

1989 PREEMERGENCE TRIAL

B.E. Branham and S.J. Keeley
Crop and Soil Sciences

The 1989 preemergence trial was conducted on a 'Newport' Kentucky bluegrass turf that was seeded in the fall of 1987. The turf was approximately 60% established when the herbicide treatments were applied on May 3rd of this year. Liquid treatments were applied using a CO₂ backpack sprayer with a 4 nozzle boom delivering 50 GPA. Granular treatments were applied by hand with shaker bottle. Crabgrass density was visually estimated on July 2nd, August 2nd, and August 25th (Table 2).

Two new herbicides should be on the market by 1990. These are prodiamine (trade name-Barrier) and MON 15100 (trade name-Dimension). The MON 15100 has several different formulations which were tested and are designated by the last two numbers e.g. MON 15151 or 15104, but the active ingredient is the same. Prodiamine is an excellent grass herbicide with low use rates. Rates of 0.75 lb AI/A gave complete crabgrass control while the lower rate has shown some minor crabgrass invasion. Prodiamine is a dinitroaniline herbicide similar in structure to Team, Balan, and PreM. Perhaps the most exciting new herbicide in recent years is the Dimension product from Monsanto. Monsanto believes this product will be approved by the EPA by the 1990 growing season. In my opinion, that is very optimistic and a 1991 date is more realistic. The expected rate range for this herbicide is 0.38-0.5 lbs AI/A for liquid formulations and 0.25-0.38 lbs AI/A for granular formulations. The granular formulations seem to have more activity than the corresponding liquid formulations. As you will see at the next stop, this product also has excellent early postemergence activity.

Other herbicides performing well included PreM at the 3.0 lb AI/A rate, PreM when applied as a split application of 1.5 + 1.0 lb AI/A, and Balan and Team, both applied as split applications at rates of 2 + 1 lbs AI/A. In general, split applications provided excellent control and in some cases better control than the same total rate applied once in the spring. That is, Balan at 2 + 1 lbs AI/A performed better than Balan at 3 lbs AI/A applied on the May 3rd date.

TABLE 2. 1989 Preemergence Crabgrass Control Study

Herbicide	Formulation	Rate (lbs AI/A)	% Crabgrass	
			7/12	8/2
MON 15151	1 EC	0.5	0	0
MON 15151	1 EC	0.75	0	0
MON 15104	1 EC	0.38	0	0
MON 15104	1 EC	0.5	0	0
MON 15104	1 EC	0.75	0	0
MON 15175	0.25 G	0.38	0.3	0
MON 15175	0.25 G	0.5	0	0
MON 15112	0.35 G	0.75	0	0
Prodiamine	65 WDG	0.75	0.3	0
PreM	60 WDG	3.0	0	0
DCPA	75 WP	7.5	0.3	0
PremM	60 WDG	1.5 + 1.0	0	0
Balan	2.5 G	2 + 1	0	0
Team	2 G	2 + 1	0	0
MON 15151	1 EC	0.38	0	0.3
MON 15112	0.35 G	0.5	0	0.3
MON 15175	0.25 G	0.25	0.3	0.7
Team	2 G	3.0	0	0.7
DCPA	75 WP	10.5	0	0.7
MON 15111	0.27 G	0.38	0.3	1.0
Betamec	4 EC	12	0	1.0
Balan	2.5G	2	0.3	1.3
Prodiamine	65 WDG	0.5	0	1.7
MON 15111	0.27 G	0.25	0.7	2.3
Balan	2.5 G	3	0.3	2.3
DCPA	75 WP	10.5 + 7.5	0.3	2.3
PreM	60 WDG	1.5	0.3	6.7
Team	2 G	2.0	0.3	7.3
Control			4.0	10.3
Control			3.0	13.0
		LSD	1.4	5.5