

## 1987 PREEMERGENCE TRIAL

B.E. Branham and R.E. Gaussoin

The summer of 1987 has been a difficult season for turfgrass managers. It has been very difficult to manage turf and, unfortunately, very easy to grow crabgrass. This trial was designed to compare the effectiveness of commercially available preemergence herbicides as well as test new products under very tough conditions.

On April 15th the entire plot area was sprayed with Roundup herbicide to control all vegetation. The site has a natural infestation of crabgrass that was supplemented by overseeding with large crabgrass (Digitaria sanguinalis L.). On May 1, the herbicides were applied to 4'x6' plots with three replications. The herbicides were applied with a CO<sub>2</sub> backpack sprayer using a 4 nozzle boom and 8002 flat fan nozzles. Spray pressure was 30 PSI and spray volume was 50 GPA. Granules were applied by hand to the plots.

Approximately one day after application, the site received 0.2 inches of rain. The plots were unirrigated thus no supplemental irrigation was available to further wash in the herbicides.

The results are displayed in table 9. By July 2nd, most herbicides had broken and there was considerable crabgrass pressure. This is a demanding test because there is no other plant competition, so that if one crabgrass plant establishes in the plot it can grow, unimpeded by other plants, and very easily cover 10% of the plot. None of the commercially available herbicides performed well although Pre M at 3.0 lbs/A (2x rate) did provide excellent control.

A new compound that should be available next year is called prodiamine (trade name - Blockade) from Sandoz Crop Protection Company. Prodiamine has provided excellent control in University tests; however, in our trials it performed slightly below average with 60% crabgrass by August observed with the 3/4 lb ai/A rate.

Balan and Team at 3.0 lb ai/A provided marginal control (41.7 and 43.3 % crabgrass in August, respectively) which ranked them in the top 30% of the treatments tested. DCPA, which has traditionally performed very well in our trials, did not do well with the 10.5 lb ai/A rate showing 65% crabgrass cover in August.

A new product from Monsanto which is numbered MON 15126 for the EC formulation and 15172 for the granular formulation appears to have excellent potential for crabgrass control in turf. The residual is very long and the 2.0 lb/A EC treatment is the only one that is completely clean of crabgrass. Monsanto believes that a use rate of 0.5 - 0.75 lbs ai/A will be very effective with this herbicide. Surprisingly, this compound also has very good postemergence activity, showing the ability to kill 4-7 tiller crabgrass plants. This product looks very good for the turf market.

TABLE 9. Efficacy of preemergence crabgrass herbicides.

<u>Herbicide</u>	<u>Form</u>	<u>Rate</u> lb/A	<u>6-1</u> -----	<u>7-2</u> % Crabgrass	<u>8-5</u> -----
MON 15126	3EC	2.0	0	0	0
Pre M	60WDG	3.0	0.3	5.3	2.3
MON 15172	0.5G	0.5	0	2.0	8.3
MON 15172	0.5G	2.0	0	2.0	9.7
BAS 514	50WP	1.0	0	1.3	12.3
MON 15126	3EC	1.0	0.3	3.3	14.0
Bensulide	4E	12.5	0.7	2.7	18.3
MON 15172	0.5G	1.0	1.7	10.7	21.7
Ronstar	50WP	3.0	0	5.0	25.0
DCPA	75WP	7.5	0.7	10.3	31.7
MON 15126	3EC	0.75	0.3	7.3	31.7
BAS 514	50WP	2.0	0	7.3	40.0
Balan	2.5G	3.0	7.0	28.7	41.7
Team	2G	2	1.0	21.7	43.3
Ronstar	50WP	1.5	0.7	19.0	43.3
Balan	2.5G	2.0	3.7	18.3	45.0
MON 15126	3EC	0.50	0.7	10.0	45.0
MON 15126	3EC	0.38	1.3	25.0	46.7
DFE	4.17F	0.25	1.3	23.3	48.3
MON 15172	0.5G	0.75	1.0	13.3	48.3
Ronstar	2G	3.0	0.7	30.0	53.3
Control			7.0	38.3	55.0
Team	2G	2	4.7	23.3	58.3
Bensulide	4E	7.5	5.3	28.3	58.3
Prodiamine	65WDG	0.75	5.3	30.0	60.0
Bensulide	4E	10.0	5.0	10.0	61.7
Prodiamine	65WDG	0.5	5.7	41.7	61.7
BAS 514	50WP	2.0	1.3	34.0	61.7
DCPA	75WP	10.5	0.7	31.7	65.0
Control			15.0	45.0	70.0
MON 15172	0.5G	0.38	4.7	36.7	71.7
DCPA	75WP	10.5	4.3	25.0	73.3
Team	2G	3	8.7	36.7	73.3
DFE	4.17F	0.05	6.7	43.3	75.0
Balan	2.5G	2	2.3	45.0	76.7
Ronstar	50WP	0.75	4.3	50.0	76.7
Ronstar	50WP	1.0	2.3	43.3	78.3
DFE	4.17F	0.15	3.0	55.0	78.3
Pre M	60WDG	1.5	3.0	50.0	83.3
DFE	4.17F	0.20	10.7	61.7	85.0
Control			28.3	63.3	85.0
DFE	4.17F	0.10	12.3	73.3	91.7
		LSD <sub>P=0.05</sub>	8.2	29.0	34.6