1983 HERBICIDE EVALUATIONS

Bruce E. Branham
Crop and Soils Sciences, M.S.U.

Herbicide and plant growth regulator field trials were begun in 1983 to provide the people in the state of Michigan an opportunity to compare the performance of currently available and experimental herbicides and formulations. These herbicide evaluations will be continued and expanded in the coming years. The report will describe field studies and laboratory research on pesticide fate.

Premergent Crabgrass Control

This year's study examined several new formulations of a preemergent herbicide being tested by The Andersons. The results of the study are seen in Table 1. The study consisted of 28 treatments which were applied on May 4. The best crabgrass control was achieved with split applications of DCPA W-75 at 10.5 lbs/A initially plus 7.5 lbs/A applied 50 days after the initial treatment. 1983 saw a heavy amount of crabgrass pressure, so a secondary application was needed to achieve optimum control. This was the only treatment in which a split application was used. Single applications of bensulide at 10.0 lbs/A and DCPA 6F at 10.5 lbs/A also provided excellent control of crabgrass. Benefin, another commonly used preemergent herbicide, didn't perform very well this year. Balan as well as all of The Andersons sprayable treatments were formulated as a pel-tech material. Consultations with scientists from The Andersons indicated the that filter screen mesh size may have been too small in our research plot sprayer to pass all of the suspended pel-tech material through the nozzles. This may explain the poor performance of benefin and The Anderson's formulations.

Table 1. 1983 Preemergent Crabgrass Herbicide Study

Treatment		Percentage Crabgrass in Each Plot (.1 = none 100 = complete crabgrass)			
Chemical	Rate	7-7-83	7-21-83	8-9-83	9-8-83
Bensulide	10.0 lbs. ai/A	.1 A	.1 A	2.4 A-C	4.4 A
DCP 6F	10.5 lbs. ai/A	.1 A	.1 A	.1 A	5.7 A
DCPA W-75	10.5 lbs. ai/A	.1 A	1.7 AB	4.0 A-C	11.7 AB
DCPA W-75	10.5 lbs. ai/A + 7.5	.1 A	1.7 AB	.7 AB	1.7 A
Gran. Fert. + 0.92% Ando-B (Dry)		.1 A	3.4 A-C	12.5 A-D	40.0 C
Gran. Fert. + 0.69% Ando-A (Wet)		.4 A	5.0 A-D	16.7 A-D	41.7 CD
Gran. Fert. + 0.69% Ando-A (Dry)		.7 A	10.0 A-F	21.7 C-F	63.3 D-F
Gran. Fert. + 1.38% Ando-A (Wet)		1.0 A	8.3 A-E	18.3 A-E	33.3 C
Sprayable Balan 2.0 lbs. ai/A		1.1 A	6.7 A-E	15.0 A-D	41.7 CD
Gran. Fert. + 0.92% Ando-A (Dry)		1.4 AB	8.3 A-E	20.0 B-E	46.7 CD
Gran. Fert. + 1.38% Ando-B (Dry)		1.4 AB	8.3 A-E	13.3 A-D	30.0 BC
Gran. Fert. + 0.92% Ando-A (Wet)		1.7 AB	5.0 A-D	11.7 A-D	41.7 CD
Gran. Fert. + 0.92% Ando-B (Wet)		1.7 AB	8.3 A-E	16.78 A-E	50.0 C-E
Gran. Fert. + 1.38% Ando-A (Dry)		1.7 AB	6.7 A-E	18.3 A-E	40.0 C
Gran. Fert. + Balan 2.0 lbs. ai/A		2.0 A-C	8.3 A-E	15.0 A-D	36.7 C
Gran. Fert. + Balan 1.6 lbs. ai/A		2.0 A-C	6.7 A-E	11.7 A-D	31.7 BC
Gran. Fert. + 1.38% Ando-B (wet)		3.0 A-C	13.3 B-G	21.7 C-F	40.0 C
Gran. Fert. + 0.46% Ando-A (Dry)		4.4 A-D	13.3 B-G	26.7 D-G	68.3 EF
Gran. Fert. + Bensul 10.0 lbs. ai/A		4.7 A-D	18.3 E-H	25.0 D-G	41.7 CD
Sprayable Ando-A 3.0 lbs. ai/A		5.0 A-D	16.7 D-H	40.0 F-I	75.0 F
Gran. Fert. + 0.46% Ando-A (Wet)		5.3 A-D	10.0 A-F	25.0 D-G	38.3 C
Check		6.7 A-E	15.0 C-G	41.7 G-I	73.3 F
Sprayable Ando-A 2.0 lbs. ai/A		6.7 A-E	16.87 D-H	35.0 E-H	78.3 F
Sprayable Ando-B 3.0 lbs. ai/A		8.7 B-E	21.7 F-H	48.3 HI	73.3 F
Sprayable Ando-A 1.0 lbs. ai/A		9.3 C-E	28.3 H	56.7 I	83.3 F
Sprayable Ando-B 2.0 lbs. ai/A		11.7 DE	23.3 GH	41.7 G-I	80.0 F
Sprayable Ando-A 1.5 lbs. ai/A		13.3 E	25.0 GH	51.7 HI	76.7 F

* Treatments having the same letter are not significantly different at the 5% level. Mean separation by Duncan's Multiple Range Test.