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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 2021 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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Deborah Spinella, Proceedings Layout Editor  
Dr. James A. Murphy, Coordinator

# POSTEMERGENCE NIMBLEWILL CONTROL WITH SPEEDZONE HERBICIDE

Matthew T. Elmore and Daniel P. Tuck<sup>1</sup>

## INTRODUCTION

Nimblewill (*Muhlenbergia schreberi*) is a problematic warm-season perennial grassy weed. The objective of this experiment was to evaluate SpeedZone herbicide for postemergence nimblewill control compared to industry standards.

## MATERIALS AND METHODS

This experiment was conducted at the Rutgers Adelphia Research and Extension Farm in Adelphia, NJ on a mixed stand of cool-season turfgrass species naturally infested with nimblewill. The site was mowed weekly at 2.5" with a rotary mower and irrigated by rainfall only.

Treatments (Table 1) were arranged in a randomized block design and replicated four times. Treatments were applied using a CO<sub>2</sub>-powered sprayer calibrated to apply 44 GPA through a single 9504EVS nozzle at 44 PSI. Each treatment consisted of two applications of SpeedZone or Tenacity initiated at 75 to 90% nimblewill greenup (May 31), in the summer (July 26), or once 10 cooling degree-days (base temperature of 72 degrees F) had accumulated (September 10). Tenacity was reapplied two weeks after the initial application and SpeedZone was reapplied four weeks after the initial application. A 12" wide non-treated buffer strip was maintained between each plot providing a 3' by 7' treated area.

Nimblewill control was evaluated on a 0 (no injury or weed green cover reduction) to 100 (complete death or weed green cover reduction) percent scale relative to the non-treated control. Nimblewill cover was evaluated at spring greenup in June 2020. All data were subjected to ANOVA in ARM (v9) and Fisher's Protected LSD (P=0.05) was used to separate means.

## RESULTS

### Nimblewill Control

Tenacity and SpeedZone applied in the spring provided ≥80% nimblewill control in July and August (Table 2). Tenacity provided more control than SpeedZone from 2 to 14 weeks after initial treatment (WAIT). Mid-summer applications of Tenacity were less effective than spring applications. Summertime applications of SpeedZone were as effective as springtime applications from 14 to 21 WAIT. Early autumn applications of Tenacity were more effective than early autumn applications of SpeedZone when evaluated in the autumn and this trend was not statistically significant when evaluated the following spring. At the final evaluation in June 2020, spring and fall applications of Tenacity, as well as fall applications of SpeedZone reduced nimblewill cover >80%. Summer applications of either herbicide tended to provide less control than fall applications although this trend was not statistically significant.

## CONCLUSION

SpeedZone EW applied in summer or early fall provided nimblewill suppression comparable to Tenacity, the current industry standard for nimblewill control. Two applications of Tenacity or SpeedZone provided suppression but not complete nimblewill control at spring greenup the year following applications. Future research could evaluate the effect of herbicide application timing on nimblewill control.

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<sup>1</sup> Assistant Extension Specialist in Weed Science and Field Researcher III, respectively, New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State University of New Jersey, New Brunswick, NJ 08901-8520.

Table 1. Herbicide treatments applied in 2019 at the Rutgers Adelphia Plant Science Research and Extension Farm in Freehold, NJ for nimblewill control.

Treatment	Product	Active Ingredient	Product rate (per acre)	Application timing
1	Non-treated	–	–	–
2	SpeedZone EW	2,4-D + MCP-P + dicamba + carfentrazone	4 pt <i>fb</i> 4 pt	May 31 <sup>1</sup> <i>fb</i> July 2
3	Tenacity <sup>2</sup>	mesotrione	5 fl oz <i>fb</i> 5 fl oz	May 31 <i>fb</i> June 17
4	SpeedZone EW	2,4-D + MCP-P + dicamba + carfentrazone	4 pt <i>fb</i> 4 pt	July 26 <i>fb</i> Aug 26
5	Tenacity	mesotrione	5 fl oz <i>fb</i> 5 fl oz	July 26 <i>fb</i> Aug 8
6	SpeedZone EW	2,4-D + MCP-P + dicamba + carfentrazone	4 pt <i>fb</i> 4 pt	Sep 10 <i>fb</i> Oct 11
7	Tenacity	mesotrione	5 fl oz <i>fb</i> 5 fl oz	Sep 10 <i>fb</i> Sep 26

<sup>1</sup>The application on May 31 was initiated at 75 to 90% nimblewill greenup; the application on September 10 was initiated upon accumulation of 5 to 10 cooling degree-days

<sup>2</sup>Tenacity was tank-mixed with non-ionic surfactant at 0.25% v/v

Table 2. Nimblewill control following herbicide applications for postemergence nimblewill control in 2019. Control was evaluated on a 0 (no injury or weed cover reduction) to 100 (complete death or weed cover reduction) percent scale relative to the non-treated control. Nimblewill cover was also evaluated in 2020 after nimblewill greenup in the spring on a 0 (no cover) to 100 (complete cover) scale.

	Herbicide	Timing	Nimblewill control							Nimblewill	
			14-Jun	24-Jun	16-Jul	7-Aug	22-Aug	10-Sep	10-Oct	22-Oct	Cover
			2 WAIT <sup>1</sup>	4 WAIT	6 WAIT	10 WAIT	12 WAIT	14 WAIT	19 WAIT	21 WAIT	20 Jun.
			2 WA-A	4 WA-A	6 WA-A	2 WA-B	4 WA-B	6 WA-B	4 WA-C	6 WA-C	–
1	Non-treated	–	0 c <sup>2</sup>	0 c	0 c	0 d	0 d	0 c	0 d	0 d	31 a
2	SpeedZone EW	May 31 <i>fb</i> July 2	46 c	65 b	90 b	90 b	80 b	81 b	87 a	86 ab	20 ab
3	Tenacity	May 31 <i>fb</i> June 17	58 a	93 a	100 a	100 a	100 a	100 a	97 a	99 a	4 bc
4	SpeedZone EW	July 26 <i>fb</i> Aug 26	–	–	–	48 c	46 c	71 b	90 a	92 a	13 abc
5	Tenacity	July 26 <i>fb</i> Aug 8	–	–	–	44 c	84 b	73 b	70 b	61 c	13 abc
6	SpeedZone EW	Sep 10 <i>fb</i> Oct 11	–	–	–	–	–	–	55 c	69 bc	6 bc
7	Tenacity	Sep 10 <i>fb</i> Sep 26	–	–	–	–	–	–	91 a	89 a	1 c

<sup>1</sup>Abbreviations: WAIT, weeks after initial treatment; WA-A, B, C, weeks after the May 31, July 26, and Sep 10 applications, respectively.

<sup>2</sup>Means followed by the same letter are not significantly different according to Fisher's Protected LSD test; P=0.05.