

11. Whitcomb, Carl E. 1981. *Response of woody landscape plants to Bermudagrass competition and fertility.* J. Arboric. 7: 191-194.
12. Whitcomb, Carl E. 1980. *Effects of black plastic and mulches on growth and survival of landscape plants.* J. Arboric. 6: 10-12.
13. Nell, P.L. 1969. *Growth factors in trunk development of young trees.* Proc. Int. Shade-Tree Conf. 45: 46-59.
14. Whitcomb, Carl E. 1979. *Factors affecting the establishment of urban trees.* J. Arboric. 5(10): 217-220.
15. Whitcomb, Carl E. 1978. Effects of Spring Versus Fall

Fertilization on the Growth and Cold Tolerance of Woody Plants in the Landscape. Research Report P-777. Okla. Agri. Exp. Sta. Oklahoma State University, Stillwater, OK pp. 11-12.

*Professor of Horticulture
Oklahoma State University
Stillwater, Oklahoma 74078*

CONTRIBUTED ABSTRACT

PHYTOTOXICITY OF POST-EMERGENCE GRASS HERBICIDES TO ORNAMENTAL TREES, SHRUBS, VINES, AND GROUNDCOVERS

Purpose: To determine whether Fusilade, Poast, and CGA 24275, can be safely used as over-the-top treatments in ornamentals to control weedy grasses

Procedure: Plants were grown in containers and sprayed with herbicides at approximately 1 month intervals with a hand held small plot sprayer at 30 psi in a volume of 36 gallons/acre. Plants were assessed visually 1 month after each application using a scale of 0-10 where 1 equals no injury and 10 equals death.

Experimental Design: Completely randomized with 3 replications

Applications: 11 May 1983 — sunny, 70 F, soil dry, wind less than 5 mph
18 June 1983 — foggy, 65 F, soil dry, wind 5 mph

Treatments:

1. Control (Con)
2. Fusilade .5 #ai/A + .25% X77 (Fus. 5)

Continued

3. Fusilade 2.0 #ai/A + .25% X77 (Fus. 2)
4. Poast 1.0 #ai/A + oil* (Po 1)
5. Poast 2.0 #ai/A + oil* (Po 2)
6. CGA 24275 1 #ai/A + oil* (CGA 1)
7. CGA 24275 2 #ai/A + oil* (CGA 2)

* 1 quart/100 gallons

Injury Ratings*

Species	June 13, 1983						July 15, 1983							
	Fus			Po		CGA		Fus			Po		CGA	
	Con	0.5	2.0	1	2	1	2	Con	0.5	2.0	1	2	1	2
Ajuga reptans	1.7	1.0	0.0	0.3	0.3	0.3	0.3	0.7	0.3	0.3	0.7	0.3	0.0	0.7
Arbutus unedo	1.0	0.7	0.3	0.0	0.3	1.0	0.7	1.3	0.7	0.3	0.7	1.0	1.0	0.7
Arenaria verna	2.3	5.0	2.0	2.3	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Asparagus densiflorus 'sprengerii'	0.0	0.3	0.7	0.7	0.7	0.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campanula carpatica	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	—	0.0	0.0	0.0
Cerastium tomentosum	5.3	3.7	5.0	6.0	6.3	5.7	5.0	6.3	5.7	5.7	7.0	6.7	6.7	6.3
Eucalyptus citriodora	0.7	0.0	0.0	0.3	0.7	0.7	0.3	0.0	0.0	0.7	1.0	1.0	2.0	0.0
Eucalyptus nicholii	—	—	—	—	—	—	0.3	2.3	—	1.0	2.7	1.0	0.0	0.0
Euryops pectinatus	0.3	—	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.3	0.0	2.7	0.0	0.0
Gazania ringens 'leucoleana'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	0.3	0.3	0.5	0.3	0.0
Geijera parviflora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.3	0.0
Hedera helix	0.3	0.0	0.0	0.3	0.7	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3
Herniaria glabra	0.0	0.7	1.0	1.0	0.7	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Juniperus chinensis 'Hetzii'	0.0	1.0	1.7	0.3	0.3	0.7	0.5	0.0	0.0	1.0	0.0	0.0	0.0	1.7
Juniperus horizontalis ‘Bar Harbor’	0.7	1.3	3.0	0.3	0.7	2.0	5.0	0.7	5.3	7.7	1.7	0.0	5.7	7.7
Juniperus scopulorum ‘Wichita Blue’	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
Juniperus wiltonii	0.0	0.0	1.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leptospermum laevigatum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0
Ligustrum japonicum	1.3	0.7	1.3	2.3	0.7	1.0	1.0	7.5	1.3	5.3	8.0	3.7	4.7	5.0
Liquidambar styraciflua	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lonicera japonica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	0.7	0.0	0.3	0.7	0.3
Lysimachia nummularia	0.0	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0
Metrosideros excelsus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nandina domestica	0.3	0.7	1.3	1.0	0.7	1.0	1.7	0.0	0.7	0.3	0.7	0.3	0.0	0.7
Nerium oleander	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.0
Ophiopogon japonicus	0.0	0.0	1.0	0.0	0.3	—	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pelargonium domesticum	0.3	0.3	0.7	0.0	0.7	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Photinia fraseri	0.3	0.0	0.3	0.0	0.3	0.3	0.3	0.7	0.0	0.3	0.0	0.0	0.0	0.7
Polygonum capitatum	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5	1.5	2.0	2.0	1.5
Potentilla verna	0.7	3.0	2.0	2.7	1.7	3.0	1.0	0.7	1.0	1.0	1.3	0.7	1.0	1.0
Salix matsudana 'tortuosa'	1.0	1.3	1.0	1.3	1.5	0.3	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.3
Sedum X rubrotinctum ‘Christmas cheer’	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.7	0.5
Spirea Vanhouttei	0.0	0.0	0.5	0.0	0.0	0.0	0.5	1.0	0.0	0.7	0.5	2.0	0.0	0.0
Syzgium paniculatum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0
Vinca minor	0.3	1.3	1.0	0.7	1.0	1.0	0.7	0.7	0.7	0.3	0.7	0.3	0.7	1.0

* 0 = no injury, 10 = death

Robert P. Rice, Jr.
 Ornamental Horticulture Department
 California Polytechnic State University
 San Luis Obispo, California