

Yellow nutsedge control with single or sequential applications

Zac Reicher and Matt Sousek

University of Nebraska-Lincoln

This study was conducted at the John Seaton Anderson Research Center at Mead, NE, on a thinned stand of perennial ryegrass with high populations of yellow nutsedge (YN). Separate but adjacent trials were initiated in 2013 and 2014. The stand was mowed at 2.5 inches and irrigated to prevent drought stress. Plots were 3' x 3' and sprayed with a CO2 backpack sprayer using a single nozzle boom with 8002vs nozzle at 30 psi in 2 gal/1000ft² water. Initial treatments of Sedgehammer or Dismiss were applied in the first week of June with or without sequential applications made 3 weeks after the initial application with Sedgehammer or Dismiss. Plots were rated for % YN cover on a 0-100% scale.

Results

Applications of Sedgehammer in the first week of June regardless of sequential application resulted in the lowest cover of YN ranging from 1-9 % (Table 1) and highest control 77-100% (Table 2) throughout both years. Applications of Sedgehammer made mid-July resulted in decreased cover on the 6 August and 17 September rating dates in 2013, but these same treatments in 2014 resulted in little to no reduction of YN (Table 1). Dismiss applications resulted in lower YN cover (18-21%) compared to the untreated (25-32%) when applied twice in 2013 and resulted in higher YN reduction in 2014 especially with 2 applications which was similar to Sedgehammer YN reduction.

In order to determine long term effects, 2013 plots were rated the following year to see how treatments effect YN populations. Treatments of Sedgehammer in the first week of June with or without a sequential application were most effective in controlling YN. Sedgehammer resulted in 1-2% cover equating to 93-98% control over untreated plots 1 year after the initial treatments. These same ratings will be taken in 2015 on the 2014 and 2013 treated plots to further explore the long term effects.

Conclusions

Results from this study indicate that 1 application of Sedgehammer applied in the first week of June can provide season long control of YN. In our study Dismiss provided some control of YN but not as well as Sedgehammer in 2013. In 2014 Dismiss resulted in higher levels of control but two applications were necessary to provide similar control to Sedgehammer. Sequential applications of Sedgehammer resulted in as good or better control of YN than single applications. Throughout both years earlier applications have an advantage over later applications when attempting to control YN.

Application Description	2013		2014	
Application Code:	A	B	A	B
Application Date:	6/3/2013	7/12/2013	6/6/2014	7/17/2014
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	Post	Post	Post	Post
Application Placement:	Broad	Broad	Broad	Broad
Air Temperature, Unit:	72 F	81 F	74 F	63 F
% Relative Humidity:	64	67	75	73
Soil Temperature, Unit:	66 F	82 F	72 F	76 F

Table 1. Effect of single or sequential applications applied first week of June or mid-July on yellow nutsedge cover																
				2013 Trial						2014 Trial						
Description				Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge	Nutsedge
Rating Date				6/3/2013	6/24/2013	7/24/2013	8/6/2013	9/17/2013	6/6/2014	6/6/2014	6/25/2014	7/17/2014	8/8/2014	8/19/2014	9/12/2014	
Rating Type				ground	ground	ground	ground	ground	ground	ground	ground	ground	ground	ground	ground	
Rating Unit				%	%	%	%	%	%	%	%	%	%	%		
Days After First Application				0	21	51	64	106	368	0	19	41	63	74	98	
Trt	Treatment	Rate	Appl													
No.	Name	Rate	Unit	Code												
1	Untreated Check				27	a	30	a	25	a	28	a	32	a	37	a
2	Sedgehammer	0.03	oz/1000 ft ²	A	23	a	7	cd	1	c	1	c	3	cd	1	e
3	Sedgehammer	0.03	oz/1000 ft ²	B	25	a	27	ab	23	ab	22	ab	2	cd	17	cd
4	Sedgehammer fb Sedgeh	0.03	oz/1000 ft ²	AB	23	a	7	cd	1	c	1	c	1	d	2	e
5	Dismiss	0.12	fl oz/1000 ft ²	A	23	a	15	bcd	18	b	18	b	25	ab	23	bc
6	Dismiss	0.12	fl oz/1000 ft ²	B	22	a	25	ab	25	a	28	a	27	ab	33	ab
7	Dismiss fb Dismiss	0.12	fl oz/1000 ft ²	AB	20	a	18	a-d	18	b	20	b	21	b	22	c
8	Sedghammer fb Dismiss	0.03	oz/1000 ft ²	AB	27	a	6	d	1	c	1	c	1	d	1	e
9	Dismiss fb Sedgehammer	0.12	fl oz/1000 ft ²	AB	25	a	20	abc	20	ab	15	b	10	c	10	de
LSD (P=.05)					6.12		13.65		6.14		7.06		8.7		11.43	
CV					14.8		45.89		24.12		27.41		37.29		40.69	
Treatment Prob(F)					0.3756		0.0088		0.0001		0.0001		0.0001		0.0001	
fb=Followed By																
Means followed by same letter do not significantly differ (P=.05, LSD)																
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.																

