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

Extension
UNIVERSITY OF WISCONSIN-MADISON

UW – Madison Weed Science Renz Lab

Golden Creeper control

Dr. Mark Renz, Professor and Extension Weed Specialist

mrenz@wisc.edu – 357 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:

Confirm effectiveness of herbicides and application timing in controlling golden creeper.

Summary:

Golden creeper aka red hailstone (*Thladiantha dubia*) is an invasive vine that is spreading throughout Wisconsin. While it has been present for decades, populations have been found in numerous natural areas over the past five years impacting the habitat. As no known studies have evaluated control, research was conducted in 2019-2020 to determine effective herbicides. Results from small plots found that Escort (metsulfuron) and Remedy (triclopyr) were the most effective if applied in the fall (summer trial/ fall trial). As these were small plot trials and effectiveness was difficult to evaluate in initial studies, largescale unreplicated plots were established in 2021 to confirm these results. While landowner activities (herbicide application and mowing) likely impacted the study we did get confirming results that Remedy (triclopyr) was more effective than Escort (metsulfuron). While summer applications provided initial suppression, populations recovered and had minimal control by 1.5 years after treatment. Fall applications continued to provide suppression 1 year after treatment, and suggest that this is the preferential timing for herbicide applications.

While results suggest fall applications of triclopyr can provide control, the rhizome and tubers present with this perennial vine make high levels of control difficult. Despite our application and mowing and herbicide applications by the farmer the spring/summer after our application we still found golden creeper plants in the fall. This highlights that long-term control efforts will be required to eradicate populations.

Notes

Trial was done on infested fence row with ratings being taken 2.5 feet on either side of fence.

Landowner sprayed fence row and mowed as close to fence as possible in summer of 2022. Unsure of herbicide, but results may have been impacted.

Herbicide Treatments

Treatment Number	Application Timing	Treatment	Rate
1	A (Summer)	Escort	1 g/ gal
2	A (Summer)	Remedy Ultra	1 % v/v
3	B (Fall)	Escort	1 g/ gal
4	B (Fall)	Remedy Ultra	1% v/v
5	-	Nontreated Control (NTC)	-

***All treatments included MSO at a rate of 1 % v/v**

Herbicide Application

Application Timing	A	B
Date	July 1, 2021, 10:40 am – 11:05 am	September 15, 2021, 10:40 am – 11:00 am
Equipment	CO_2 pressurized single nozzle sprayer (50 GPA)	
Nozzles & spacing	One TeeJet 8002 nozzle	
Regulator PSI	42	40

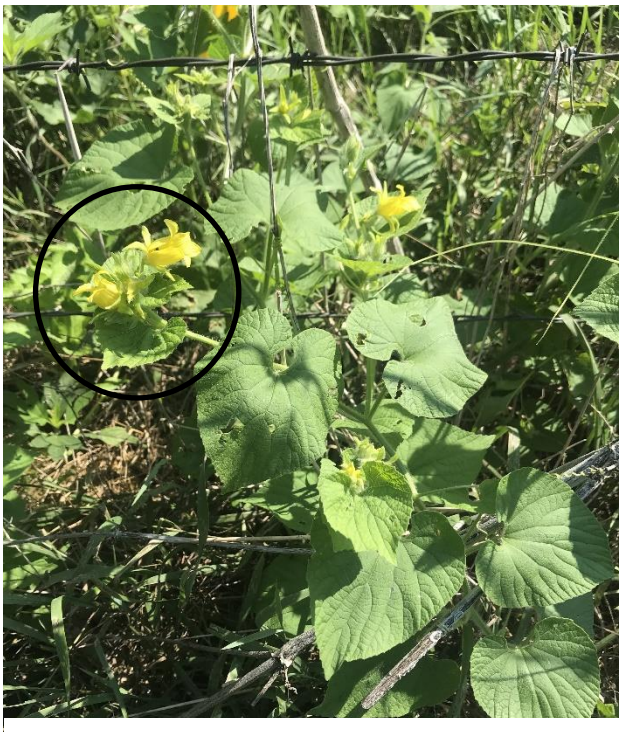
Weather Data

Application Timing	A	B
Weather Station	KWIFENNI2	
Temperature	82.8°F – 86.4°F	69.7°F – 73.7°F
Wind Speed and Direction	4.9 mph SSE – 3.9 mph NE	1.7 mph S – 1.0 mph S
Relative Humidity	68% - 73%	60% - 70 %
Cloud Cover	0%	0 %
Previous Rain Event Within 48 Hours	June 30, 2021 – 0.4 inches	None
When ≥ 0.25 inches of precipitation occurred after treatment	July 7, 2021, 5:05 pm – 0.25 inches	September 20, 2021, 7:55 pm – 0.47 inches

Research Plot Information	
Plot Dimensions	5 feet by 50 feet
Design	Unreplicated large plot demonstration
Soil Type	Dorerton, very stony-Elbaville complex
Soil Characteristics	14.3% clay, 0.54% organic matter, 7.3 pH, 45% slope

Plants Present at Application A – Developmental Stage		
Species	**Average Height (in)**	**Phenological Stage**
Golden Creeper (*Thladiantha dubia)*	29.4	98% vegetative, 2% flowering
Plants Present at Application B – Developmental Stage		
Species	**Average Height (in)**	**Phenological Stage**
Golden Creeper (*Thladiantha dubia)*	19.3	90% vegetative, 10% flowering

Fence row showing infestation of golden creeper invading corn field.

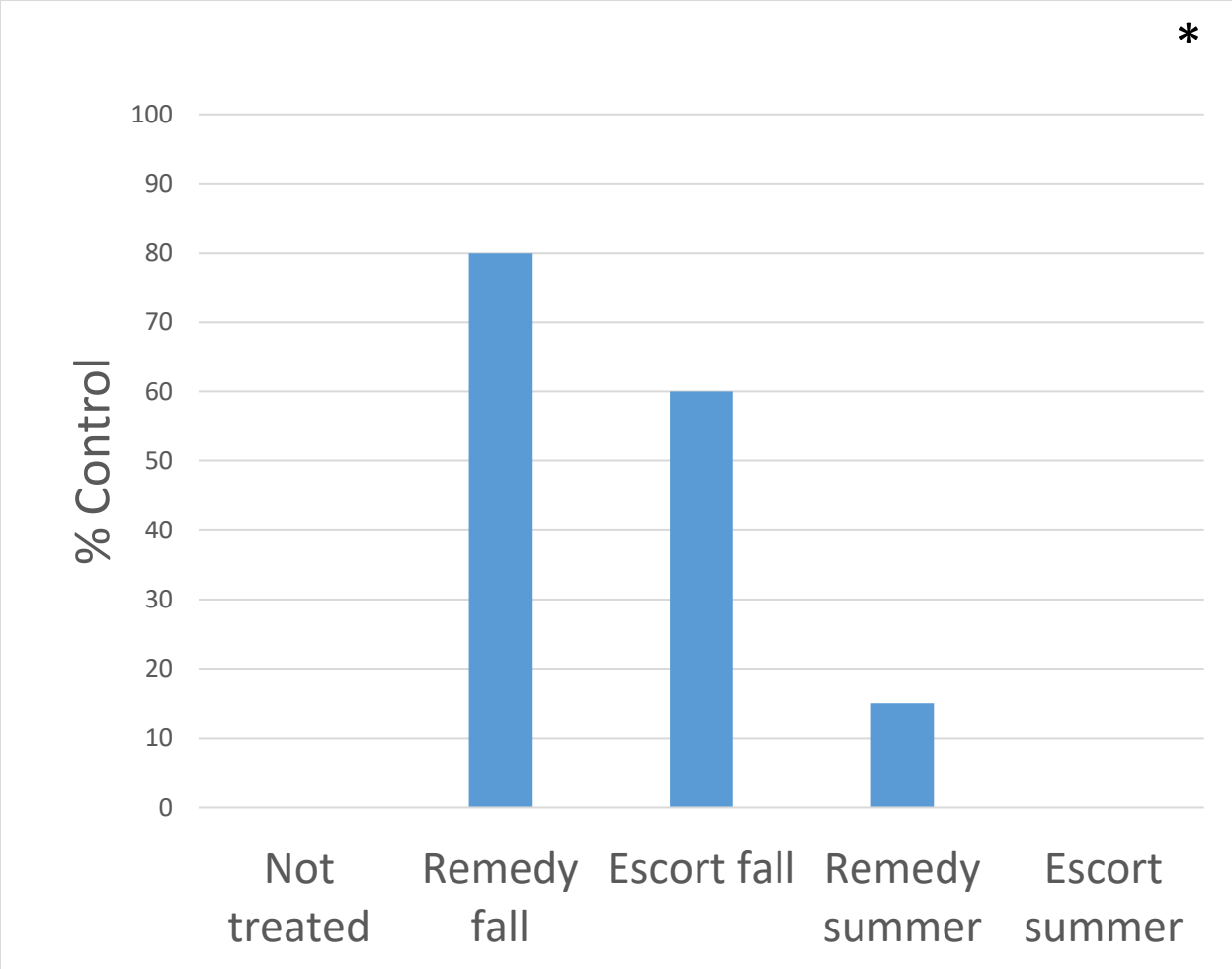


Golden creeper with yellow flowers present (circled in black).

Index of Ratings and Results

Results:

Golden Creeper Control 435 DAT A – September 9, 2022



* Results are not statistically analyzed as no replications were conducted in this experiment.

Pre-treatment rating – July 1, 2021							
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Cover (%)	Broadleaf Weeds Cover (%)	Grasses Cover (%)	Bareground/ Litter Cover (%)
1	A	Escort	1 g/ gal	90	3	2	5
2	A	Remedy Ultra	1 % v/v	70	10	5	15
3	B	Escort	1 g/ gal	80	10	2	8
4	B	Remedy Ultra	1% v/v	55	5	3	37
5	-	NTC	-	70	7	2	21

Note: Unable to run statistics due to trial only having 1 rep.

32 Days after Treatment A (DAT A) – August 2, 2021						
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Injury (%)	Golden Creeper Control (%)	Golden Creeper Cover (%)
1	A	Escort	1 g/ gal	25	80	10
2	A	Remedy Ultra	1 % v/v	0	70	15
3	B	Escort	1 g/ gal	0	0	80
4	B	Remedy Ultra	1% v/v	2	0	85
5	-	NTC	-	1	0	80

Note: Unable to run statistics due to trial only having 1 rep.

48 Days after Treatment A (DAT A) – August 18, 2021					
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Control (%)	Golden Creeper Cover (%)
1	A	Escort	1 g/ gal	40	30
2	A	Remedy Ultra	1 % v/v	20	40
3	B	Escort	1 g/ gal	0	70
4	B	Remedy Ultra	1% v/v	0	60
5	-	NTC	-	0	50

Note: Unable to run statistics due to trial only having 1 rep.

76 Days after Treatment A (DAT A) – September 15, 2021							
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Control (%)	Golden Creeper Cover (%)	Broadleaf Weed Cover (%)	Bareground/ Litter Cover (%)
1	A	Escort	1 g/ gal	0	100	0	0
2	A	Remedy Ultra	1 % v/v	0	80	10	10
3	B	Escort	1 g/ gal	0	35	25	50
4	B	Remedy Ultra	1% v/v	0	20	15	65
5	-	NTC	-	0	25	35	40

Note: Unable to run statistics due to trial only having 1 rep.

371 Days after Treatment A (DAT A) – July 7, 2022					
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Injury (%)	Golden Creeper Control (%)
1	A	Escort	1 g/ gal	12	3
2	A	Remedy Ultra	1 % v/v	10	5
3	B	Escort	1 g/ gal	35	50
4	B	Remedy Ultra	1% v/v	55	60
5	-	NTC	-	10	35

. Note: Unable to run statistics due to trial only having 1 rep

435 Days after Treatment A (DAT A) – September 9, 2022				
Trt. No.	Application Timing	Treatment	Rate	Golden Creeper Control (%)
1	A	Escort	1 g/ gal	0
2	A	Remedy Ultra	1 % v/v	15
3	B	Escort	1 g/ gal	60
4	B	Remedy Ultra	1% v/v	80
5	-	NTC	-	0

. Note: Unable to run statistics due to trial only having 1 rep