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Brush control using Method 240 SL along fenceline

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Objective:

Determine the effectiveness of Method 240 SL when applied alone, in a mixture with other products and compared to common alternatives used to control brush along a fenceline.

Summary:

Controlling woody brush along fences is important to maintain visibility and prevent further encroachment into grasslands. Method 240 SL is an herbicide that is effective at controlling many woody and herbaceous species while not harming established grass species. This experiment was established to determine the effectiveness of Method when applied alone or mixed with other products in controlling common fenceline woody plants and compare to standard alternative herbicides. Plants were treated along a fenceline of an agricultural field in September of 2024. Initial results (42 days after treatment) showed good control of all treatments to common woody species (>75%). Grass injury was not observed with any treatment, except INVORA, which was minor (7%). Evaluation in 2025 will be needed to confirm initial trends.

Herbicide Treatments		
Treatment Number	**Treatment**	**Rate**
1	Nontreated Control (NTC)	-
2	Method 240 SL Methylated seed oil (MSO)	8 fl oz/a 0.5% v/v
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v
7	INVORA MSO	48 fl oz/a 0.5% v/v
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v

Notes

Trial was conducted along a fenceline that had been overgrown with different brush species, with gooseberry and wild grape being dominant. See below for heights of each species.

Herbicide Application	
Date	September 12, 2024 10:45 am – 12:45 pm
Equipment	CO_2 pressurized 5-foot boom sprayer (20 GPA)
Nozzles & spacing	Four TeeJet XR 11002 VS nozzles, with 20-inch spacing
Regulator PSI	46

Weather Data	
Weather Station	KWIMADIS233
Temperature	82°F
Wind Speed and Direction	5 mph SE – 7 mph SE
Relative Humidity	55%
Cloud Cover	0%
Previous Rain Event Within 48 Hours	None
When ≥ 0.25 inches of precipitation occurred after treatment	September 20, 2024, 12:45 am – 1.1 inches

Research Plot Information	
Plot Dimensions	5 feet by 25 feet
Design	Randomized Complete Block, 4 blocks
Soil Type	Batavia silt loam
Soil Characteristics	23 % clay, 0.7 % organic matter, 6.4 pH, 4 % slope

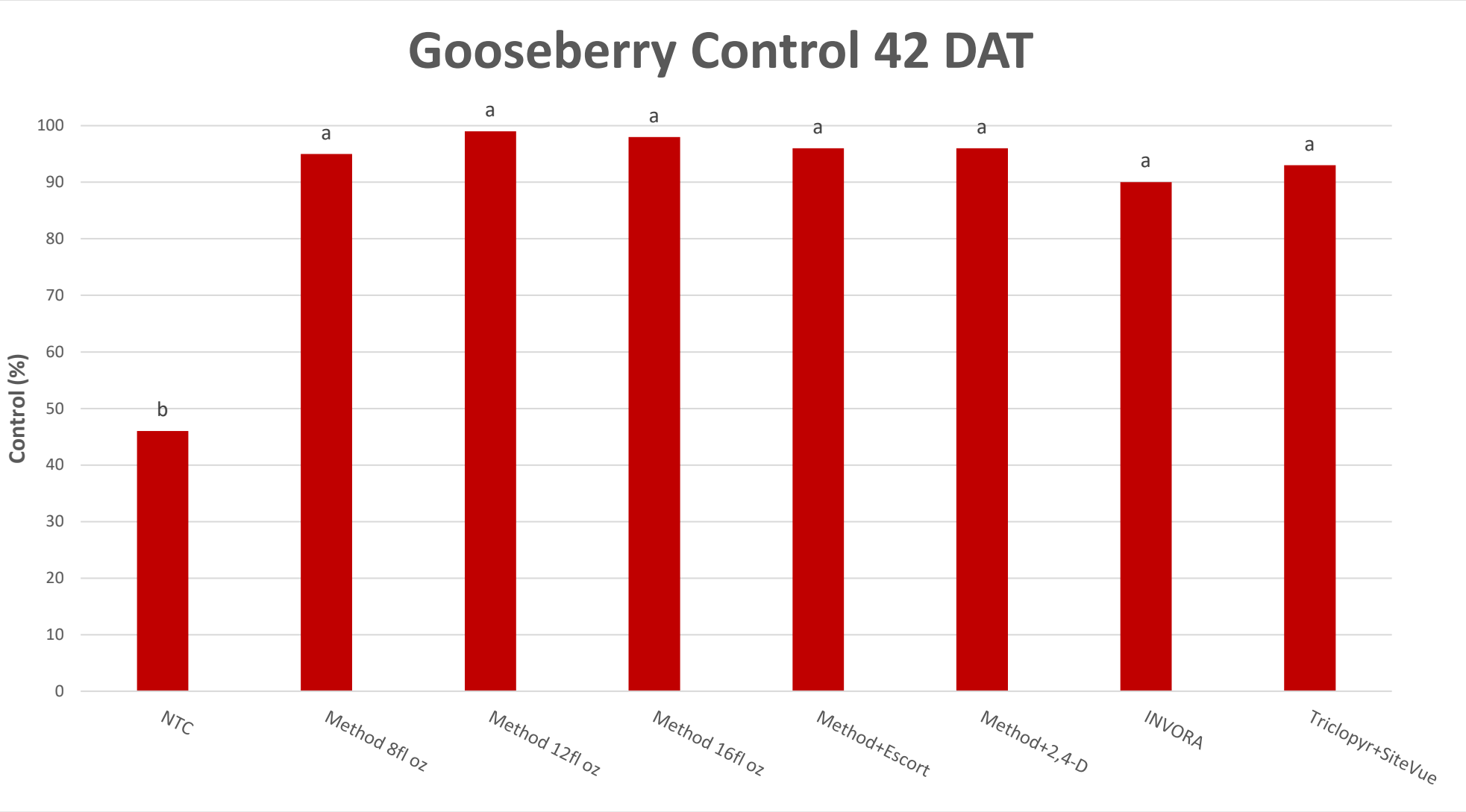
Plants Present at Application – Developmental Stage		
Species	**Average Height (in)**	**Phenological Stage**
Gooseberry (*Ribes cynosbatti*)	42	Vegetative (leafed out)
Box Elder (*Acer negundo)*	48	Vegetative (leafed out)
Raspberry spp. (*Ribes spp.*)	30	Vegetative (leafed out)
Speckled alder (*Alnus incana*)	70	Vegetative (leafed out)
Grape sp. (*Vitis sp.*)	30	Vegetative (leafed out)
Honeysuckle spp. (*Lonicera sp.*)	60	Vegetative (leafed out)
American Hazelnut (*Corylus americana*)	60	Vegetative (leafed out)
Common Buckthorn (*Rhamnus cathartica*)	54	Vegetative (leafed out)
Black Cherry (*Prunus serotina*)	42	Vegetative (leafed out)
Multiflora rose (*Rosa multiflora*)	30	Vegetative (leafed out)

Picture above shows trial area which was done on a fenceline along a field two-track road.

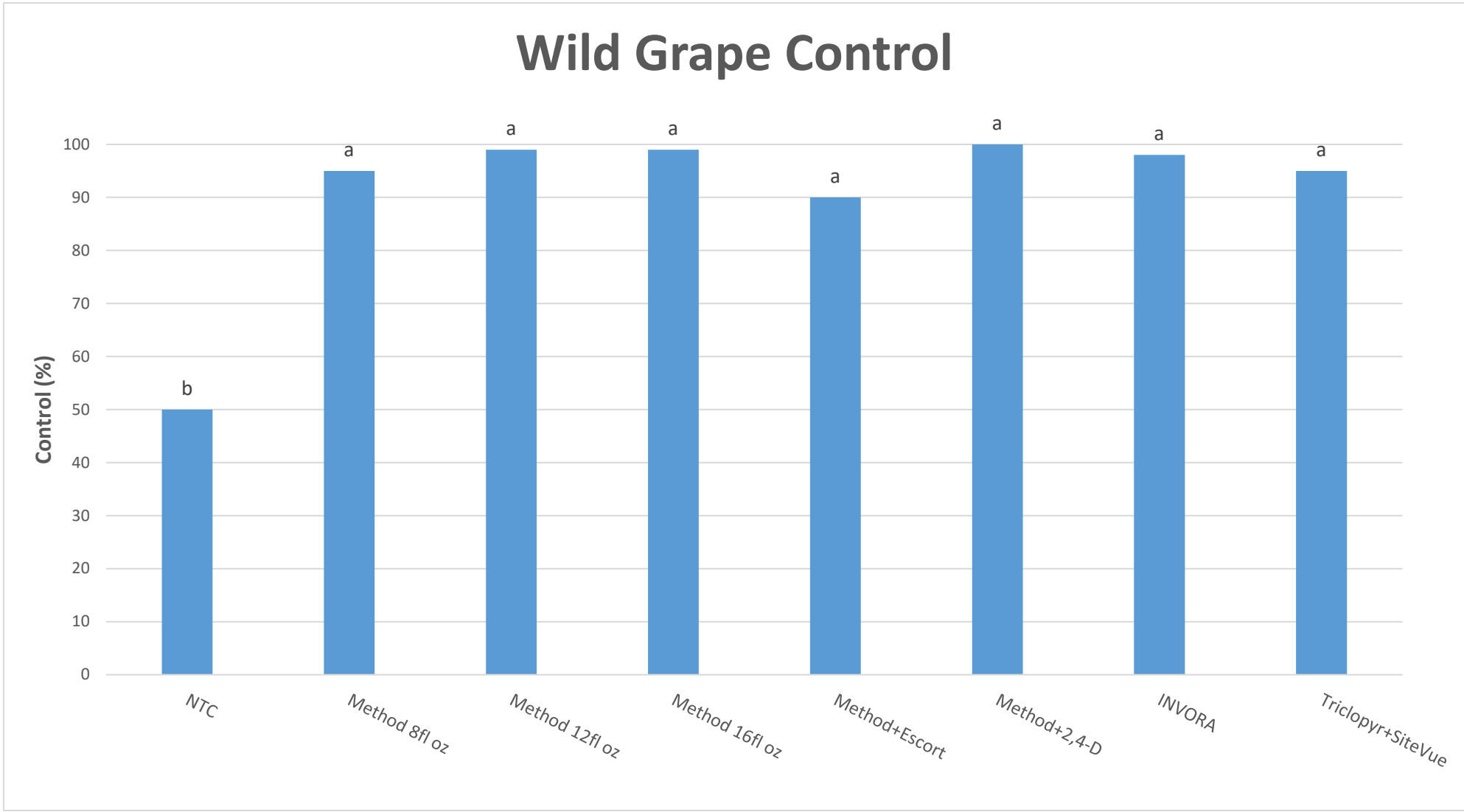
Picture above shows plot the day before (September 10, 2024) being treated with Method @16 fl oz/a.

Picture below is the same plot, 42 days after treatment (October 23, 2024).

Index of Ratings and Results



Bars labeled with the same letter do not significantly differ (p=.05, LSD)



Bars labeled with the same letter do not significantly differ (p=.05, LSD)

Results:

Pre-treatment rating – September 11, 2024							
Trt. No.	Treatment	Rate	Brush Cover (%)	Forb Cover (%)	Grass Cover (%)	Tree Cover (%)	Bareground (%)
1	NTC	-	59 -	1 -	5 -	3 -	33 -
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	49 -	3 -	15 -	9 -	25 -
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	49 -	2 -	18 -	3 -	30 -
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	55 -	2 -	14 -	7 -	22 -
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	51 -	1 -	15 -	8 -	25 -
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	48 -	2 -	21 -	6 -	23 -
7	INVORA MSO	48 fl oz/a 0.5% v/v	45 -	2 -	25 -	9 -	20 -
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	56 -	2 -	25 -	1 -	16 -
Statistics [1]							
Least Significant Difference (LSD) P=.05			15.04	2.68	17.67	8.50	19.92
Standard Deviation			10.23	1.82	12.01	5.78	13.55
Coefficient of Variation (CV)			19.89	110.16	70.28	103.28	55.93
Treatment Prob(F)			0.5331	0.7982	0.3686	0.4365	0.7413

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

42 Days after treatment (DAT) – October 23, 2024							
Trt. No.	**Treatment**	**Rate**	**Grass Injury (%)**	**Gooseberry Control (%)**	**Plots with Gooseberry**	**Raspberry Spp. Control (%)**	**Plots with Raspberry Spp.**
1	NTC	-	0 -	46 b	4/4	.	0/4
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	0 -	95 a	4/4	85 -	3/4
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	0 -	99 a	4/4	100 -	2/4
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	0 -	98 a	3/4	92 -	3/4
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	0 -	96 a	4/4	95 -	3/4
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	0 -	96 a	4/4	99 -	1/4
7	INVORA MSO	48 fl oz/a 0.5% v/v	7 -	90 a	4/4	90 -	2/4
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	0 -	93 a	3/4	97 -	3/4
Statistics [2]							
Least Significant Difference (LSD) P=.05			9.65	21.41	.	93.72	.
Standard Deviation			5.77	14.47	.	7.38	.
Coefficient of Variation (CV)			692.82	16.21	.	8.59	.
Treatment Prob(F)			0.6970	0.0009	.	0.1922	.

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

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

42 DAT – October 23, 2024						
Trt. No.	**Treatment**	**Rate**	**Speckled Alder Control (%)**	**Plots with Speckled Alder**	**Wild Grape Control (%)**	**Plots with Wild Grape**
1	NTC	-	50 -	1/4	50 b	1/4
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	95 -	2/4	95 a	3/4
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	95 -	2/4	99 a	3/4
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	.	0/4	99 a	2/4
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	95 -	1/4	90 a	1/4
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	95 -	1/4	100 a	1/4
7	INVORA MSO	48 fl oz/a 0.5% v/v	.	0/4	98 a	2/4
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	.	0/4	95 a	2/4
Statistics [3]						
Least Significant Difference (LSD) P=.05			93.72	.	12.08	.
Standard Deviation			7.38	.	6.15	.
Coefficient of Variation (CV)			8.59	.	6.78	.
Treatment Prob(F)			0.1922	.	0.0027	.

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

42 DAT – October 23, 2024						
Trt. No.	Treatment	Rate	Box Elder Control (%)	Plots with Box Elder	Honeysuckle Control (%)	Plots with Honeysuckle
1	NTC	-	.	0/4	.	0/4
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	.	0/4	.	0/4
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	99 -	1/4	.	0/4
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	99 -	1/4	.	0/4
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	.	0/4	.	0/4
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	93 -	2/4	90 -	1/4
7	INVORA MSO	48 fl oz/a 0.5% v/v	100 -	1/4	.	0/4
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	.	0/4	40 -	1/4
Statistics [4]						
Least Significant Difference (LSD) P=.05			.	.	.	.
Standard Deviation			.	.	.	.
Coefficient of Variation (CV)			.	.	.	.
Treatment Prob(F)			.	.	.	.

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

42 DAT – October 23, 2024						
Trt. No.	Treatment	Rate	American Hazelnut Control (%)	Plots with American Hazelnut	Common Buckthorn Control (%)	Plots with Common Buckthorn
1	NTC	-	60 -	2/4	.	0/4
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	.	0/4	.	0/4
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	80 -	1/4	.	0/4
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	.	0/4	.	0/4
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	.	0/4	.	0/4
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	.	0/4	.	0/4
7	INVORA MSO	48 fl oz/a 0.5% v/v	.	0/4	60	1/4
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	.	0/4	.	0/4
Statistics [5]						
Least Significant Difference (LSD) P=.05			.	.	.	.
Standard Deviation			.	.	.	.
Coefficient of Variation (CV)			.	.	.	.
Treatment Prob(F)			.	.	.	.

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

42 DAT – October 23, 2024						
Trt. No.	Treatment	Rate	Black Cherry Control (%)	Plots with Black Cherry	Multiflora Rose Control (%)	Plots with Multiflora Rose
1	NTC	-	.	0/4	.	0/4
2	Method 240 SL MSO	8 fl oz/a 0.5% v/v	.	0/4	.	0/4
3	Method 240 SL MSO	12 fl oz/a 0.5% v/v	.	0/4	.	0/4
4	Method 240 SL MSO	16 fl oz/a 0.5% v/v	90 -	1/4	80 -	1/4
5	Method 240 SL Escort XP MSO	15 fl oz/a 2 oz/a 0.5% v/v	90 -	1/4	.	0/4
6	Method 240 SL 2,4-D AMINE MSO	16 fl oz/a 16 fl oz/a 0.5% v/v	.	0/4	.	0/4
7	INVORA MSO	48 fl oz/a 0.5% v/v	.	0/4	.	0/4
8	Triclopyr SiteVue MSO	77 fl oz/a 6 fl oz/a 0.5% v/v	.	0/4	.	0/4
Statistics [6]						
Least Significant Difference (LSD) P=.05			.	.	.	.
Standard Deviation			.	.	.	.
Coefficient of Variation (CV)			.	.	.	.
Treatment Prob(F)			.	.	.	.

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