

The dinitroaniline type herbicides such as PreM, Balan, and Team all gave good control, however, the higher rates or split applications performed better than the standard label rates.

The postemergence trial was conducted as three separate tests with applications at the 2-3 leaf crabgrass growth stage(appl. date 6-2-89), the 2-4 tiller growth stage (appl. date 6-23-89), and the 4-6 tiller growth stage (appl. date 7-7-89). Results (Table 6) indicate that Acclaim gave good to excellent control of crabgrass through the 2-4 tiller application. Combinations of Acclaim plus preemergence herbicides gave excellent control when applied on the 6-2-89 date. MON-15151 or other formulations of the dithiopyr active ingredient gave excellent postemergence control of crabgrass at the early (2-3 leaf) stage. At the later growth stages, however, the MON-15151 did not provide any control. The BAS 514 (to be named Impact when registered by the EPA) gave excellent control at all three growth stages with rates of 0.75 LB/A or above yielding 95% control or higher at 2 weeks after treatment.

BROADLEAF WEED CONTROL

Three separate broadleaf weed control studies were conducted in 1989 on four broadleaf weed species. The weed species were dandelion, white clover, buckhorn plantain, and creeping speedwell. Results are shown in tables 7-10. One new product which is attracting considerable attention is called Confront from Dow Chemical. Confront is a mixture of two broadleaf herbicides called triclopyr and clopyralid. Triclopyr plus 2,4-D make up the Turflon products so the Confront can be thought of as broadleaf herbicide without 2,4-D. The data displayed in tables 7-10 show that Confront performs as well as or better than the other commonly used broadleaf mixtures on dandelion, white clover, and buckhorn plantain but fell down on the control of creeping speedwell. The data also indicate that for most of the common broadleaf weeds, good control should be obtained if applications are made when the weeds are actively growing.

FAIRWAY MANAGEMENT STUDY

In August of 1987, a study was initiated at six golf courses around the state to determine the effects of Prograss, Cutless, and Scott's TGR on the competition between annual bluegrass and creeping bentgrass. Treatments of the plant growth regulators were applied in August of 1987, 1988, and 1989 and in April of 1988 and 1989. Prograss was applied in September and October of 1987, 1988, and 1989. Results in table 11 show the percent

TABLE 7. Control of white clover at the Crops Research Center on the MSU campus

<u>Treatment</u>	<u>Rate (lbs AI/A)</u>	<u>% Clover Control</u>		
		<u>2 WAT</u>	<u>4 WAT</u>	<u>6 WAT</u>
2,4-D + XRM-3724 + XRM-3972	1.25 + .125 + .063	97	100	100
Confront	1.5 pts/A	100	100	100
Confront	2 pts/A	98	100	100
Confront	1 pt/A	99	100	100
2,4-D + XRM-3724 + XRM-3972	1.67 + .17 + .083	98	100	100
2,4-D + XRM-3724 + XRM-3972	.83 + .083 + .042	96	99	100
Fermenta 2 + 2	2.0 ozs/M	96	99	99
Trimec Encore	4.0 pts/A	97	99	99
Fermenta 2 + 2 + Frigate	1.5 ozs/M + 1% V/V	98	98	98
Turflon II	2 qts/A	96	98	97
Trimec	4.0 pts/A	87	97	95
Fermenta 2 + 2	1.5 ozs/M	88	97	93
Fermenta 2 + 2 + Frigate	2.0 ozs/M + 1% V/V	95	97	97
Weedone DPC Amine	4 pts/A	89	95	88
Turflon II	1 qt/A	93	91	92
Trimec Encore	3.25 pts/A	88	89	87
Weedone DPC Amine	3 pts/A	95	87	60
2,4-D Granular Treatment	high rate	79	87	87
2,4-D Granular Treatment	low rate	60	57	38
Control		53	18	21
Control		41	18	20
LSD.05		17	17	22

Table 8. Control of Dandelion at the Crops Research Center on the MSU campus.

<u>Treatment</u>	<u>Rate (lbs AI/A)</u>	<u>% Dandelion Control</u>		
		<u>2 WAT</u>	<u>4 WAT</u>	<u>6 WAT</u>
Fermenta 2 + 2 + Frigate	2.0 ozs/M + 1% V/V	65	96	96
Fermenta 2 + 2	1.5 ozs/M	65	96	93
Turflon II	2 qts/A	67	92	93
Fermenta 2 + 2 + Frigate	1.5 ozs/M + 1% V/V	71	90	92
Fermenta 2 + 2	2.0 ozs/M	77	89	98
Weedone DPC Amine	4 pts/A	70	89	92
2,4-D + XRM-3724 + XRM-3972	1.67 + .17 + .083	67	88	97
Turflon II	1 qt/A	68	87	91
Confront	1.5 pts/A	83	86	95
Trimec Encore	4.0 pts/A	81	82	95
Trimec	4.0 pts/A	77	81	97
2,4-D Granular Treatment	high rate	66	77	84
Confront	2 pts/A	77	77	96
2,4-D + XRM-3724 + XRM-3972	.83 + .083 + .042	64	73	81
Weedone DPC Amine	3 pts/A	71	72	69
Trimec Encore	3.25 pts/A	71	72	79
2,4-D + XRM-3724 + XRM-3972	1.25 + .125 + .063	70	71	89
Confront	1 pt/A	62	60	83
Control		70	58	53
2,4-D Granular Treatment	low rate	63	56	47
Control		69	48	62
LSD.05		19	23	20

Table 9. Control of narrow leaf plantain at the Fairway Driving Range in Okemos, MI.

<u>Treatment</u>	<u>Rate (lbs AI/A)</u>	<u>% Plantain Control</u>		
		<u>2 WAT</u>	<u>4 WAT</u>	<u>6 WAT</u>
Trimec Encore	3.25 pts/A	70	98	98
Weedone DPC Amine	4 pts/A	69	93	99
Confront	1 pt/A	65	93	96
Trimec Encore	4.0 pts/A	73	92	97
2,4-D + XRM-3724 + XRM-3972	.83 + .083 + .042	64	92	98
Confront	2 pts/A	73	92	99
2,4-D + XRM-3724 + XRM-3972	1.67 + .17 + .083	63	91	100
Confront	1.5 pts/A	59	91	99
2,4-D + XRM-3724 + XRM-3972	1.25 + .125 + .063	38	90	98
Turflon II	2 qts/A	66	88	96
Fermenta 2 + 2	2.0 ozs/M	61	83	92
Fermenta 2 + 2 + Frigate	2.0 ozs/M + 1% V/V	60	83	90
Turflon II	1 qt/A	43	79	90
Weedone DPC Amine	3 pts/A	54	72	91
Trimec	4.0 pts/A	47	72	97
Fermenta 2 + 2	1.5 ozs/M	53	69	87
Fermenta 2 + 2 + Frigate	1.5 ozs/M + 1% V/V	38	65	92
2,4-D Granular Treatment	high rate	50	57	70
2,4-D Granular Treatment	low rate	24	38	33
Control		41	20	34
Control		25	17	17
LSD.05		27	24	20

Table 10. Control of creeping speedwell (Veronica filiformis) at the Beal Garden site on the MSU campus.

<u>Treatment</u>	<u>Rate (lbs AI/A)</u>	<u>% Veronica Control</u>		
		<u>2 WAT</u>	<u>4 WAT</u>	<u>6 WAT</u>
DPCA 75WP	10.5	33	100	87
Fluroxypyr	0.5	98	98	100
Fluroxypyr	0.25	89	94	94
Turflon D	4 pts/A	70	87	85
Turflon II	4 pts/A	75	85	83
Trimec	4 pts/A	47	85	92
Weedone DPC	4 pts/A	72	78	68
Esteron 99	1.0	70	58	60
Turflon II	3 pts/A	46	53	74
Confront	2.0 pts/A	0	37	23
Confront	1 pt/A	0	36	40
Triclopyr	0.5	0	25	29
Confront	1.5 pts/A	0	19	19
Control		0	0	13
LSD.05		38	40	35