

Nonselective Control of Perennial Turfgrasses

Zac Reicher and Dan Weisenberger

Background/Objective: Demonstrate the fastburn symptomology capability and long-term control of MON 78365 as compared to other standard non-selective herbicides.

Site Information

Location:	William H. Daniel Research and Diagnostic Center, W. Lafayette, IN.
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Soil Organic Matter (%):	
Turfgrass Species:	Perennial ryegrass
Turf Condition:	Fair
Turf Management: Mowing Height cm (in):	6.35 (2.5)
Fertilization:	1 lb N/M/YR
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	None
Target Pest:	NA
Growth Stage:	NA

Application Information

Application Date:	7 June
Application Time:	9:00 AM
Air Temperature C⁰(F⁰):	19.8 (68)
Relative Humidity(%):	70
Wind Speed m s⁻¹ (mph):	Calm
Soil Temperature(7.6 cm depth) C⁰(F⁰):	18.3 (65)
Soil Moisture:	Wet
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	559 (1.4)
Spray Pressure:	35psi
Spray Nozzle:	8001.5
Spray Equipment:	CO ₂ backpack
Irrigation After Application:	None
Experimental Design:	Randomized complete block
Replications:	3
Plot Size m (ft):	1.5 X 1.5 (5 X 5)

Results

MON 78365 provided faster burn down than any of the other treatments, especially at the high rate (Table 1). Additionally, the faster burndown did not decrease long term control from Mon78365. MON 78567 provided slightly faster burndown than Roundup ProDry at 6.0 lbs ae/A and was similar to the burndown of Roundup ProDry+Scythe. The poor control by Reward in this study was probably because the herbicide was not from a fresh lot of product.

Table 1. Control of and percent cover of perennial ryegrass after application of nonselective herbicides.

Treatment	Rate of application	8 June	9 June	10 June	17 June	13 July	9 Aug	7 Sept
	lbs.a.e./A							
MON 78365	3.0	7.3 ^a	4.0	3.0	1.0	1.0	0.3 ^b	1.7
MON 78365	4.5	5.7	3.0	2.7	1.0	1.0	0.7	0.7
MON 78365	6.0	4.3	2.0	2.0	1.0	1.0	0.3	0.3
MON 78567	4.5	8.7	8.0	5.7	1.0	1.0	0.7	1.3
MON 78567	6.0	8.0	6.3	3.7	1.0	1.0	0.3	1.7
Roundup ProDry	6.0	9.0	8.0	5.3	1.0	1.0	0.0	0.3
Roundup ProDry + Scythe 1EC	6.0	7.7	6.7	5.0	1.0	1.0	0.3	0.0
	12.0 ^d							
Reward 2SC	1.5 ^c	7.7	6.7	6.7	7.7	9.0	93.3	90.0
check	---	9.0	9.0	9.0	9.0	9.0	95.0	90.0
LSD (0.05)		0.9	1.5	1.1	0.3	0.0	1.9	3.4

^a Control of ryegrass was rated on a scale of 1 to 9, where 1 = complete control, and, 9 = no control.

^b Percent of plot area covered by perennial ryegrass.

^c Rate of application was pints/A.

^d Rate of application was quarts/A.