



Renz Weed Science
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UNIVERSITY OF WISCONSIN-MADISON

Invasive Plant Management in Roadside Rights of Way

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OUTLINE

- How we apply herbicides
- How we create data
- Chart of herbicide effectiveness
- Species by species efficacy



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How We Spray (1 / 3)



Broadcast Treatment –
ounces per acre (oz/A)
Liquid (fluid oz/A) or granular (oz weight/A)



Spot or Individual Plant Treatment –
% volume/volume (% v/v) or
weight/volume (oz/gal)



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How We Spray (2 / 3)

glyphosate*

Effectiveness in season: 90–100%

Season after treatment: < 50%

Common name: Roundup

Rate:

broadcast: 1.5–3 lb a.e./A

spot: For a 3 lb a.e./gal product:
1.5–2.0 % (0.05–0.06 lb a.e./gal)

Timing: Apply to rosettes in fall or spring.

Caution: Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground since glyphosate is not selective. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants.

MANAGEMENT OF

A3924-14



INVASIVE PLANTS
IN WISCONSIN

Teasels
(Dipsacus spp.)

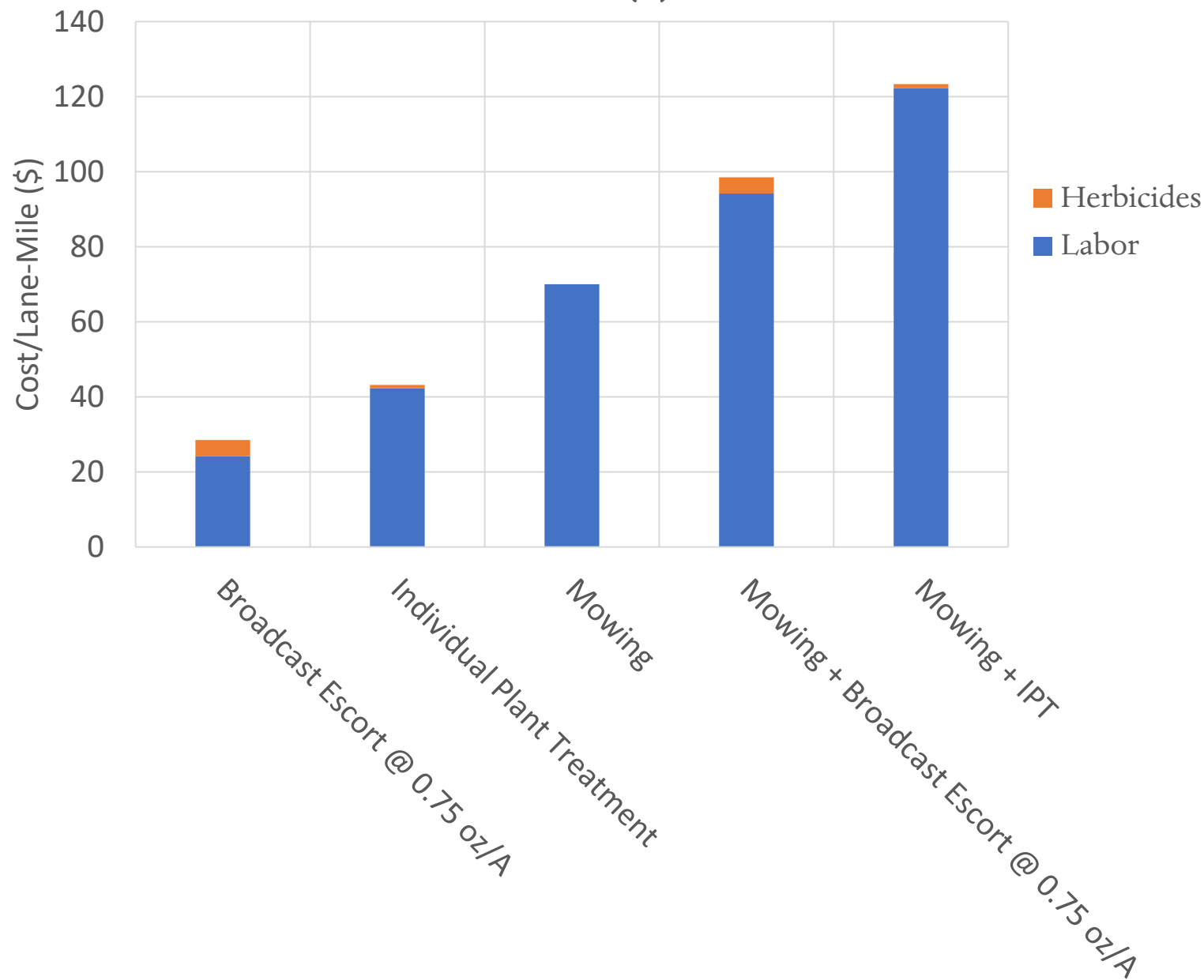
Questions? Contact an expert!



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How We Spray (3 / 3)

Wild Parsnip Management in ROW - Cost Per Lane-Mile (\$): 10-foot swath





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How We Create Data

- Apply treatments to vegetation
- Monitor for 1-2 years
- Take before & after photos
- Review others' experiments





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Herbicide Efficacy Table

	Arsenal / Habitat	Escort	Method	Milestone	Opensight	Perspective	Roundup / Rodeo	TerraVue	Tordon 22K
knotweeds	●			✓			●		
phragmites	✓						✓		
purple loosestrife	✓		●	●			●		
teasels	✓	✓	✓	✓	✓	✓	✓	✓	✓
wild parsnip		✓	✓		✓	✓	✓	✓	
PRICE	\$\$\$\$	\$	\$\$\$\$	\$\$	no data	\$\$\$\$	\$	no data	\$\$

Legend

✓ = >90% control

● = 70 – 90% control

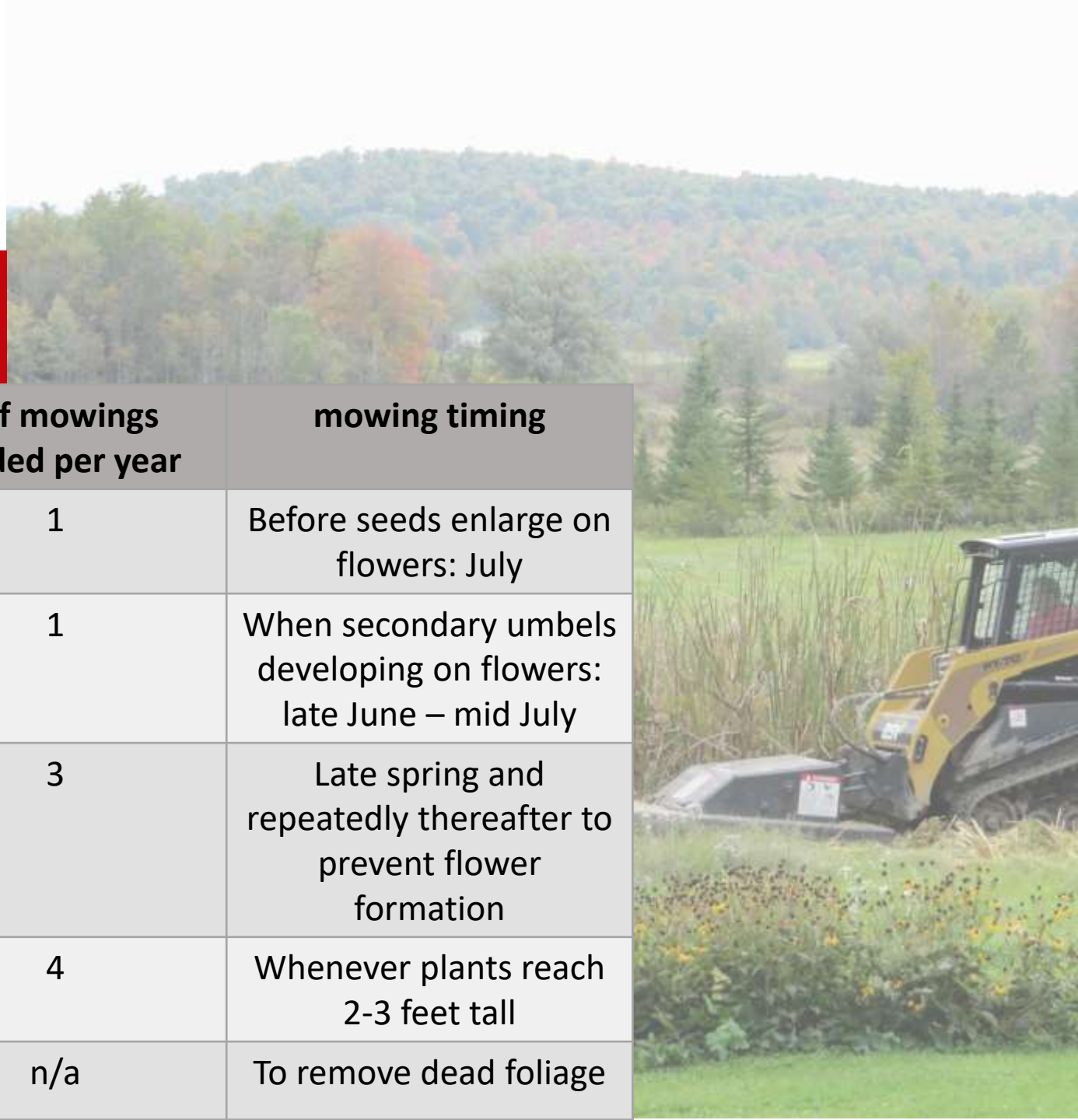
\$ = \$1-10/acre, \$\$ = \$11-20/acre,
\$\$\$ = \$21-30/acre, \$\$\$\$ = \$31+/acre



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Mowing Efficacy Table

	% control in season	% control year after mowing	# of mowings needed per year	mowing timing
teasels	90%	<50%	1	Before seeds enlarge on flowers: July
wild parsnip	90-100%	50-70%	1	When secondary umbels developing on flowers: late June – mid July
purple loosestrife	50-70%	<50%	3	Late spring and repeatedly thereafter to prevent flower formation
knotweeds	<50%	<50%	4	Whenever plants reach 2-3 feet tall
phragmites	Ineffective	Ineffective	n/a	To remove dead foliage





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Species-Specific Management

Wild Parsnip





Species	Month				
	May	June	July	Aug	Sept
wild parsnip					
Legend					

Wild Parsnip Management – Mowing

- Timing is critical!
- Goals
 - mow secondary umbels
 - prevent seed production
 - not spread viable seed



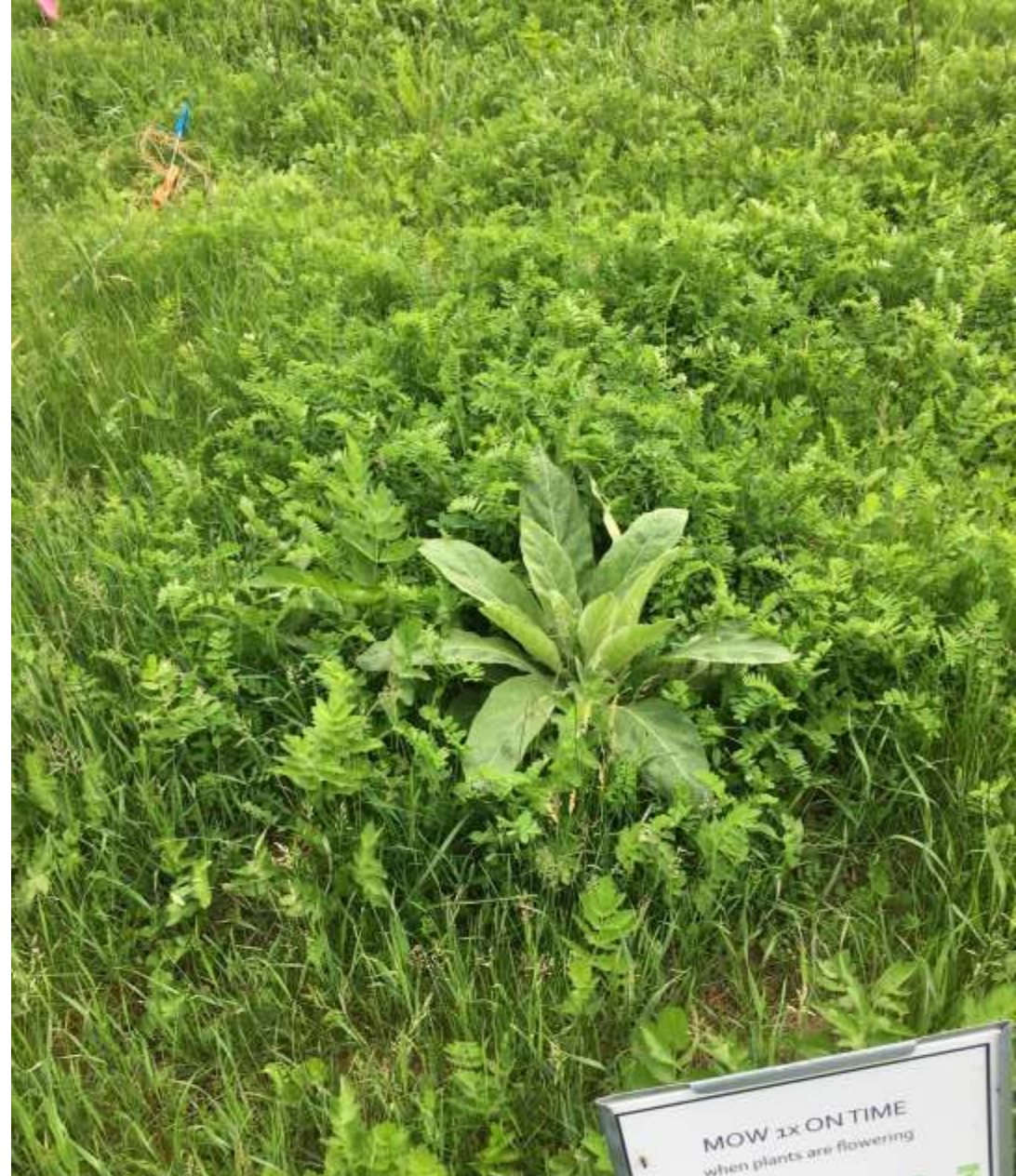
Example: Mowing Too Early



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Mow Twice Incorrectly –
1 Year After Mowing

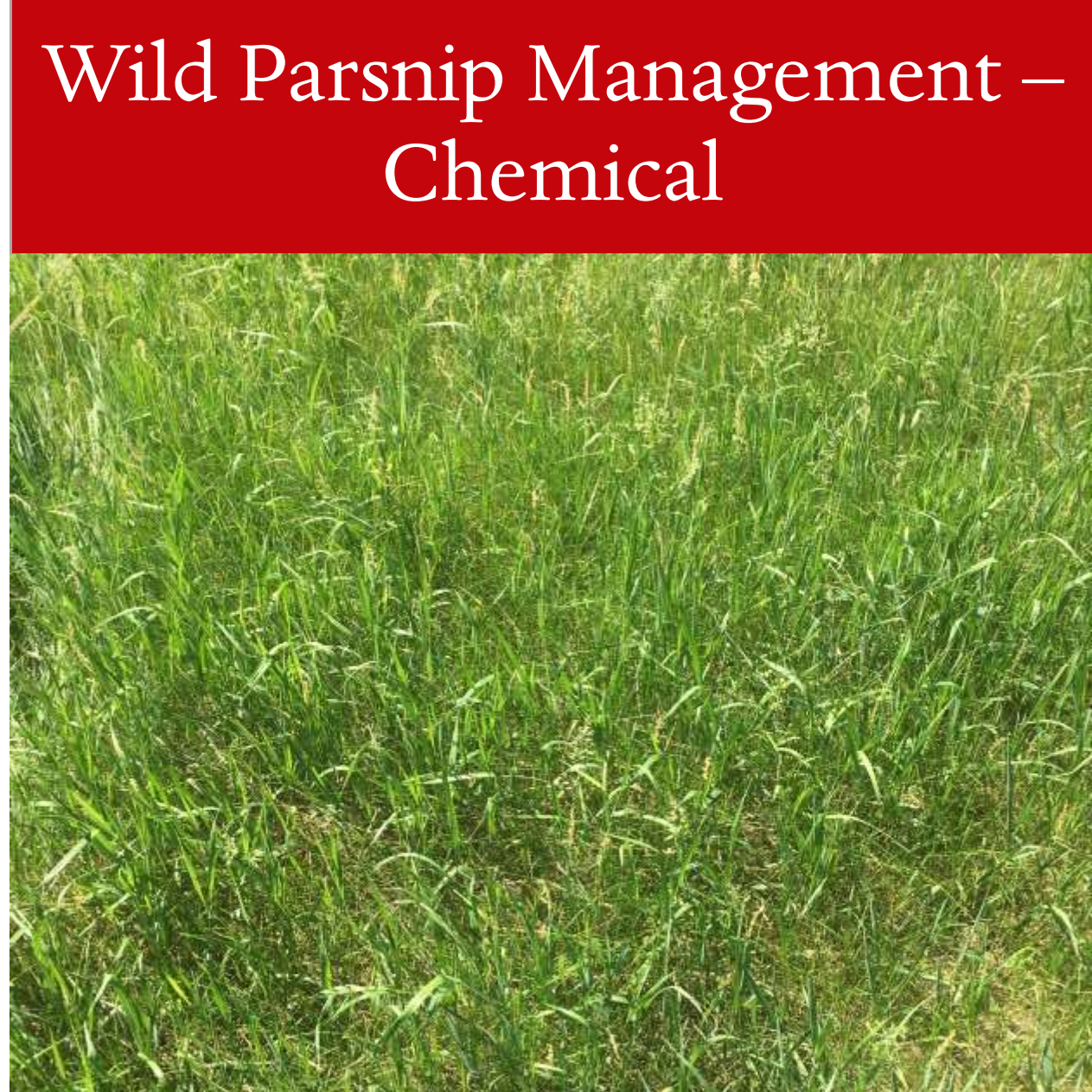


Mow On-Time –
1 Year After Mowing



Untreated Control –
1 Year After Mowing/Spraying

Wild Parsnip Management – Chemical



Broadcast Escort @ 0.5 oz/A –
1 Year After Spraying



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Teasels Management



Species	Month				
	May	June	July	Aug	Sept
teasels					

Legend

- Optimal Mowing Time
- Acceptable Mowing Time
- DO NOT MOW

Teasels Management - Mowing



Untreated Control –
Fall of Mowing Year



Mow On-Time –
Fall of Mowing Year



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Teasels Management - Chemical



Untreated Control –
1 Year After Spraying



Broadcast Opensight @ 2 oz/A –
1 Year After Spraying



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Purple Loosestrife Management





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Mechanical Management	% control in season	% control year after mowing	# of mowings needed per year	mowing timing
purple loosestrife	50-70%	<50%	3	Late spring and repeatedly thereafter to prevent flower formation

Chemical Management	Arsenal* / Habitat*	Escort	Milestone	Rodeo* / Aquaneat* / Roundup
purple loosestrife	✓	⊙	⊙	⊙

(*) – formulated for aquatic use; ✓ = >90% control, ⊙ = 70 – 90% control





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Phragmites Management



Phragmites Management - Chemical



Untreated Control –
Fall of Treatment Year



Spot Spray Roundup PowerMax @ 2% v/v –
Fall of Treatment Year



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Mechanical Management	% control in season	% control year after mowing	# of mowings needed per year	mowing timing
phragmites	Ineffective	Ineffective	n/a	To remove dead foliage

Chemical Management	Arsenal* / Habitat*	Rodeo* / Aquaneat* / Roundup
phragmites	✓	✓
(*) – formulated for aquatic use; ✓ = >90% control, ⊙ = 70 – 90% control		





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Knotweeds Management





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Mechanical Management	% control in season	% control year after mowing	# of mowings needed per year	mowing timing
knotweeds	<50%	<50%	4	Whenever plants reach 2-3 feet tall

Chemical Management	Arsenal* / Habitat*	Milestone	Rodeo* / Aquaneat* / Roundup
knotweeds	⊙	✓	⊙

(*) – formulated for aquatic use; ✓ = >90% control, ⊙ = 70 – 90% control



QUESTIONS?

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