

YELLOW NUTSEDGE CONTROL IN DRY EDIBLE BEANS WITH SANDEA®

Corey V. Ransom, Charles A. Rice, and Joey K. Ishida
Malheur Experiment Station
Oregon State University
Ontario, OR, 2001

Introduction

Yellow nutsedge is an increasingly difficult weed to control in several crops in the Treasure Valley, including dry beans. Few herbicides labeled for postemergence application in dry beans provide effective yellow nutsedge control. Sandea is labeled for broadleaf weed and yellow nutsedge control in sweet corn. Postemergence applications of Sandea were evaluated at various rates alone and in combination with several preemergence herbicides for crop tolerance and yellow nutsedge control in dry beans.

Methods

Pinto beans (var. 'Othello') were planted on May 4 using a 2-inch seed spacing. Due to poor crop establishment, Roundup (0.75 lb ai/acre) was applied on May 17 to facilitate replanting on May 23. Plots four rows wide and 27 ft long were arranged in a randomized complete block. Herbicide treatments were applied with a CO₂-pressurized backpack sprayer calibrated to deliver 20 gal/acre at 30 psi. Crop injury and yellow nutsedge control were evaluated throughout the season. Sandea was applied postemergence at rates of 0.5 and 0.75 oz ai/acre, and preemergence at rates of 0.56, 0.75, and 0.94 oz ai/acre. Applications of Sandea applied alone or in combination with Basagran were evaluated as a total postemergence treatment or following preemergence applications of Dual II Magnum or Outlook.

Results

Crop injury on June 19 ranged from 0 to 30 percent and was greatest in plots receiving postemergence Sandea applications (Table 1). Crop injury was less with postemergence applications of Sandea (0.752 oz ai/acre) plus Basagran (16 oz ai/acre) compared to Sandea alone (0.752 oz ai/acre). On July 30, only plots receiving a second postemergence application of Sandea with or without Basagran displayed injury greater than the untreated check. Injury was again greater with Sandea alone compared with the combination of Sandea plus Basagran on July 30.

On July 30, yellow nutsedge control was similar in plots receiving postemergence applications of Sandea regardless of rate, tank-mix combination, or number of applications (Table 1). Yellow nutsedge control with preemergence Sandea treatments was similar to both Dual II Magnum and Outlook. Sandea applied postemergence following Dual II Magnum and Outlook increased yellow nutsedge control by 29 and 21 percent, respectively, compared to the preemergence treatments alone. Table 1. Dry bean injury and yellow nutsedge control with Sandea, Malheur Experiment Station, Oregon State University, Ontario, OR, 2001.

Treatment	Rate*	Timing	Dry bean injury			Yellow nutsedge control		
			6-19	7-3	7-13	7-3	7-13	7-30
	oz ai/acre		----- % -----					

Sandea + NIS	0.752 + 0.25%	1-2 Trif	30	18	1	84	95	97
Sandea + NIS Sandea + NIS	0.5 + 0.25% 0.5 + 0.25%	1-2 Trif 21 DL	27	16	25	75	91	97
Sandea + NIS Sandea + NIS	0.752 + 0.25% 0.752 + 0.25%	1-2 Trif 21 DL	24	13	26	76	94	97
Sandea	0.56	PRE	0	4	0	79	85	89
Sandea	0.75	PRE	6	4	2	60	62	68
Sandea	0.94	PRE	0	0	0	51	65	78
Dual II Magnum	20.3	PRE	4	5	0	27	49	66
Outlook	10.5	PRE	5	3	0	46	63	72
Dual II Magnum Sandea + NIS	20.3 0.752 + 0.25%	PRE 1-2 Trif	28	16	4	92	94	95
Outlook Sandea + NIS	10.5 0.752 + 0.25%	PRE 1-2 Trif	28	13	2	81	92	93
Sandea + Basagran + NIS	0.752 + 16 + 0.25%	1-2 Trif	16	6	1	81	93	89
Sandea + Basagran + NIS Sandea + Basagran + NIS	0.752 + 16 + 0.25% 0.752 + 16 + 0.25%	1-2 Trif 21 DL	20	12	13	89	96	97
Raptor + NIS	0.49 + 0.25%	1-2 Trif	20	13	0	38	38	53
Basagran + COC Basagran + COC	16 + 1.0% 16 + 1.0%	1-2 Trif 21 DL	13	6	4	60	86	88
Outlook Basagran + COC	10.5 16 + 1.0%	PRE 1-2 Trif	15	9	1	63	58	70
Untreated	--	--	2	0	0	3	0	15
LSD (0.05)			6	7	5	32	23	24

*Non-ionic surfactant (NIS) and crop oil concentrate (COC) were applied at 0.25 and 1.0 percent v/v.

†Preemergence (PRE) applications were made on May 25, postemergence applications made to 1 to 2 trifoliolate (1-2 Trif) beans on June 15, and 21 days later (21 DL) to 10 to 14 trifoliolate beans on July 6.