

2006 PBI-Gordon Nutsedge Trial

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Objectives:

The objectives of the trial were to compare a variety of phenoxy herbicides combined with varying formulations of Quinclorac, sulfentrazone, and MSMA for postemergence control of yellow nutsedge in Kentucky bluegrass turf.

Materials and Methods:

The trial was conducted at Terrace Hills golf course east of Des Moines, IA. The location was behind a tee in Kentucky bluegrass area mowed at a 1 inch mowing height. There were 7 treatments including an untreated control (Table 1). Treatments were applied on 6/23/06 with a CO₂ backpack sprayer in the equivalent of 3 gallons water/1000 ft². The temperature at application was 84 F. The area was irrigated, but the weather had been hot and dry leading up to treatments. The weather in the Des Moines area was hot and dry throughout the study period. The study was conducted as a randomized complete block with 3 replications. Plots measured 5 X 5 ft.

Phytotoxicity evaluations based on a scale of 9 to 1, where 9 was no damage, 1 was dead turf and 6 was acceptable were made at 1 and 2 weeks after treatment (WAT). Counts of nutsedge plants in the 25 ft² were taken at 2, 4, and 6 WAT.

Results:

At 1 WAT, the grass on plots treated with EH 1427 (2,4-D, Dicamba, Quinclorac, and Sulfentrazone) was showing a significant reduction in quality from the other treatments (Table 2). The damage was not considered to be unacceptable, but it was clearly visible. Damage was still visible 2 WAT, although the reduction in quality was not significantly different from the other treatments at that time.

At 2 WAT, all treatments had significantly reduced yellow nutsedge plants as compared to the control (Table 2). The plots treated with EH 1432 that contained quinclorac, Trimec plus that contained MSMA, and EH 1433 that contained MSMA were the most effective treatments. By 4 WAT, much of the nutsedge had recovered or had regrown from underground nutlets. The data were not significantly different at the 0.05 level at that time. The data were different at the 0.07 level of significance with an LSD of 26. The treatment showing the greatest reduction in nutsedge numbers at 4 WAT was Trimec Plus with MSMA.

The nutsedge had recovered in most plots by 6 WAT and there were no differences among treatments at that time. Numerically, plots treated with Trimec plus still had the least nutsedge plants at 6 WAT.

Table 1. Phytotoxicity on turf and nutsedge control for the 2006 PBI Gordon nutsedge control study.					
Treatment	Phyto turf 1 WAT	Phyto turf 2 WAT	Nutsedge Count 2 WAT	Nutsedge Count 4 WAT	Nutsedge Count 6 WAT
Nutsedge plants/25 ft ² plot					
1. EH 1427	7	7	15	23	71
2. EH 1432	9	9	2	12	24
3. EH 1437	9	9	11	19	51
4. EH 1434	9	9	8	11	28
5. Trimec +	9	8	2	3	19
6. EH 1443	9	9	2	11	51
7. Control	9	8	82	44	103
LSD 0.05	1	NS	33	NS	NS