extra	3.5	9.0	9.0	8.7	9.0	81.7	86.7	91.7	88.3
Acclaim Extra	7.0	9.0	9.0	8.3	9.0	81.7	88.3	95.0	90.0
Acclaim Extra	13.0	9.0	7.7	6.7	8.7	78.3	80.0	92.0	90.0
Acclaim Extra	20.0	8.7	6.7	4.7	8.0	73.3	65.0	91.7	86.7
Acclaim Extra	28.0	9.0	7.3	4.3	7.3	73.3	61.7	91.7	90.0
Acclaim Extra	39.0	9.0	6.7	4.3	8.0	75.0	61.7	90.7	90.0
Prograss 1.5EC	3.0 ^c	9.0	9.0	6.7	3.3	80.0	80.0	90.0	93.3
Prograss 1.5EC	6.0 ^c	8.7	7.7	4.3	3.3	78.3	65.0	56.7	75.0
Prograss 1.5EC	9.0 ^c	6.7	7.0	3.3	2.0	78.3	56.7	33.3	40.0
LSD (0.05)		0.7	1.2	1.5	1.5	5.9	9.8	11.0	8.9

^a Phytotoxicity was rated on a scale of 1 to 9 with 1 = completely brown turf, 7 = acceptable damage, and 9 = no phytotoxicity.

^b Percent plot area covered by *Poa trivialis*.

^c Rate was lbs ai/A.