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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State University of New Jersey in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public.

This publication includes lecture notes of papers presented at the 2017 GREEN EXPO Turf and Landscape Conference. Publication of these lectures provides a readily available source of information covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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Dr. Ann Brooks Gould, Editor
Dr. Bruce B. Clarke, Coordinator

WHITE CLOVER CONTROL WITH EH1608 AND EH1609, 2017

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The objective of this experiment was to evaluate the efficacy of EH1608 and EH1609 herbicides for post-emergence white clover (*Trifolium repens*) control.

MATERIALS AND METHODS

This experiment was conducted at the Rutgers Plant Science Research and Extension Farm, Adelphia, NJ on a simulated lawn. The site was a sandy loam soil with a mature stand of white clover (>85% cover). A poor stand of perennial ryegrass (*Lolium perenne*) was also present at the site. The site was mowed weekly at 3 inches and irrigated as needed to prevent wilt. No additional fertilizers or plant protectants were applied to the trial.

Treatments (Table 1) were arranged in a randomized block design and replicated four times. The treatments were applied using a shaker jar to dew covered, 4 x 7-ft plots on 30 June 2017. A 12-inch wide, non-treated buffer strip was maintained between each plot providing a 3 x 7-ft treated area.

White clover control and turfgrass injury were evaluated visually on a 0 (no control or injury) to 100% (complete control or necrosis) scale relative to the non-treated control. Clover injury was evaluated 1 week after treatment (WAT) on a 1 (complete necrosis) to 9 (no injury) scale. Data were subjected to ANOVA in ARM (v2017) and Fisher's Protected LSD ($p \leq 0.05$) was used to separate means.

RESULTS

No turfgrass injury was observed at any time during the experiment (data not presented).

White Clover Injury

At 1 WAT, all treatments caused similar white clover injury when compared to the non-treated control (Table 2).

White Clover Control

EH1608 provided more white clover control than EH1609 and Scotts W&F at 6 and 8 WAT (Table 2). EH1608 provided >70% control while EH1609 provided <35% control. EH1609 provided more control than Scotts W&F at 8 WAT but not at 6 WAT.

Table 1.   Herbicide treatments applied to a stand of white clover (*Trifolium repens*) and perennial rye-grass (*Lolium perenne*) at the Rutgers Plant Science Research and Extension Farm, Adelphia, NJ. Treatments were applied on 30 June 2017 to dew covered turf.

Treatment	Product	Active ingredient	Product Rate (lb per acre)	Active Ingredient Rate (lb per acre)
1	Non-treated	–	–	–
2	EH1608	quinclorac + halauxifen-methyl	125	0.51
3	EH1609	dicamba + halauxifen-methyl	125	0.08
4	Scotts Turf Builder W&F	2,4-D + mecoprop-p	125	2.25

Table 2.   White clover injury and control following herbicide applications made on 30 June 2017 at Adelphia, NJ to a stand of white clover and perennial ryegrass.

Treatment	Herbicide	White Clover Injury[1,2] 7 July 1 WAT[4]	White Clover Control (%)[2,3] 8 Aug. 6 WAT	White Clover Control (%)[2,3] 25 Aug. 8 WAT
1	Non-treated	9 a	0 c	0 d
2	EH1608	7.8 b	86 a	74 a
3	EH1609	7.5 b	34 b	26 b
4	Scotts W&F	7.5 b	33 b	16 c
	LSD at 5% =	0.6	13	10

[1] Clover injury was evaluated on a scale of 1 to 9, where 9 = no injury and 1 = complete necrosis
[2] Means followed by the same letter are not sigificantly different according to Fisher's Protected LSD test ($p \leq 0.05$)
[3] Clover control was evaluated on a 0 to 100% scale, where 0 = no control and 100 = complete control relative to the non-treated control
[4] WAT = weeks after treatment