

Postemergence Herbicides for Broadleaved Weed Control in Dormant Bermudagrass Turf

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Abstract

The treatments that included 2,4-D, mecoprop, and dicamba effectively controlled burclover and malva in the dormant bermudagrass turf. The addition of carfentrazone to the hormonal herbicides (Speedzone) appeared to enhance malva control earlier than the other treatments. Surge* containing sulfentrazone with hormonal herbicides gave the highest degree of malva control. Fluroxypyr (Spotlight*) was not effective against burclover and showed moderate control of malva in this test.*

Introduction

New products are being introduced for weed control programs and many are pre-mix packaged products that incorporate new chemistries with established products. Carfentrazone and sulfentrazone are relatively fast-acting herbicides that inhibit the production of chlorophyll in the plant by disrupting cell membranes and are classified as protoporphyrinogen oxidase (PPO) inhibitors. They have been combined with the hormonal class of herbicides, 2,4-D, dicamba, and mecoprop (Trimec*), to provide rapid and expanded broadleaved weed control in turfgrasses. The trade names for the combination products are Speedzone* containing carfentrazone and Surge* containing sulfentrazone. Spotlight* (fluroxypyr) is another broadleaved weed herbicide that was recently commercialized for turfgrass use. This experiment was designed to compare the efficacy of the new herbicides for winter weed control.

Materials and Methods

A small plot field experiment was conducted adjacent to a softball field in Tempe, AZ where plots measured 5 ft by 10 ft and were arranged in a randomized block design with three replicates. Herbicides were applied with a backpack CO₂ sprayer pressurized to 30 psi and delivered 39 gpa water through a hand-held boom equipped with three 8002 flat fan nozzles spaced 20 inches apart. The treatments were applied on 25 March 2005 when the air temperature was 54°F, calm, and partly cloudy.

Results and Discussion

At 2 weeks after treatment (WAT), Speedzone containing carfentrazone was effective in controlling burclover and had reduced malva growth to an acceptable level. At 4 WAT, Surge containing sulfentrazone gave the highest degree of malva control. All products containing 2,4-D, dicamba, and mecoprop gave very good control of burclover and acceptable control of malva. Spotlight was not effective against burclover and showed moderate control of malva in this test.

Burclover control was achieved with any of the herbicides containing 2,4-D, dicamba, and mecoprop. The addition of carfentrazone to the hormonal herbicides appeared to enhance malva control earlier than the other treatments. The addition of sulfentrazone to the hormonal herbicides tended to give slightly higher malva control at the end of the season.

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Table. Winter broadleaved weed control in dormant bermudagrass

Treatment	Rate	Weed Control			
		MEDPO		MALPA	
	lb AI/A	8-Apr	22-Apr	8-Apr	22-Apr
		%			
untreated check		0	0	0	0
carfentrazone + 2,4-D ester + mecoprop + dicamba	0.025 + 0.675 + 0.24 + 0.07	96	98	87	87
2,4-D + mecoprop + dicamba	1.0 + 0.27 + 0.11	98	98	77	87
fluroxypyr	0.56	50	17	77	60
sulfentrazone + 2,4-D ester + mecoprop + dicamba	0.03 + 0.70 + 0.25 + 0.11	87	98	76	95
LSD (p=0.05)		9.3	24.3	8.7	42.5

Applications on 25 March 2005.

MEDPO = *Medicago polymorpha* (burclover)

MALPA = *Malva parviflora* (malva or mallow)