

# GREENACRES

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# Controlling Oriental Bittersweet: Herbicide Trials in Southwest Ohio



## INTRODUCTION

- *Celastrus orbiculatus*, oriental bittersweet (OB), is an invasive vine found throughout most of the eastern United States
- Dense populations of OB have established following the removal of Amur honeysuckle from Greenacres' woodlands and is competing with native tree seedlings
- Due to contradictory literature on OB management, and disappointing results controlling OB with glyphosate, Greenacres performed trials to determine the most effective control methods for OB

## Questions:

- What is the most effective treatment to control ground-level oriental bittersweet (*Celastrus orbiculatus*) in southwestern Ohio woodlands?
- What are the effects of each treatment on native tree seedlings?

## METHODS

Two randomized block design trials consisting of 3 blocks each containing several treatment plots took place in our woods

- Herbicides were foliar-applied with a backpack sprayer
- Data collected were percent cover of OB and native tree seedling counts

### Trial 1 treatments:

- 1% Triclopyr (Vastlan)
- 2% Triclopyr (Vastlan)
- Hand pulling
- 2% Glyphosate (Roundup Custom)

### Trial 2 treatments:

- 3% Triclopyr (Vastlan),
- 2% Triclopyr (Vastlan) mixed with 2% Glyphosate (Roundup Custom)
- 2% Triclopyr (Vastlan) mixed with 4% Glyphosate (Roundup Custom)

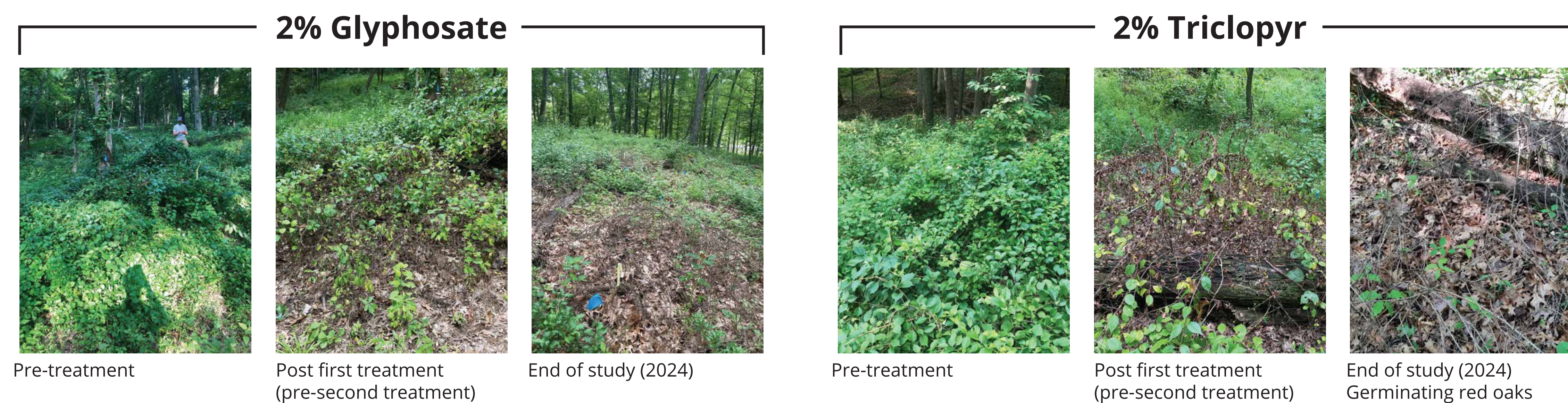
## RESULTS

### TRIAL 1:

- Hand pulling and 2% Triclopyr were most effective at controlling OB (did not need second treatment)
- 1% Triclopyr and 2% Glyphosate were ineffective until the second treatment

### TRIAL 2:

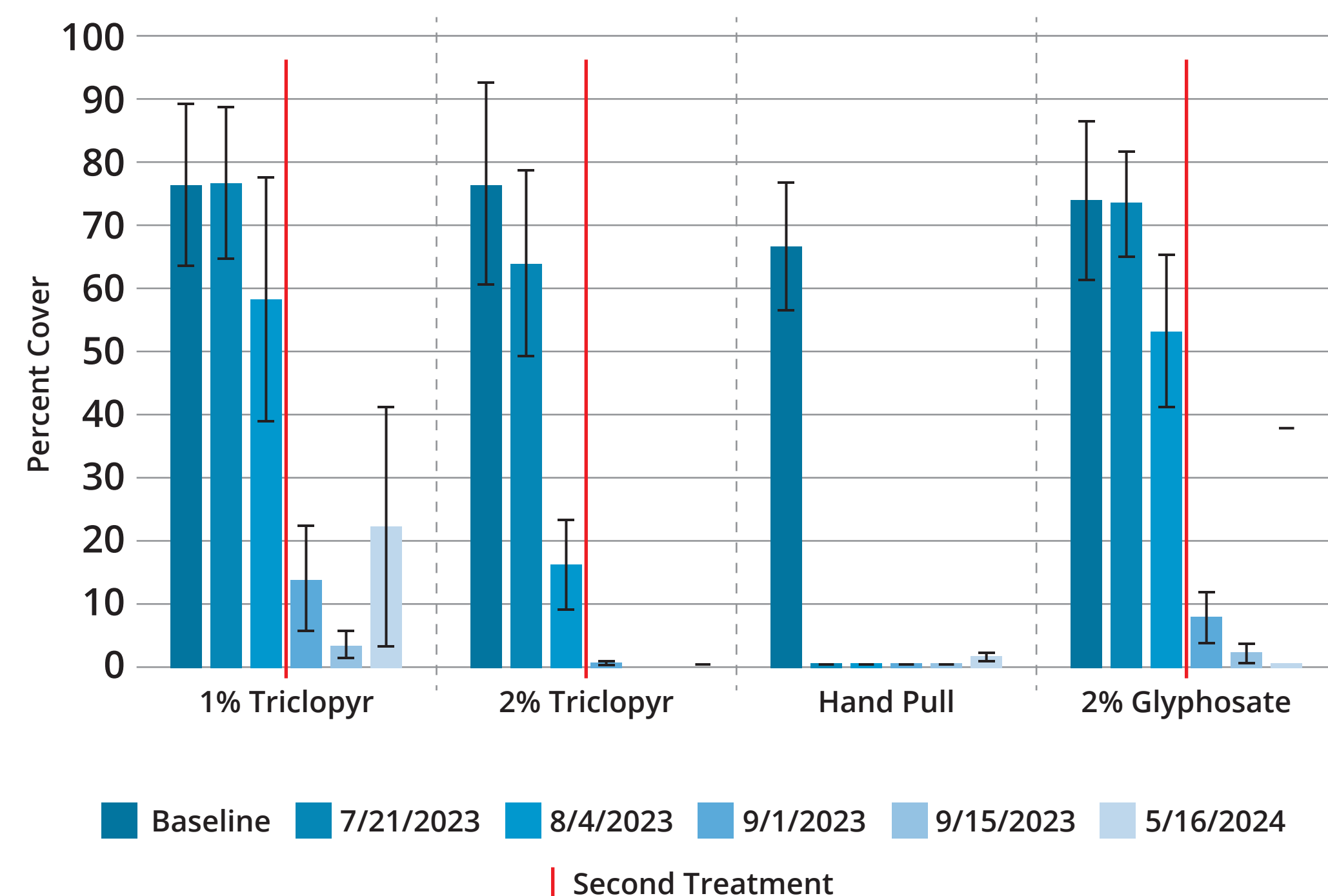
- All three treatments were effective in reducing OB cover with one treatment



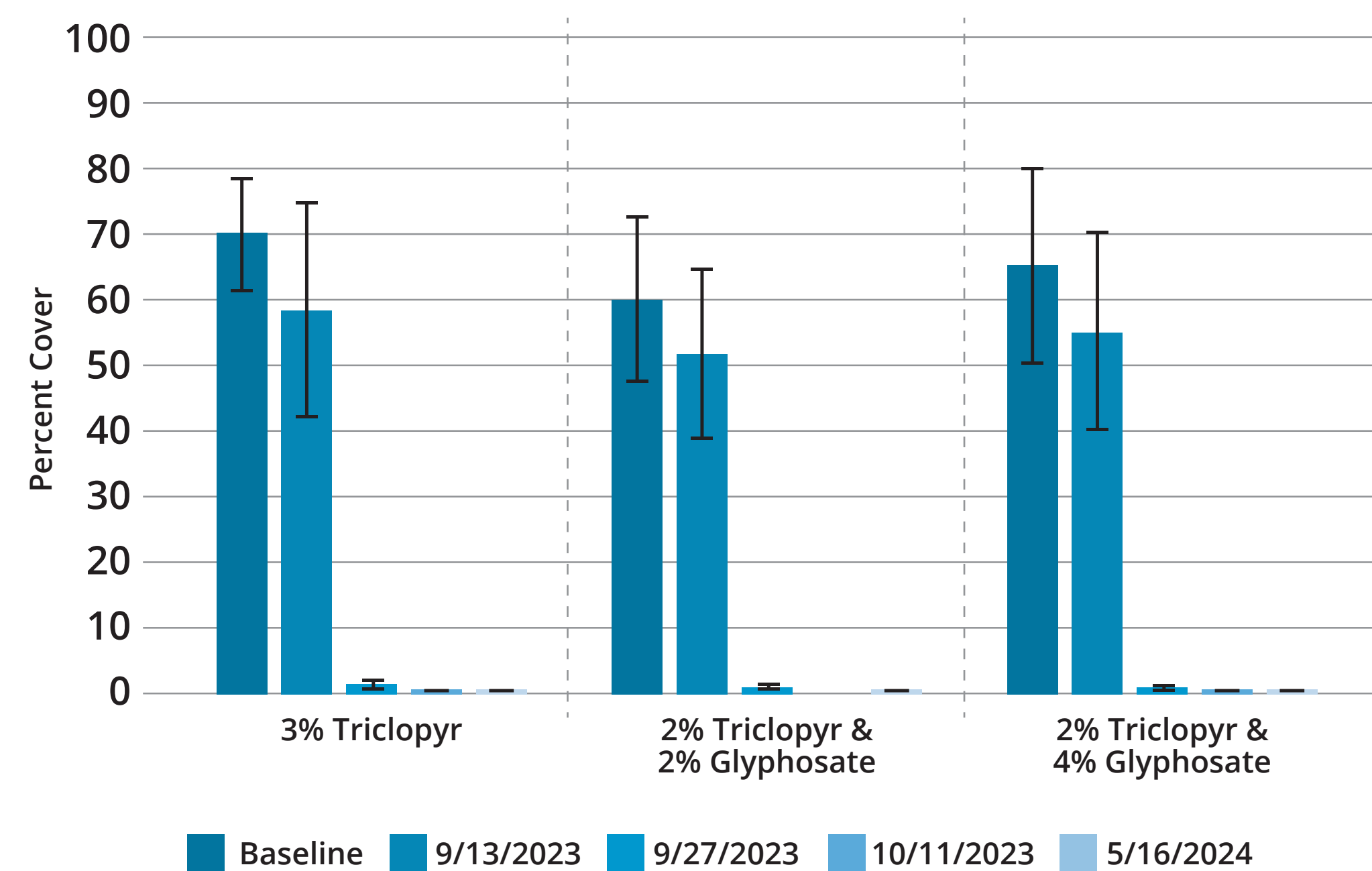
## Discussion and Recommendations

- Overall, all treatments successfully reduced OB
- Native tree regeneration increased following treatment
- Hand pulling works well with small populations but would be too time consuming with larger populations
- We recommend 2% Triclopyr or 2% Triclopyr mixed with 2% Glyphosate
- Both showed significant reduction after one treatment – 2% Triclopyr was retreated to remain consistent with the rest of trial 1
- Using 2% Triclopyr can reduce the amount of chemicals being applied to your land
- A mixture of triclopyr and glyphosate can be beneficial when targeting a suite of different plants
- When controlling OB with chemicals, it is important to be very targeted with your application to reduce non target damage

### TRIAL 1 AVERAGE ORIENTAL BITTERSWEET COVER



### TRIAL 2 AVERAGE ORIENTAL BITTERSWEET COVER



### AVERAGE OB COVER VS. SEEDLINGS

