Renz Weed Science
COLLEGE OF AGRICULTURAL & LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

Extension
UNIVERSITY OF WISCONSIN-MADISON

UW – Madison Weed Science Renz Lab

Rate of SiteVue (florpyrauxifen) that will control wild parsnip

Dr. Mark Renz, Professor and Extension Weed Specialist

mrenz@wisc.edu – 357 Moore Hall, 1575 Linden Drive, Madison, WI, 53706

Charlton Rodriguez, Graduate Student

cirodriguez@wisc.edu – 248 Moore Hall, 1575 Linden Drive, Madison, WI, 53706

Travis Wilson, Research Specialist

tjwilson9@wisc.edu – 236 Moore Hall, 1575 Linden Drive, Madison, WI, 53706

Objective:

Evaluate the effectiveness of florpyrauxifen-benzyl in controlling wild parsnip and if reduced rates can prevent flowering and seed production.

Summary:

Wild parsnip is an invasive perennial invading and displacing native forbs within Wisconsin prairies. Its seed can also stay dormant for up to 4 years making it hard to remove from prairies without harming native species. Florpyrauxifen (SiteVue) is a new product that has shown promise in controlling wild parsnip. Experiments were established in 2023 to test what rates of florpyrauxifen would effectively control wild parsnip flowering and seed production compared to standard treatments.

Initial results demonstrated that florpyrauxifen was impacting wild parsnip. Rates as low as 2 fl oz/a of SiteVue reduced flowering and total parsnip 60 days after treatment (DAT). Higher rates (4 fl oz/a) were required to minimize wild non-flowering parsnip. Seed production appears to be reduced at these low rates as by September (138 DAT) 2 fl oz/a minimized the production of inflorescences.

Results suggest that low rates of SiteVue are effective at controlling wild parsnip and preventing seed production. This information will be used to evaluate if these rates will impact native forbs. If safe, this would provide an effective way to control wild parsnip in forb rich prairies.

Notes
Trial was done within a ditch at the west border of Prairie Du Sac field research station. Many undesirable native forbs were seen within the plots including wild parsnip.

Herbicide Treatments		
Treatment Number	**Treatment**	**Rate**
1	Non-Treatment Control (NTC)	-
2	SiteVue	2 fl oz/a
3	SiteVue	4 fl oz/a
4	SiteVue	6 fl oz/a
5	SiteVue	6.5 fl oz/a
6	SiteVue	8 fl oz/a
7	SiteVue	10 fl oz/a
8	SiteVue	12 fl oz/a
9	SiteVue	14 fl oz/a
10	SiteVue	16 fl oz/a
11	TerraVue	2.85 oz/a
12	Milestone	7 fl oz/a
13	SiteVue Plateau	6.5 fl oz/a 2 fl oz/a
14	Plateau	2 fl oz/a

Herbicide Application	
Date	May 4, 2023, 12:11 pm-1:46 pm
Equipment	CO_2 pressurized 10-foot boom sprayer (20 GPA)
Nozzles & spacing	8, Teejet XR 11002VS nozzles with 15-inch spacing
Regulator PSI	48

Weather Data	
Weather Station	KWIMADIS41
Temperature	74.1°F – 83.0°F
Wind Speed and Direction	5.1 mph – 7.8 mph
Relative Humidity	24% - 25%
Cloud Cover	60%
Previous Rain Event Within 48 Hours	None
When ≥ 0.25 inches of precipitation occurred after treatment	June 1, 2023, 2:53pm – 0.41 inches

Research Plot Information	
Plot Dimensions	20’ x 10’
Design	Randomized Complete Block, 4 blocks
Soil Type	Richwood silt loam
Soil Characteristics	20.8% clay, 0.97% organic matter, 6.4 pH, 3.5% slope

Plants Present at Application – Developmental Stage		
Species	**Average Height (in)**	**Phenological Stage**
Wild Parsnip	7.3	Rosette

Index of Ratings and Results

Results:

60 Days After Treatment (DAT) – July 3, 2023					
Trt. No.	**Treatment**	**Rate**	**Non-flowering Wild Parsnip Counts**	**Flowering Wild Parsnip Counts**	**Total Wild Parsnip Counts**
1	NTC	-	8.5 a	49.7 a	59.6 a
2	SiteVue	2 fl oz/a	1.5 bc	0.2 c	2.2 c
3	SiteVue	4 fl oz/a	1.1 bcd	0.1 c	1.3 c
4	SiteVue	6 fl oz/a	0.1 cd	0.1 c	0.4 c
5	SiteVue	6.5 fl oz/a	0.1 cd	0.1 c	0.5 c
6	SiteVue	8 fl oz/a	0.1 cd	0.0 c	0.1 c
7	SiteVue	10 fl oz/a	0.3 bcd	0.2 c	0.6 c
8	SiteVue	12 fl oz/a	0.3 bcd	0.1 c	0.3 c
9	SiteVue	14 fl oz/a	0.1 cd	0.0 c	0.1 c
10	SiteVue	16 fl oz/a	0.0 d	0.0 c	0.0 c
11	TerraVue	2.85 oz/a	0.1 cd	0.9 c	1.1 c
12	Milestone	7 fl oz/a	7.0 a	26.7 b	34.2 b
13	SiteVue Plateau	6.5 fl oz/a 2 fl oz/a	2.2 b	21.3 b	24.0 b
14	Plateau	2 fl oz/a	0.2 bcd	0.1 c	0.5 c
Statistics[1]					
Treatment Prob(F)			<0.001	<0.001	<0.001

Note: Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

[1] All statistical analyses were conducted in ARM software and assumptions of ANOVA were not evaluated.

138 DAT – September 19, 2023			
Trt. No.	**Treatment**	**Rate**	**Wild Parsnip Seed Head Counts**
1	NTC	-	38.5 a
2	SiteVue	2 fl oz/a	0.3 c
3	SiteVue	4 fl oz/a	0.0 c
4	SiteVue	6 fl oz/a	1.5 c
5	SiteVue	6.5 fl oz/a	0.3 c
6	SiteVue	8 fl oz/a	0.0 c
7	SiteVue	10 fl oz/a	0.0 c
8	SiteVue	12 fl oz/a	0.0 c
9	SiteVue	14 fl oz/a	0.0 c
10	SiteVue	16 fl oz/a	1.3 c
11	TerraVue	2.85 oz/a	0.8 c
12	Milestone	7 fl oz/a	32.5 ab
13	SiteVue Plateau	6.5 fl oz/a 2 fl oz/a	22.8 b
14	Plateau	2 fl oz/a	0.0 c
Statistics			
Treatment Prob(F)			5.938e-07

Note: Means followed by same letter or symbol do not significantly differ (P=.05, LSD).