

Tolerance of Supina Bluegrass to Pre- and Post-Emergent Herbicides

Kurt Steinke and John C. Stier
Department of Horticulture

INTRODUCTION

Found naturally in high traffic areas (human and cattle paths) in the Alps, supina bluegrass (*Poa supina* Schrad.) has been used extensively in Europe for greater than 20 years. Supina bluegrass is an extremely stoloniferous turfgrass with the ability to form a dense turf at low mowing heights. In addition to thriving in moist, shaded environments, supina bluegrass is also a highly adapted cold and traffic tolerant turf species thus making it a prime candidate for use in northern climates.

With all of the aforementioned adaptations, supina bluegrass may become useful for use on athletic fields, golf courses, and lawns in the U.S. Since the use of herbicides on amenity turfgrasses is prohibited in many areas of Europe where supina bluegrass is used there is currently no documented information on herbicide sensitivity. The objective of the study was to determine the effect of both pre-emergent and post-emergent applied herbicides on an established stand of supina bluegrass.

MATERIALS AND METHODS

Plots were established from seed in June 1998 at the O.J. Noer Turfgrass Research Facility in Verona, WI. Treatments were laid out in a randomized complete block design with four replications. Fifteen commercially available broadleaf and grass herbicides (Tables 1 and 2) were tested in early fall and or spring on plots measuring 4.5 ft x 6.0 ft. All treatments were applied at the median recommended rate with the exception of ethofumesate which was applied at both high and low label rates.

All plots were mowed three times weekly at 1.5 in. and irrigated three times a week at 100% ET. Treatments were applied in 2 gal. water/1000ft² using a CO₂ backpack sprayer equipped with 8004XR flat fan nozzles. All treatments received 0.5 in. water 48 hours after applications were made.

Plots were rated at pre-treatment, two days after application, and weekly for a period of four weeks. Ratings taken included turf color (1=yellow/brown; 9=dark green; 6=acceptable), turf quality (1=dead turf/bare soil; 9=dense/uniform turf; 6=acceptable), density, weed control, and phytotoxicity (1=no burn; 5=dead turf). All fall applications also received a winter recovery rating. Phytotoxicity was rated for the first three weeks following winter snow melt with color ratings collected during weeks four and five.

RESULTS AND DISCUSSION

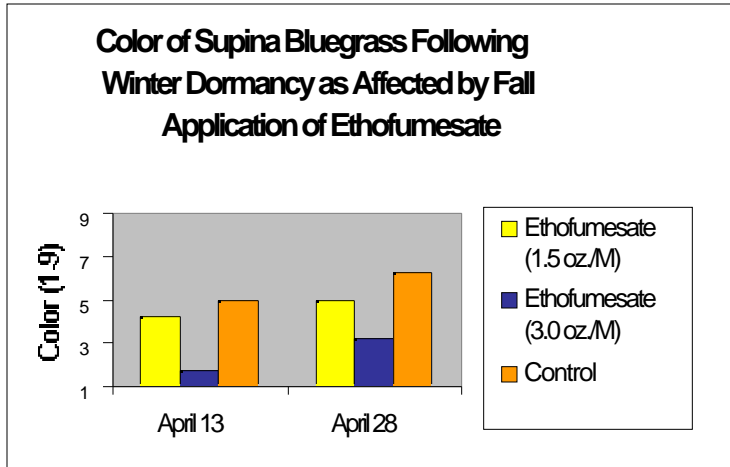
Table 1. Pre-Emergent herbicides tested.

Herbicide	Rate (oz./1000 ft ²)
Prograss (Ethofumesate)	1.500
Prograss (Ethofumesate)	3.000
Siduron (Tupersan)	7.500
Dimension (Dithiopyr)	1.500
Barricade (Prodiamine)	0.550

Table 2. Post-Emergent herbicides tested.

Herbicide	Rate (oz./1000 ft ²)
MCPP (Mecoprop)	1.500
2-4 D	0.735
Clarity (Dicamba)	0.367
Turflon (Triclopyr)	0.550
Lontrel (Clopyralid)	0.350
Strike 3 (2-4D, MCPP, and Dicamba)	1.300
Manage (Halosulfuron)	0.023
Drive (Quinclorac) with Methylated Seed Oil	0.367
MSMA	1.000
Acclaim (Fenoxaprop)	0.640
Confront (Triclopyr and Clopyralid)	0.550

Analysis of variance indicated significant treatment effects for autumn applications evaluated the following spring. There were no effects visible during the autumn or from the spring applications. Fall applications of ethofumesate, at both high and low label rates, resulted in phytotoxicity and significantly delayed spring green-up (Figure 2). MCPP was the only broadleaf applied herbicide to cause phytotoxicity, which occurred for a period of two weeks. In addition, treatments containing MCPP slightly burned turf tips, an effect that lasted for one to two weeks. All plots recovered from phytotoxicity without any long-term effects.



CONCLUSIONS

At the present time, there does not seem to be any pre-emergent or post-emergent herbicide with a permanent long-term adverse effect on supina bluegrass. Herbicides containing ethofumesate and MCPP do seem to cause a delay in spring green-up due to some phytotoxicity. Due to the aggressive nature of supina bluegrass, further research needs to be conducted to discover a selective control for this turfgrass species.