

Evaluation of Nonselective Liquid Fastburn Formulations

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Background/Objective

QuikPro has been developed as a fastburn glyphosate in a dry formulation. It is desirable based on market research data to have a liquid version of this product. Thus, the objective of this study was to determine the short-term efficacy of several liquid formulation candidates for fastburn symptomology compared to other candidates and standards.

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:	Good
Turf Management: Mowing Height cm (in):	1.25 (0.5)
Fertilization:	
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	None
Target Pest:	Perennial ryegrass
Growth Stage:	Mature

Application Information

Application Date:	7 Oct
Application Time:	5:00 PM
Air Temperature C⁰(F⁰):	17.4 (63)
Relative Humidity(%):	33
Wind Speed m s⁻¹ (mph):	0.9-1.3 (2-3)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	18.3 (65)
Soil Moisture:	Moist
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	934.6 (2.3)
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:

QuickPro provided the quickest kill with significant browning occurring within one day of application. However, both MON 79141 and MON 78997 provided burndown equal to QuickPro by the second day after application (Oct. 9). MON 78567 provided slightly slower burndown than QuickPro, MON 79141, and MON 78997, but faster burndown than Roundup Pro Dry. All treatments (other than Finale) produced 100% control by one month after application.

Table 1. Percent browning of perennial ryegrass.

Treatment	Rate of application	Oct 8	Oct 9	Oct 10	Oct 11	Oct 13	Nov 7
	lbs ae/A						
MON 79141 1.4 lb ae/gal	4.50	11.7	86.7	91.7	95.0	96.7	100.0
MON 79141 1.4 lb ae/gal	5.25	10.0	93.3	90.0	95.0	96.7	100.0
MON 79141 1.4 lb ae/gal	6.00	10.0	88.3	93.3	95.0	98.0	100.0
MON 78997 1.4 lb ae/gal	4.50	10.0	86.7	85.0	91.7	96.7	100.0
MON 78997 1.4 lb ae/gal	5.25	10.0	86.7	88.3	95.0	95.7	100.0
MON 78997 1.4 lb ae/gal	6.00	15.0	85.0	90.0	93.3	94.0	100.0
QuikPro 66.6% ae by wt	4.50	13.3	75.0	90.0	93.3	95.7	100.0
QuikPro 66.6% ae by wt	5.25	21.7	95.0	95.0	95.0	97.0	100.0
QuikPro 66.6% ae by wt	6.00	16.7	93.3	93.3	95.0	97.3	100.0
MON 78567 1.7 lb ae/gal	4.50	2.0	11.7	8.3	20.0	20.0	100.0
MON 78567 1.7 lb ae/gal	5.25	4.3	11.7	13.3	25.0	23.3	100.0
MON 78567 1.7 lb ae/gal	6.00	7.7	18.3	16.7	25.0	31.7	100.0
Roundup Pro Dry 64.9% ae by wt	4.50	0.0	2.3	0.0	3.0	6.7	100.0
Roundup Pro Dry 64.9% ae by wt	5.25	0.0	2.3	0.7	3.0	8.3	100.0
Roundup Pro Dry 64.9% ae by wt	6.00	0.7	1.7	1.0	3.0	8.3	100.0
Finale 2SC	1.5 ^a	2.0	2.0	1.0	5.0	18.3	40.0
Check		0.0	0.0	0.0	0.0	0.0	0.0
LSD (0.05)		5.2	11.6	6.4	7.6	12.0	8.8

^a Rate of application was pounds ai/A.