



CONTROL OF CRABGRASS USING ACCLAIM AND CURFEW
IN COMBINATION WITH PREEMERGENCE HERBICIDES

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In Michigan, effectively controlling smooth crabgrass (*Digitaria ischaemum* (Schreb.) Muhl.) is a major concern to many homeowners and golf course superintendents. A blanket application of a preemergent herbicide can be costly and also must be applied within the proper timeframe for effective control. Postemergence treatments of methanearsonates have been used on turfgrass to control crabgrass selectively. Methanearsonates usually require two or more applications for effective control, and some turf discoloration may occur. Two new postemergent herbicides, Acclaim and Curfew, provide effective control with minimal phytotoxicity to the turf.

An investigation was initiated to determine the best crabgrass plant stage to spray and receive season-long control. Since new plants may germinate 4 to 8 weeks after application with both Acclaim and Curfew, combinations with preemergent herbicides have been compared and analyzed. The site chosen was a weedy section on the extreme south end of the Hancock Turfgrass Research Center. The area was sprayed with Roundup herbicide early in the year to reduce the weed populations. Surprisingly, the entire area was filling in with a monostand of crabgrass. By June 3rd, the crabgrass stand was very dense with few broadleaf weeds. This method has very good potential for future crabgrass studies. All the treatments were replicated three times, using 4'x6' plots. The entire area did not receive irrigation or fertilization and was mowed as needed.

Table 1 includes the dates of application, treatment list, rates, plant stages, and ratings.

TABLE 1. PERCENT CRABGRASS CONTROL USING ACCLAIM AND CURFEW IN COMBINATION WITH PREEMERGENT HERBICIDES.

APPLICATION DATE	TREATMENTS	RATE (lb ai/A)	CRABGRASS PLANT STAGE UP TO:	% CONTROL OF CRABGRASS		
				2 WAT	4 WAT	8 WAT
June 3rd	1. Curfew	1.5	2Lf-1 til	82	92	63
"	2. Curfew	2.0	"	82	90	60
"	3. Curfew + Starane	1.0 + 0.25	"	86	89	67
"	4. Curfew + Starane	1.5 + 0.5	"	88	91	52
"	5. Starane	0.5	"	88	88	60
"	6. Curfew + Pendimethalin	1.0 + 2.0	"	76	86	83
"	7. Curfew + Bensulide	1.0 + 7.5	"	98	97	98
"	8. Acclaim	.18	"	88	62	61
"	9. Acclaim + Bensulide	.18 + 7.5	"	100	100	98
"	10. Acclaim + DCPA	.18 + 7.5	"	97	90	91
"	11. Acclaim + Pendimethalin	.18 + 1.5	"	100	95	73
"	12. Acclaim	.12	"	92	38	47
"	13. Acclaim + Bensulide	.12 + 7.5	"	98	93	97
"	14. Acclaim + DCPA	.12 + 7.5	"	100	89	87

(Table 1 cont.)

APPLICATION DATE	TREATMENTS	RATE (lb ai/A)	CRABGRASS PLANT STAGE UP TO:	% CONTROL OF CRABGRASS		
				2 WAT	4 WAT	8 WAT
			2Lf-1 til			
June 3rd (6-3-86/ 7-1-86)	15. Acclaim + Pendimethalin	.12 + 1.5	"	100	97	92
	16. Acclaim + Acclaim	.12 + .12	"	87	75	98*
(6-3-86/ 7-1-86)	17. Acclaim + Acclaim	.18 + .18	"	100	81	97*
	18. CHECK					
				<u>2 WAT</u>	<u>4 WAT</u>	<u>8 WAT</u>
June 17th	19. Curfew	1.5	3Lf-3 til	75	75	90
"	20. Curfew	2.0	"	93	96	87
"	21. Acclaim	.12	"	90	76	85
"	22. Acclaim	.18	"	92	84	78
"	23. Acclaim	.25	"	94	81	92
				<u>2 WAT</u>	<u>4 WAT</u>	<u>6 WAT</u>
July 1st	24. Curfew	1.5	3Lf-4 til	73	79	65
"	25. Curfew	2.0	"	78	91	88
"	26. Acclaim	.18	"	98	94	98
"	27. Acclaim	.25	"	99	98	97
"	28. Acclaim	.35	"	99	97	98
"	29. Starane	0.5	"	67	58	48
"	30. Starane + Curfew	0.5 + 1.5	"	90	92	80
				<u>2 WAT</u>	<u>4 WAT</u>	
July 15th	31. Curfew	1.5	5Lf-6 til	92	93	
"	32. Curfew	2.0	"	95	96	
"	33. Acclaim	.18	"	93	78	
"	34. Acclaim	.25	"	94	96	
"	35. Acclaim	.35	"	97	98	
				<u>2 WAT</u>		
July 30th	36. Starane	.50	6Lf-8 til	46		
"	37. Starane + Curfew	.50 + 1.5	"	60		
"	38. Curfew	1.5	"	75		
"	39. Curfew	2.0	"	92		
"	40. Acclaim	.18	"	94		
"	41. Acclaim	.25	"	98		
"	42. Acclaim	.35	"	97		

*These ratings were taken 4 weeks after the second application of Acclaim.

Discussion & Conclusion:

The Acclaim herbicide rapidly killed the crabgrass plants within one week regardless of plant size. The Acclaim treated plants looked dark brown and curly. The Curfew herbicide took approximately one to two weeks longer for the plants to die. These plants turned a reddish-purple color with a few green stripes for nearly two weeks and finally turned grayish-brown.

The best combinations observed for the June 3rd application are as follows:

- Acclaim + Bensulide (.18 + 7.5)
- Curfew + Bensulide (1.0 + 7.5)
- Acclaim + Bensulide (.12 + 7.5)
- Acclaim + Pendimethalin (.12 + 1.5)
- Acclaim + DCPA (.18 + 7.5)

The split applications of Acclaim also maintained good control. During the middle of June, the crabgrass seeds below the ground were germinating rapidly, so pre-emergent combinations were still needed. After July 15th, fewer new plants were germinating, giving better control with a single application of the postemergent herbicides.

On August 9th, Esteron 99 was applied over the plots to remove the broadleaf weeds for easier detection of crabgrass control.

Using a tank mix of the pre and post emergent herbicides aimed at an early plant stage provided the best defense against reinfestation.