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

Extension
UNIVERSITY OF WISCONSIN-MADISON

UW – Madison Weed Science Renz Lab

How well do formulations of florpyrauxifen (ProClova, GF-4574, DuraCor, and Loyant) control wild carrot in pastures?

Prairie du Sac Experiment

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Objective:

Evaluate the efficacy of ProClova (2,4-D amine + florpyrauxifen) and GF-4574 (2,4-D choline + florpyrauxifen) on wild carrot (*Daucus carota*) as compared to DuraCor (aminopyralid + florpyrauxifen), Loyant (florpyrauxifen), and Enlist One (2,4-D choline).

Summary:

Due to a calibration error all treatments were applied at lower rates than intended. Rates applied are indicated in the tables below, but intended rates were 13% greater. Higher application rates may result in different outcomes.

By 28 days after treatment (DAT), treatments provided variable levels of wild carrot control (22-70%). No differences in wild carrot density were observed between treatments at 55 DAT (2-15 plants/m^2), indicating mortality does not occur with all plants after 1 month (10-25 plants/m^2 prior to application).

By fall (146 DAT) all treatments containing florpyrauxifen killed ≥70% of second year wild carrot plants, approximately 2x the mortality of Enlist One (40%). First year wild carrot plants were not controlled by Enlist One (11/m^2) and were suppressed but not eliminated by treatments containing florpyrauxifen. These results persisted the following spring 1 year after treatment.

Results suggest that florpyrauxifen alone or in combination can provide in season suppression of wild carrot and reduce future populations more effectively than 2,4-D choline alone. While 20.8 – 41.8 fl oz/A of ProClova and 20.8-24.4 fl oz/A of GF-4574 do not provide acceptable levels of wild carrot control in the year of application, other experiments have shown acceptable control. A mowing 3 days prior to herbicide application may have reduced the effectiveness of these treatments artificially.

Notes

- Site mowed with tractor-towed brush hog to residual height of 6 inches on May 1st, 2020

Herbicide Treatments

Treatment Number	Treatment	Rate
1	ProClova methylated seed oil (MSO)	20.8 fluid ounces per acre (fl oz/A) 1% v/v
2	GF-4574 (florpyrauxifen + 2,4-D choline) MSO	24.4 fl oz/A 1% v/v
3	GF-4574 (florpyrauxifen + 2,4-D choline) Activator 90 (A90)	24.4 fl oz/A 0.25% v/v
4	GF-4574 (florpyrauxifen + 2,4-D choline) MSO	20.8 fl oz/A 1% v/v
5	ProClova MSO	41.8 fl oz/A 1% v/v
6	GF-4574 (florpyrauxifen + 2,4-D choline) MSO	48.7 fl oz/A 1% v/v
7	GF-4574 (florpyrauxifen + 2,4-D choline) A90	48.7 fl oz/A 0.25% v/v
8	GF-4574 (florpyrauxifen + 2,4-D choline) MSO	41.8 fl oz/A 1% v/v
9	DuraCor A90	10.4 fl oz/A 0.25% v/v
10	Loyant MSO	4.2 fl oz/A 1% v/v
11	Enlist One MSO	14.6 fl oz/A 1% v/v
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v

Herbicide Application	
Date	May 4th, 2020, 2:10-3:40pm
Equipment	CO2 pressurized 10-foot boom sprayer (20 GPA)
Nozzles & spacing	Eight TeeJet 11002VS XR Nozzles with 15-inch spacing
Regulator PSI	45

Weather Data	
Weather Station	KWIMERRI1
Temperature	54 - 55°F
Wind Speed and Direction	4- 6 mph
Relative Humidity	65 - 69%
Cloud Cover	0%
Previous Rain Event Within 48 Hours	None
When ≥ 0.25 inches of precipitation occurred after treatment	May 10, 2020, 1:30pm – 0.30 inches

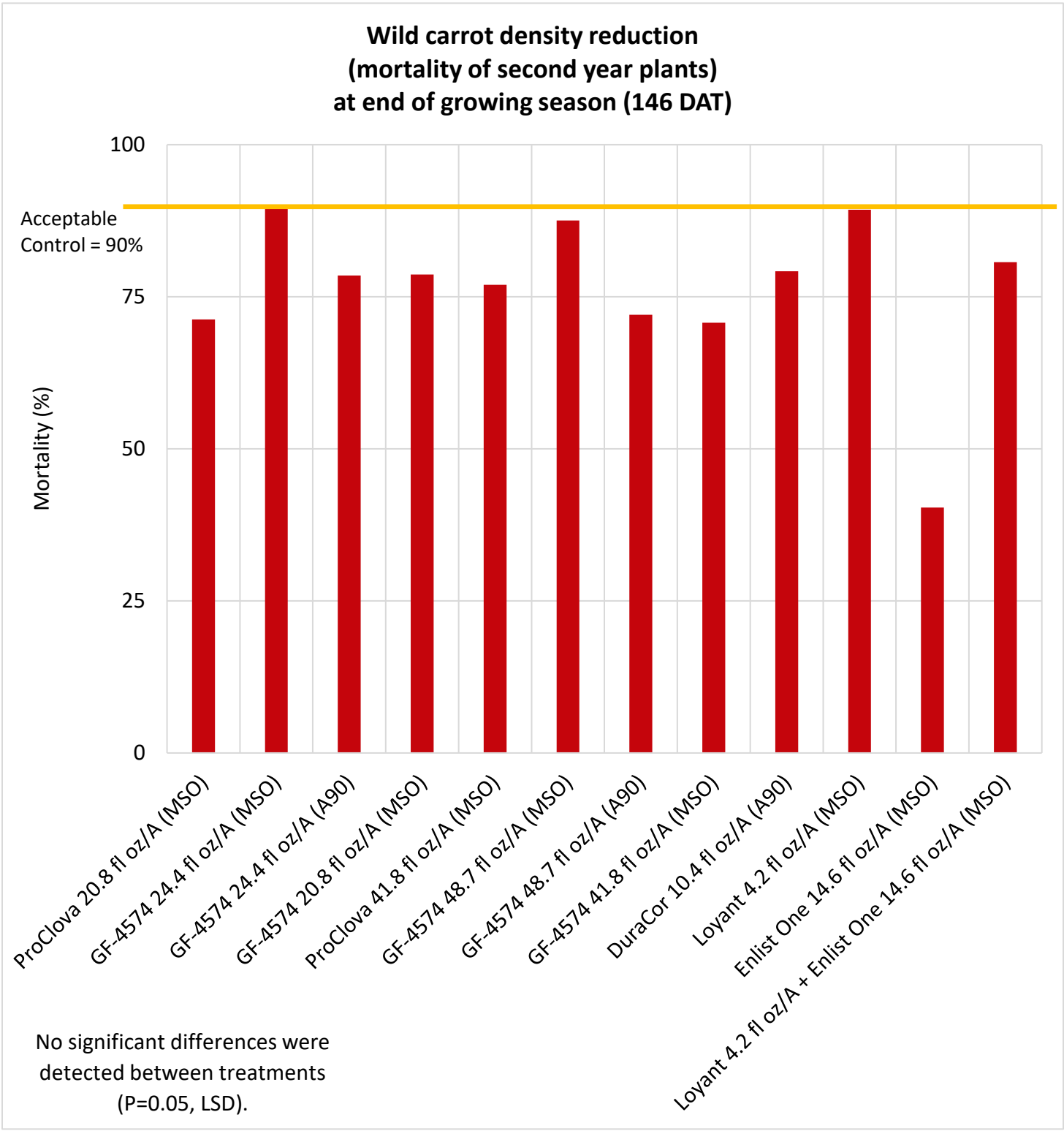
Research Plot Information	
Plot Dimensions	10 feet by 25 feet (250 square feet)
Design	Randomized Complete Block, 4 blocks
Soil Type	McHenry silt loam
Soil Characteristics	16.3% clay, 0.5% organic matter, 7.5 pH, 9% slope

Plants Present at Application – Developmental Stage		
Species	**Average Height (in)**	**Phenological Stage**
clover sp. (*Trifolium sp.*)	4	vegetative
wild carrot (*Daucus carota*)	5	vegetative

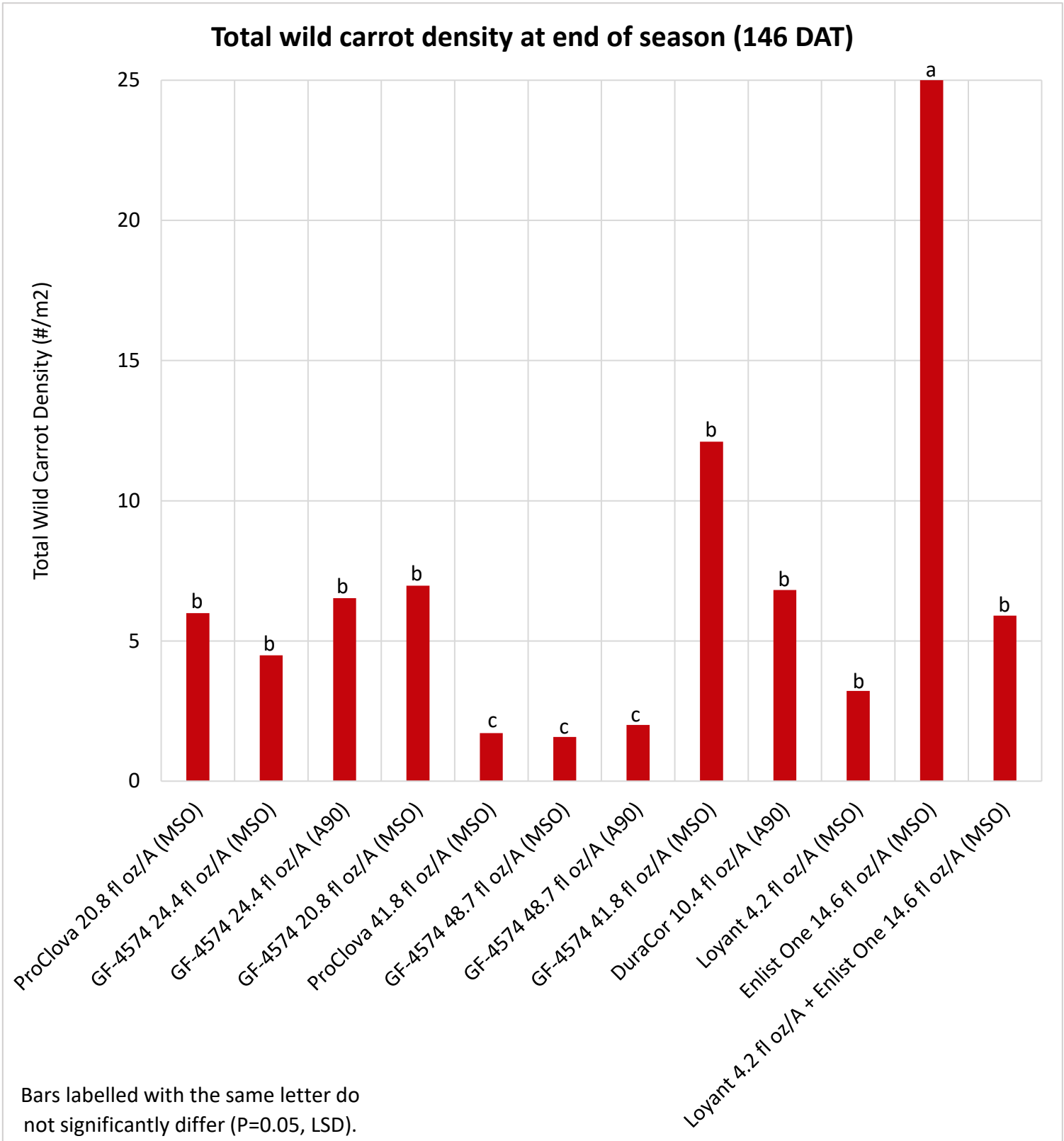
Wild carrot on day of herbicide application

Index of Ratings and Results

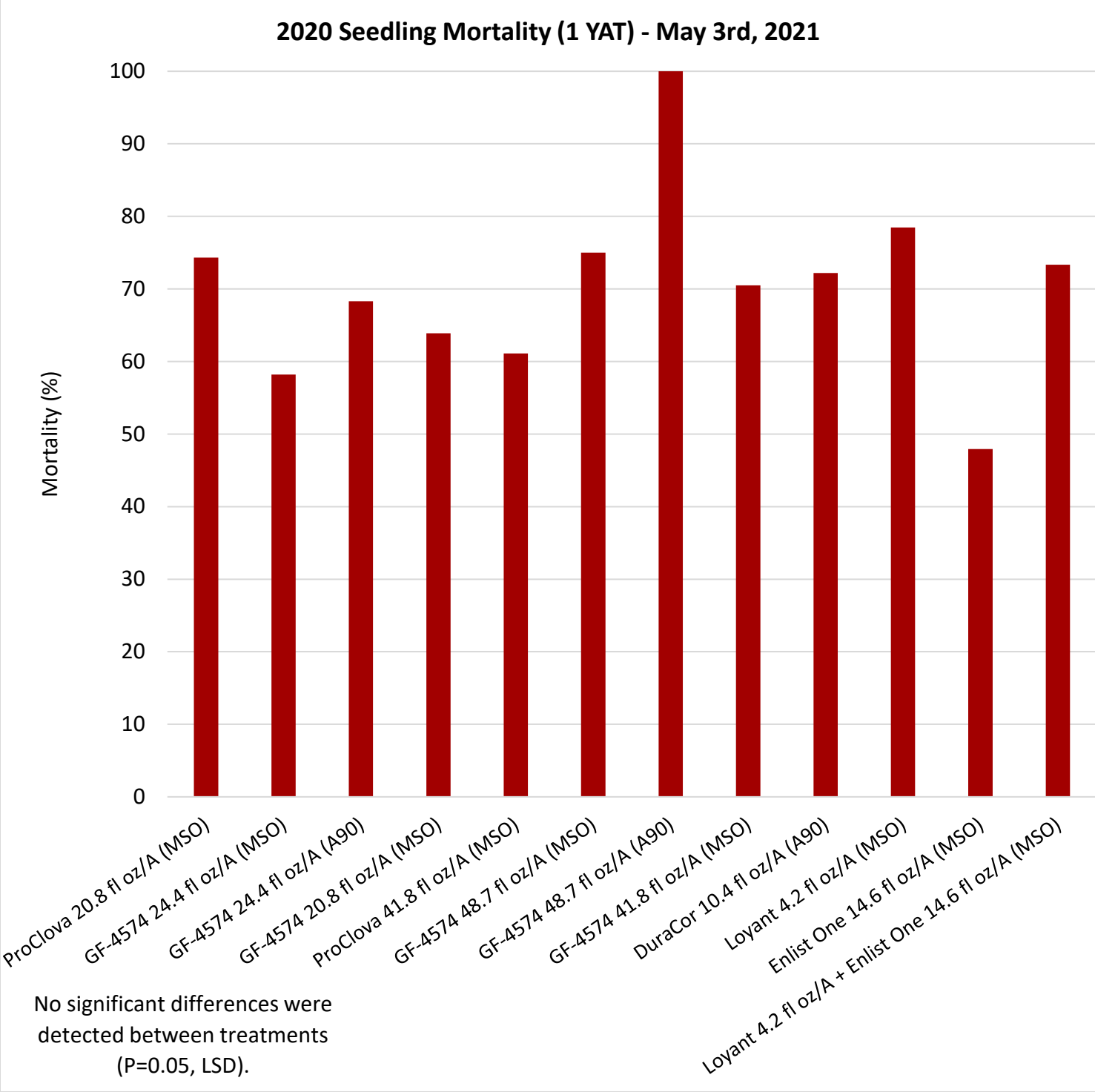
Results:

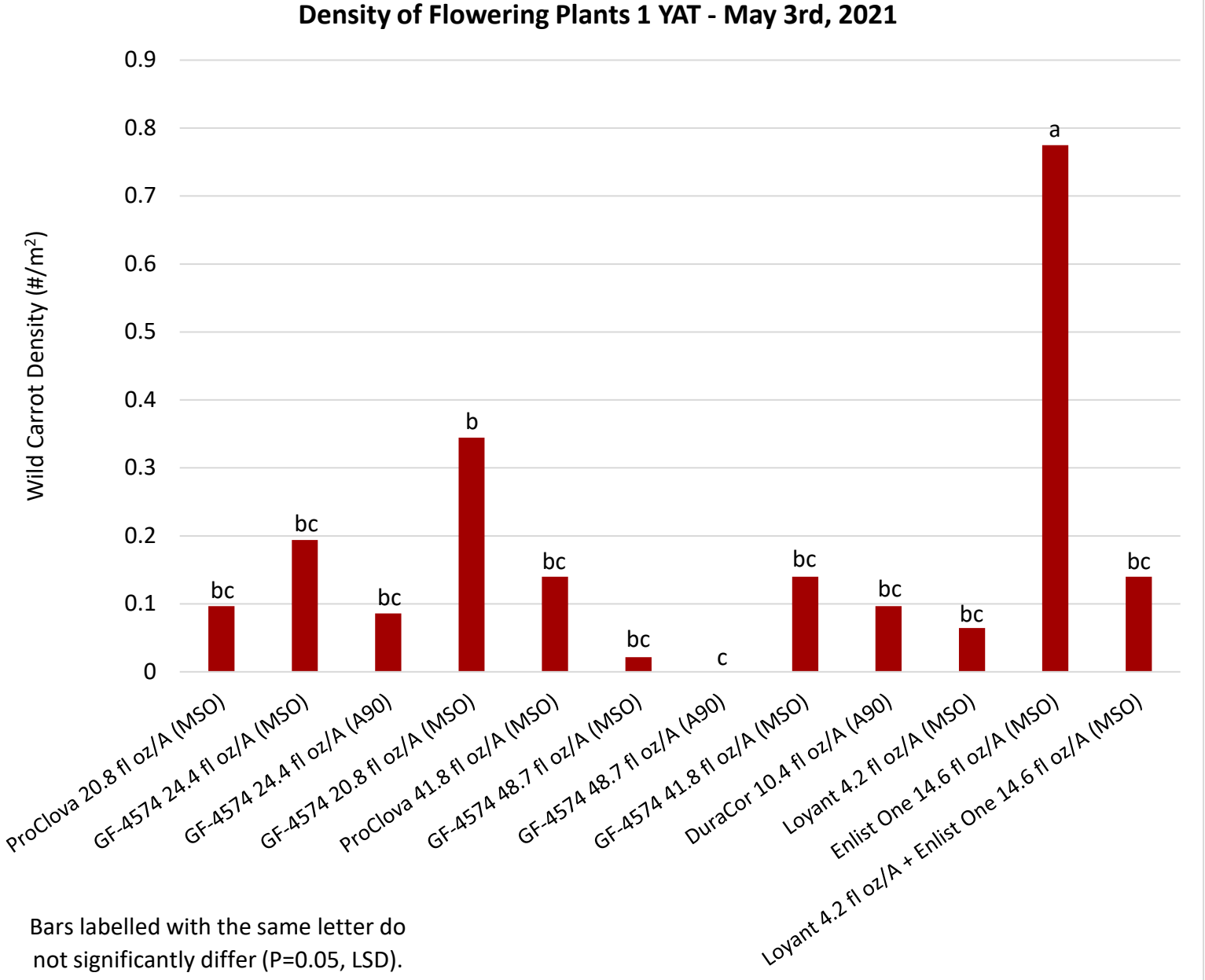


No significant differences were detected between treatments (P=0.05, LSD).



Bars labelled with the same letter do not significantly differ (P=0.05, LSD).


2020 Seedling Mortality (1 YAT) - May 3rd, 2021
Mortality (%)
100
90
80
70
60
50
40
30
20
10
0
ProClova 20.8 fl oz/A (MSO)
GF-4574 24.4 fl oz/A (MSO)
GF-4574 24.4 fl oz/A (A90)
GF-4574 20.8 fl oz/A (MSO)
ProClova 41.8 fl oz/A (MSO)
GF-4574 48.7 fl oz/A (MSO)
GF-4574 48.7 fl oz/A (A90)
GF-4574 41.8 fl oz/A (MSO)
DuraCor 10.4 fl oz/A (A90)
Loyant 4.2 fl oz/A (MSO)
Enlist One 14.6 fl oz/A (MSO)
Loyant 4.2 fl oz/A + Enlist One 14.6 fl oz/A (MSO)
No significant differences were detected between treatments (P=0.05, LSD).



Bars labelled with the same letter do not significantly differ (P=0.05, LSD).

Pre-Treatment Rating – May 4th, 2020									
Trt. No.	Treatment	Rate	Wild Carrot Density (#/m²)	Wild Carrot Cover (%)	Clover Cover (%)	Grass Cover (%)	Other Broadleaf Cover (%)	Wild Bergamot Cover (%)	Bareground /Litter Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	14 -	7 -	4 -	60 -	2 -	6 -	20 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	20 -	9 -	6 -	70 -	1 -	2 -	11 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	14 -	12 -	3 -	67 -	2 -	5 -	10 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	25 -	11 -	6 -	60 -	2 -	2 -	16 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	10 -	6 -	4 -	62 -	4 -	4 -	20 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	15 -	5 -	6 -	68 -	3 -	4 -	14 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	16 -	10 -	2 -	70 -	2 -	4 -	11 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	22 -	9 -	4 -	64 -	2 -	4 -	16 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	22 -	9 -	5 -	72 -	1 -	2 -	10 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	25 -	10 -	5 -	64 -	1 -	4 -	16 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	12 -	4 -	4 -	70 -	3 -	4 -	14 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	19 -	9 -	2 -	71 -	2 -	2 -	14 -
Statistics[1]									
Least Significant Difference (LSD) P=.05			15.02	6.33	4.17	10.31	1.82	3.29	8.79
Standard Deviation			10.43	4.39	2.89	7.16	1.27	2.28	6.1
Coefficient of Variation (CV)			57.27	51.5	63.83	10.77	58.88	61	41.91
Treatment Prob(F)			0.587	0.4096	0.4882	0.219	0.128	0.2174	0.3466

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.

7 DAT – May 11th, 2020								
Trt. No.	Treatment	Rate	Wild Carrot Cover (%)	Clover Cover (%)	Grass Cover (%)	Other Broadleaf Cover (%)	Wild Bergamot Cover (%)	Bareground /Litter Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	5 -	4 -	59 -	3 -	2 -	26 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	6 -	9 -	66 -	2 -	2 -	13 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	7 -	5 -	58 -	2 -	2 -	25 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	8 -	6 -	62 -	2 -	2 -	20 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	5 -	5 -	60 -	4 -	2 -	22 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	6 -	8 -	60 -	3 -	3 -	19 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	8 -	2 -	64 -	1 -	4 -	20 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	8 -	5 -	69 -	2 -	2 -	14 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	7 -	8 -	60 -	2 -	2 -	19 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	8 -	6 -	59 -	2 -	3 -	21 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	6 -	8 -	62 -	4 -	2 -	18 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	6 -	5 -	68 -	2 -	2 -	18 -
Statistics								
LSD P=.05			4.62	5.27	11	2.74	3.05	9.57
Standard Deviation			3.21	3.66	7.64	1.9	2.12	6.65
CV			47.13	60.14	12.21	74.46	90.56	33.84
Treatment Prob(F)			0.8414	0.3237	0.5909	0.5854	0.9092	0.2792

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

14 DAT – May 18th, 2020					
Trt. No.	Treatment	Rate	Wild Carrot Injury (%)	Red Clover Injury (%)	White Clover Injury (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	23 -	30 -	10 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	30 -	33 -	10 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	23 -	23 -	10 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	23 -	30 -	13 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	23 -	25 -	13 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	28 -	33 -	15 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	23 -	27 -	20 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	25 -	28 -	37 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	25 -	43 -	20 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	30 -	33 -	13 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	20 -	23 -	10 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	25 -	28 -	15 -
Statistics					
LSD P=.05			9.2	12.3	20.3
Standard Deviation			6.4	8.5	12.7
CV			25.87	25.87	25.87
Treatment Prob(F)			0.5037	0.5037	0.5037

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

28 DAT – June 1st, 2020 (1/2)					
Trt. No.	Treatment	Rate	Wild Carrot Injury (%)	Red Clover Injury (%)	White Clover Injury (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	28 -	40 a	35 a
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	40 -	35 ab	30 bc
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	27 -	13 c	10 c
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	28 -	18 bc	15 c
5	ProClova MSO	41.8 fl oz/A 1% v/v	35 -	30 ab	No data
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	33 -	23 abc	20 bc
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	28 -	20 bc	15 c
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	33 -	27 abc	27 ab
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	35 -	20 bc	No data
10	Loyant MSO	4.2 fl oz/A 1% v/v	40 -	20 bc	10 c
11	Enlist One MSO	14.6 fl oz/A 1% v/v	18 -	20 bc	20 bc
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	33 -	20 bc	15 c
Statistics					
LSD P=.05			16.9	10.8	9.5
Standard Deviation			11.7	7.2	6.4
CV			37.5	37.5	37.5
Treatment Prob(F)			0.3618	0.3618	0.3618

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

28 DAT – June 1st, 2020 (2/2)								
Trt. No.	Treatment	Rate	Wild Carrot Cover (%)	Wild Carrot Control (%)	Clover Cover (%)	Grass Cover (%)	Other Broadleaf Cover (%)	Bareground/ Litter Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	4 -	35 -	2 -	74 -	16 -	3 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	4 -	58 -	2 -	86 -	5 -	3 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	5 -	54 -	3 -	76 -	13 -	2 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	4 -	46 -	3 -	80 -	8 -	4 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	4 -	23 -	0.5	82 -	8 -	4 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	4 -	22 -	4 -	82 -	7 -	3 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	6 -	38 -	1 -	81 -	9 -	3 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	6 -	34 -	4 -	82 -	6 -	2 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	2 -	70 -	0.8 -	92 -	1 -	4 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	4 -	47 -	6 -	76 -	12 -	2 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	4 -	32 -	5 -	78 -	10 -	2 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	6 -	38 -	3 -	80 -	10 -	2 -
Statistics								
LSD P=.05			2.89	36.329	3.61	10.12	11	2.67
Standard Deviation			2.01	25.223	2.51	7.03	7.64	1.85
CV			46.44	61.06	87.89	8.67	85.87	63.98
Treatment Prob(F)			0.4507	0.2998	0.093	0.0754	0.3847	0.832

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

43 DAT – June 16th, 2020				
Trt. No.	Treatment	Rate	Wild Carrot Density (#/m²)	Wild Carrot Injury (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	4 -	23 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	4 -	23 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	5 -	20 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	4 -	20 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	3 -	18 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	2 -	28 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	2 -	15 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	6 -	23 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	4 -	23 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	2 -	17 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	6 -	18 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	5 -	18 -
Statistics				
LSD P=.05			4.52	13
Standard Deviation			3.14	9
CV			76.93	44.52
Treatment Prob(F)			0.6804	0.8173

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

56 DAT – June 29th, 2020					
Trt. No.	Treatment	Rate	Wild Carrot Density (#/m²)	Red Clover Cover (%)	White Clover Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	2 -	6 -	1 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	2 -	1 -	1 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	2 -	2 -	6 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	6 -	4 -	4 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	2 -	2 -	0 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	2 -	1 -	6 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	6 -	0.5 -	0 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	8 -	5 -	1 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	4 -	2 -	1 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	2 -	6 -	8 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	15 -	8 -	3 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	7 -	2 -	3 -
Statistics					
LSD P=.05			8	7.86	6.17
Standard Deviation			5.55	5.46	4.28
CV			108.11	169.81	155.97
Treatment Prob(F)			0.068	0.7625	0.2557

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

85 DAT – July 28th, 2020									
Trt. No.	Treatment	Rate	Wild Carrot Density (#/m²)	Wild Carrot Cover (%)	Wild Carrot Control (%)	Clover Cover (%)	Grass Cover (%)	Other Broadleaf Cover (%)	Bareground/ Litter Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	3 -	10 -	0 -	1 -	74 -	12 -	2 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	3 -	6 -	24 -	1 -	76 -	15 -	2 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	4 -	10 -	16 -	0 -	62 -	25 -	2 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	6 -	12 -	14 -	0 -	66 -	20 -	2 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	2 -	8 -	20 -	0 -	74 -	16 -	2 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	1 -	4 -	28 -	2 -	84 -	8 -	2 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	2 -	16 -	0 -	1 -	64 -	16 -	2 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	6 -	14 -	22 -	0 -	68 -	16 -	2 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	4 -	10 -	30 -	1 -	77 -	10 -	2 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	2 -	9 -	41 -	2 -	70 -	18 -	2 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	9 -	28 -	0 -	4 -	50 -	16 -	2 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	2 -	10 -	12 -	1 -	66 -	20 -	2 -
Statistics									
LSD P=.05			5.69	17.36	36.412	3.01	28.25	13.22	0.71
Standard Deviation			3.95	12.05	25.28	2.09	19.61	9.18	0.5
CV			105.42	103.54	143.52	175.18	28.19	57.83	28.75
Treatment Prob(F)			0.3499	0.414	0.4078	0.3916	0.6361	0.5782	0.2275

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

146 DAT – September 27th, 2020 (1/2)						
Trt. No.	Treatment	Rate	Wild Carrot First Year (rosette) Density (#/m²)	Wild Carrot Second Year (bolting) Density (#/m²)	Wild Carrot Total Density (#/m²)	Wild Carrot Second Year (bolting) Mortality (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	5 b	0.99 -	6.0 b	71 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	4 b	0.48 -	4.4 b	90 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	6 b	0.74 -	6.5 b	78 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	6 b	0.97 -	7.0 b	78 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	1 c	0.71 -	1.7 c	76 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	1 c	0.24 -	1.6 c	88 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	1 c	1.00 -	2.0 c	72 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	11 b	1.10 -	12.1 b	70 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	6 b	0.82 -	6.8 b	79 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	2 b	0.55 -	3.2 b	89 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	23 a	1.70 -	25.0 a	40 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	5 b	0.90 -	5.9 b	80 -
Statistics						
LSD P=.05			9.44	1.1356	9.9955	35.629
Standard Deviation			6.56	0.7884	6.9397	24.737
CV			109.02	92.2	101.03	32.46
Treatment Prob(F)			0.0027	0.5868	0.003	0.3794

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

146 DAT – September 27th, 2020 (2/2)									
Trt. No.	Treatment	Rate	Wild Carrot Cover (%)	Wild Carrot Control (%)	Red Clover Cover (%)	White Clover Cover (%)	Grass Cover (%)	Other Broadleaf Cover (%)	Bareground/ Litter Cover (%)
1	ProClova MSO	20.8 fl oz/A 1% v/v	4 -	49 -	0.3 -	0 -	86 -	8 -	2 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	2 -	80 -	0 -	0.3 -	88 -	6 -	3 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	2 -	85 -	0 -	0 -	88 -	6 -	3 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	3 -	56 -	0 -	0.5 -	84 -	10 -	2 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	4 -	41 -	0 -	0.3 -	86 -	6 -	2 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	1 -	76 -	0.5 -	0.3 -	91 -	5 -	2 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	6 -	52 -	0.3 -	0 -	80 -	10 -	4 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	8 -	61 -	0 -	0 -	78 -	12 -	3 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	6 -	66 -	0 -	0 -	85 -	6 -	2 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	3 -	59 -	0.3 -	0 -	78 -	16 -	3 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	14 -	8 -	2 -	0 -	68 -	12 -	2 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	4 -	55 -	0 -	0.3 -	84 -	6 -	5
Statistics									
LSD P=.05			9.35	49.288	1.13	0.54	15.02	7.9	2.77
Standard Deviation			6.49	34.22	0.78	0.37	10.43	5.49	1.92
CV			136.79	60.01	335.01	292.43	12.55	62	65.44
Treatment Prob(F)			0.3449	0.2496	0.3207	0.6347	0.2298	0.203	0.7352

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

364 DAT – May 3rd, 2021				
Trt. No.	**Treatment**	**Rate**	**Wild Carrot Second Year (bolting) Density (#/m²)**	**Wild Carrot Second Year (bolting) Mortality (%)**
1	ProClova MSO	20.8 fl oz/A 1% v/v	0.09 bc	74 -
2	GF-4574 MSO	24.4 fl oz/A 1% v/v	0.19 bc	58 -
3	GF-4574 A90	24.4 fl oz/A 0.25% v/v	0.09 bc	68 -
4	GF-4574 MSO	20.8 fl oz/A 1% v/v	0.34 b	64 -
5	ProClova MSO	41.8 fl oz/A 1% v/v	0.14 bc	61 -
6	GF-4574 MSO	48.7 fl oz/A 1% v/v	0.02 bc	75 -
7	GF-4574 A90	48.7 fl oz/A 0.25% v/v	0 c	100 -
8	GF-4574 MSO	41.8 fl oz/A 1% v/v	0.14 bc	71 -
9	DuraCor A90	10.4 fl oz/A 0.25% v/v	0.09 bc	72 -
10	Loyant MSO	4.2 fl oz/A 1% v/v	0.06 bc	78 -
11	Enlist One MSO	14.6 fl oz/A 1% v/v	0.78 a	48 -
12	Loyant Enlist One MSO	4.2 fl oz/A 14.6 fl oz/A 1% v/v	0.14 bc	73 -
Statistics				
LSD P=0.05			0.33537	51.8252
Standard Deviation			0.23284	36.0243
CV			131.74	51.26
Treatment Prob(F)			0.0049	0.891