

Efficacy of Acclaim Extra on Crabgrass

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Background/Objective:

Evaluate the efficacy and turf safety of Acclaim Extra in combination with Macrosorb.

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 (%):	6%
Turfgrass Species:	Kentucky bluegrass
Turf Condition:	Fair
Turf Management: Mowing Height cm (in):	6.25 (2.5)
Fertilization:	121kg N/ha/yr (2.5 lbs/1000 ft ² /yr)
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	None
Target Pest:	<i>Digitaria</i> sp (crabgrass)
Growth Stage:	Various

Application Information

Application Date:	17 July
Application Time:	9:30 am
Air Temperature C⁰(F⁰):	29.5 (85)
Relative Humidity(%):	
Wind Speed m s⁻¹ (mph):	1.3 (3)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	23.9 (75)
Soil Moisture:	Moist
Spray Volume L ha⁻¹ (gal 1000 ft²):	814 (2)
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:

All Acclaim treatments caused noticeable phytotoxicity within 1 week of application (Table 1), but this phytotoxicity was in the acceptable range. However, the high rate of Acclaim caused unacceptable phytotoxicity on Aug 1. No phytotoxicity was apparent on Aug 15. Macrosorb did not significantly decrease phytotoxicity of Acclaim and does not appear to be a justifiable tankmix partner.

All Acclaim treatments effectively reduced crabgrass cover compared to the check throughout the study (Table 2). On 15 and 30 Aug, all Acclaim treatments outperformed Drive in crabgrass control.

Table 1. Phytotoxicity^a to bluegrass

Treatment	Rate of application	Growth stage	18 July	22 July	25 July	1 Aug	15 Aug
	oz/A						
Check			9.0	9.0	9.0	9.0	9.0
Acclaim Extra	10	1 - 2 tiller	9.0	9.0	8.3	8.0	9.0
Acclaim Extra	10	1 - 2 tiller	9.0	9.0	8.0	8.0	9.0
Macrosorb	0.5 ^b						
Acclaim Extra	20	1 - 2 tiller	9.0	9.0	7.7	6.3	9.0
Acclaim Extra	20	1 - 2 tiller	9.0	9.0	7.0	6.7	9.0
Macrosorb	0.5 ^b						
Drive 75DF	1 ^c	1 - 2 tiller	8.7	9.0	9.0	9.0	9.0
MSO	1 ^d						
LSD (0.05)			NS	NS	0.5	0.5	NS

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

^b Rate of application was ounces/1000 ft².

^c Rate of application was pounds of product/acre.

^d Rate of application was percent volume per volume.

Table 2. Percent^a crabgrass cover

Treatment	Rate of application	Growth stage	18 July	25 July	1 Aug	15 Aug	30 Aug
	oz/A						
Check			6.0	7.7	11.7	25.0	18.3
Acclaim Extra	10	1 - 2 tiller	6.0	2.0	1.0	1.7	2.3
Acclaim Extra	10	1 - 2 tiller	4.7	2.0	1.0	0.7	1.3
Macrosorb	0.5 ^b						
Acclaim Extra	20	1 - 2 tiller	5.0	3.3	1.0	1.7	2.7
Acclaim Extra	20	1 - 2 tiller	7.7	3.0	0.7	1.0	1.7
Macrosorb	0.5 ^b						
Drive 75DF	1 ^c	1 - 2 tiller	7.3	1.7	2.3	8.7	7.7
MSO	1 ^d						
LSD (0.05)			5.4	2.3	2.2	4.2	4.5

^a Percent cover visually estimated.

^b Rate of application was ounces/1000 ft².

^c Rate of application was pounds of product/acre.

^d Rate of application was percent volume per volume.