

QP Dithiopyr verses Dimension for preemergence crabgrass efficacy

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Background/Objective: To evaluate Quali-Pro Dithiopyr as a preemergent herbicide for efficacy on *Digitaria* species and compare to the commercial brand Dimension Ultra 40WP. Compare split applications to single applications.

Site Information

Location:	William H. Daniel Research and Diagnostic Center
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Turfgrass Species:	Kentucky bluegrass blend
Turf Condition:	fair
Turf Management:	
Mowing Height cm (in):	2.5 (1)
Fertilization:	1 lb N/M/YR
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	none
Target Pest:	Crabgrass (<i>Digitaria</i> sp.)
Growth Stage:	pre germination

Application Information

Application Date:	20 April	12 June
Application Time:	8:00 a.m.	9:30 a.m.
Air Temperature C^o(F^o):	8.3 (47)	22.4 (72)
Relative Humidity(%):	64	61
Wind Speed m s⁻¹ (mph):	calm	0.4 (1)
Soil Temperature(7.6 cm depth) C^o(F^o):	7.8 (46)	20 (68)
Soil Moisture:	moist	moist
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	814 (2)	
Spray Pressure:	30psi	
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:

- Natural crabgrass pressure on this area was extreme and was enhanced by this summer's extremely hot weather in Indiana.
- Though all herbicides treatments reduced crabgrass cover on 27 June and 3 Aug compared to the check, there were no statistical differences among the effects of herbicides.
- However, QP Dithiopyr at 0.5 lbs ai/A outperformed Dimension at the same rate when measured on 30 Aug.
- There were no statistical differences in control on 30 Aug between the two products when sequential applications were made.
- QP Dithiopyr performed exceptionally in this study under the intense crabgrass pressure.
- Crabgrass control from preemergence herbicides can be highly variable from year to year and evaluating control data over multiple years is important to determine overall efficacy.

Table 1. Percent crabgrass cover^a after applications of two formulations of dithiopyr.

Treatment	Rate of application	27 June	3 Aug	30 Aug
	lb a.i./A			
Quali-Pro Dithiopyr 40WSP	0.25	3	13	18
Quali-Pro Dithiopyr 40WSP ^b	0.25			
Dimension Ultra 40WSP	0.25	2	38	35
Dimension Ultra 40WSP ^b	0.25			
Quali-Pro Dithiopyr 40WSP	0.5	2	13	13
Dimension Ultra 40WSP	0.5	4	43	81
Check		25	94	97
LSD (0.05)		5	31	31

^a Percent of the plot area covered by crabgrass

^b Indicates a split application with initial application April 20 and second June 12.