

ACCLAIM AND CURFEW TIMING WITH PREEMERGENCE COMBINATIONS

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Effectively controlling smooth crabgrass (*Digitaria ischaemum* (Schreb.) Muhl.) is a major concern to many homeowners and golf course superintendents. Postemergence treatments of methanearsonates have been used on turfgrass to selectively control crabgrass. Methanearsonates usually require two or more applications for effective control. In 1986, an investigation was initiated to evaluate two new postemergence crabgrass herbicides, Curfew from Dow Chemical, and Acclaim from Hoechst-Roussel.

In this study, applications of Acclaim and Curfew at various rates were made on five dates spaced two weeks apart, starting on June 3rd and ending July 30th. These treatments evaluated the controllable crabgrass growth stages from a single application. Preemergence herbicides (bensulide, DCPA, and pendimethalin) were applied in combination with the postemergence herbicides on June 3rd to determine the most effective combination to maintain season-long control of crabgrass.

The plot area was treated with Roundup to eliminate plant competition. During May and June, the entire area reestablished with smooth crabgrass. The experimental design was a randomized complete block (RCB) with 4 x 6 foot plots located at the Hancock Turfgrass Research Center (HTRC). The experimental area was not fertilized or irrigated throughout the summer. Each treatment was applied with a CO₂ small plot sprayer in 56 GPA and replicated three times.

The two week after treatment evaluations in TABLE 1 show that Acclaim at all rates produced excellent control of crabgrass at all growth stages (1 to 8 tillers). In 1986, the main flush of crabgrass germination occurred before July 1st. Because of this, plots treated with Acclaim on June 3rd and June 17th became reinfested with new plants. Acclaim applications from July 1st to July 30th provided better season-long control due to less crabgrass germination. Acclaim applied sequentially (at .12 + .12 and .18 + .18 lb/A) on June 3rd and July 1st gave effective season-long control.

Curfew at rates of 1.5 and 2.0 lb/A gave roughly 90% control of the 6 tiller plants (July 15th application). Curfew takes two to three weeks longer to effectively control crabgrass than Acclaim. Acclaim + bensulide appeared to give the best control of the combinations tested.

TABLE 1: Acclaim And Curfew Timing With Preemergence Combinations
(HTRC 6-3-86 to 7-30-86)

APPLICATION DATE	TREATMENT	RATE (lb ai/A)	CRABGRASS PLANT STAGE UP TO:	% CONTROL			
				2WAT	4WAT	6WAT	8WAT
June 3rd	1. Curfew	1.5	2Lf-1tiller	82	92	63	63*
"	2. Curfew	2.0	"	82	90	55	60*
"	3. Curfew + Fluroxypyr	1.0 + 0.25	"	86	89	49	67*
"	4. Curfew + Fluroxypyr	1.5 + 0.5	"	88	91	58	52*
"	5. Fluroxypyr	0.5	"	88	88	66	60*
"	6. Curfew + Pendimethalin	1.0 + 2.0	"	76	86	88	83*
"	7. Curfew + Bensulide	1.0 + 7.5	"	98	97	85	98*
"	8. Acclaim	.18	"	88	62	42	61*
"	9. Acclaim + Bensulide	.18 + 7.5	"	100	100	97	98*
"	10. Acclaim + DCPA	.18 + 7.5	"	97	90	70	91*
"	11. Acclaim + Pendimethalin	.18 + 1.5	"	100	95	77	73*
"	12. Acclaim	.12	"	92	38	25	47*
"	13. Acclaim + Bensulide	.12 + 7.5	"	98	93	93	97*
"	14. Acclaim + DCPA	.12 + 7.5	"	100	89	85	87*
"	15. Acclaim + Pendimethalin	.12 + 1.5	"	100	97	88	92*
(6-3-86/ 7-1-86)	16. Acclaim + Acclaim	.12 + .12	"	87	75	94	98**
(6-3-86/ 7-1-86)	17. Acclaim + Acclaim	.18 + .18	"	100	81	100	97**
	18. Check			0	10	10	8
			LSD(P-0.05)	16.4	19.7	29.8	
June 17th	19. Curfew	1.5	3Lf-3 Tiller	75	75	77*	48
"	20. Curfew	2.0	"	93	96	92*	72
"	21. Acclaim	.12	"	90	76	85*	60
"	22. Acclaim	.18	"	92	84	86*	69
"	23. Acclaim	.25	"	94	81	93*	90
			LSD(P-0.05)	9.6	11.0		51.1
July 1st	24. Curfew	1.5	3Lf-4 tiller	73	76	59	53
"	25. Curfew	2.0	"	78	88	85	70
"	26. Acclaim	.18	"	98	93	98	92
"	27. Acclaim	.25	"	99	97	95	87
"	28. Acclaim	.35	"	99	96	97	99
"	29. Fluroxypyr	.50	"	67	31	20	18
"	30. Fluroxypyr + Curfew	.50 + 1.5	"	90	89	74	73
			LSD(P-0.05)	11.7	17.2	22.8	30.0
July 15th	31. Curfew	1.5	5Lf-6 tiller	88	90	87	66
"	32. Curfew	2.0	"	93	95	91	82
"	33. Acclaim	.18	"	91	70	80	68
"	34. Acclaim	.25	"	93	95	91	86
"	35. Acclaim	.35	"	96	97	98	83
			LSD(P-0.05)	11.9	32.0	26.8	39.1
July 30th	36. Fluroxypyr	.50	6Lf-8 tiller	38	34	5	42
"	37. Fluroxypyr + Curfew	.50 + 1.5	"	44	38	46	66
"	38. Curfew	1.5	"	41	75	44	87
"	39. Curfew	2.0	"	82	61	58	62
"	40. Acclaim	.18	"	89	91	95	86
"	41. Acclaim	.25	"	96	95	98	96
"	42. Acclaim	.35	"	93	99	94	96
			LSD(P-0.05)	35.0	41.3	37.2	29.6

*These ratings are estimates of percent control based on a percent groundcover rating.

**Ratings taken 4 weeks after the second application of Acclaim.