

Control of Chinese Privet
(*Ligustrum sinense*) in Urban
Areas: The Influence of
Individual Plant Size on
Treatment Efficacy

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Chinese Privet

- Semi-evergreen to evergreen
- Shrub (multiple stems) or small tree



Leaves

- Opposite
- Ovate to elliptic
- 0.8-1.6 in long
- 0.4-1.2 in wide
- Lustrous green above and pale green beneath



UGA5079012

Flowers and Fruit

- Flowers April to June
- Panicles of white flowers
- Fruits ripen late summer and often persist into the winter
- Seed is dispersed by birds and animals



Vegetative Reproduction

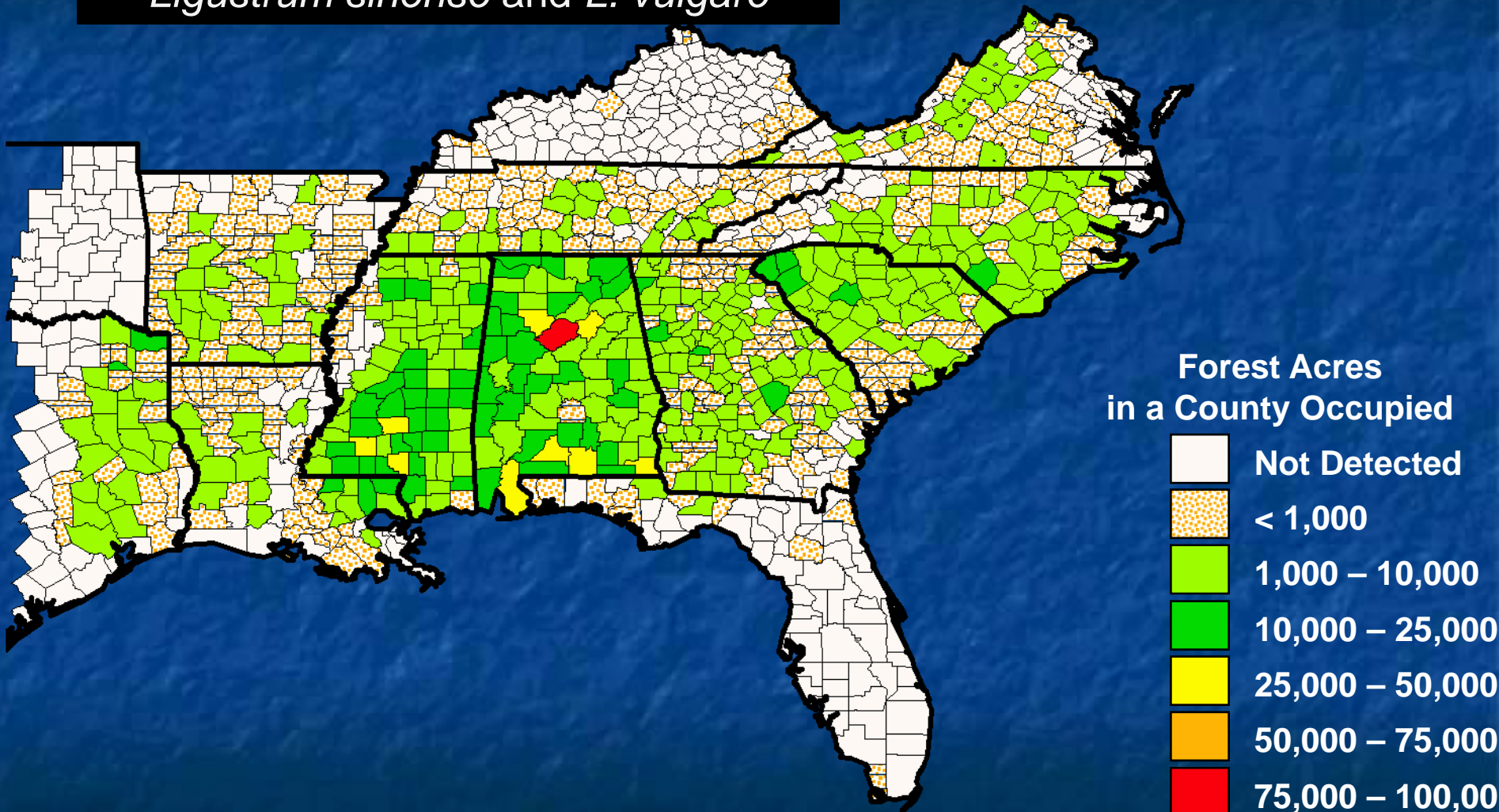
- Readily resprouts from cut stumps
- Some documented from shallow laterals
 - Not well characterized
 - Less frequently than other species such as tree of heaven
 - Mainly exposed roots or as a result of injury

Resprouting from Lateral Roots



Chinese and European Privets

Ligustrum sinense and *L. vulgare*



Privet Control

- Cultural Control
 - STOP PLANTING IT!!!
- Biological Control
 - None currently available
- Chemical Control
 - Basal bark treatment at 20% (v/v) triclopyr
 - Foliar glyphosate treatments in winter at 3% (v/v) very effective

Mechanical Control

- Hand pulling or weed wrench
 - Effective on seedlings and small saplings
- Cutting
 - Results in rapid resprouting
- Cut-treat (cut stump herbicide treatment)
 - Written and observational reports of 20-100% glyphosate or triclopyr amine formulation
 - Reports of inconsistent control

What's going on?

- Herbicide?
- Herbicide rate?
- Privet stem size?
- Timing of treatment?

Research Questions

- Is there a differential performance between glyphosate and triclopyr?
- Does stem size influence herbicide efficacy?
- Does season of treatment influence herbicide efficacy (spring vs. fall)?

Site 1: Riparian



Site 2: Upland



Methods

- Split plot design where individual stems were experimental units
 - 50 stems per treatment
- Measured root collar diameter
- Stems placed in three diameter classes
 - 1-5 cm (0.5-2 in)
 - 5.1-10 cm (2-4 in)
 - ≥10.1 cm (4.1 in and larger)



Methods

- Stems cut 2.5 cm above the ground with a chainsaw
- Treatments applied within 30 seconds of cutting
 - Cut Stump (control)
 - Glyphosate (25% v/v)
 - Triclopyr (amine) (25% v/v)
 - NIS added to herbicide treatments at 0.5% v/v
- Entire surface of cut stem sprayed to wet

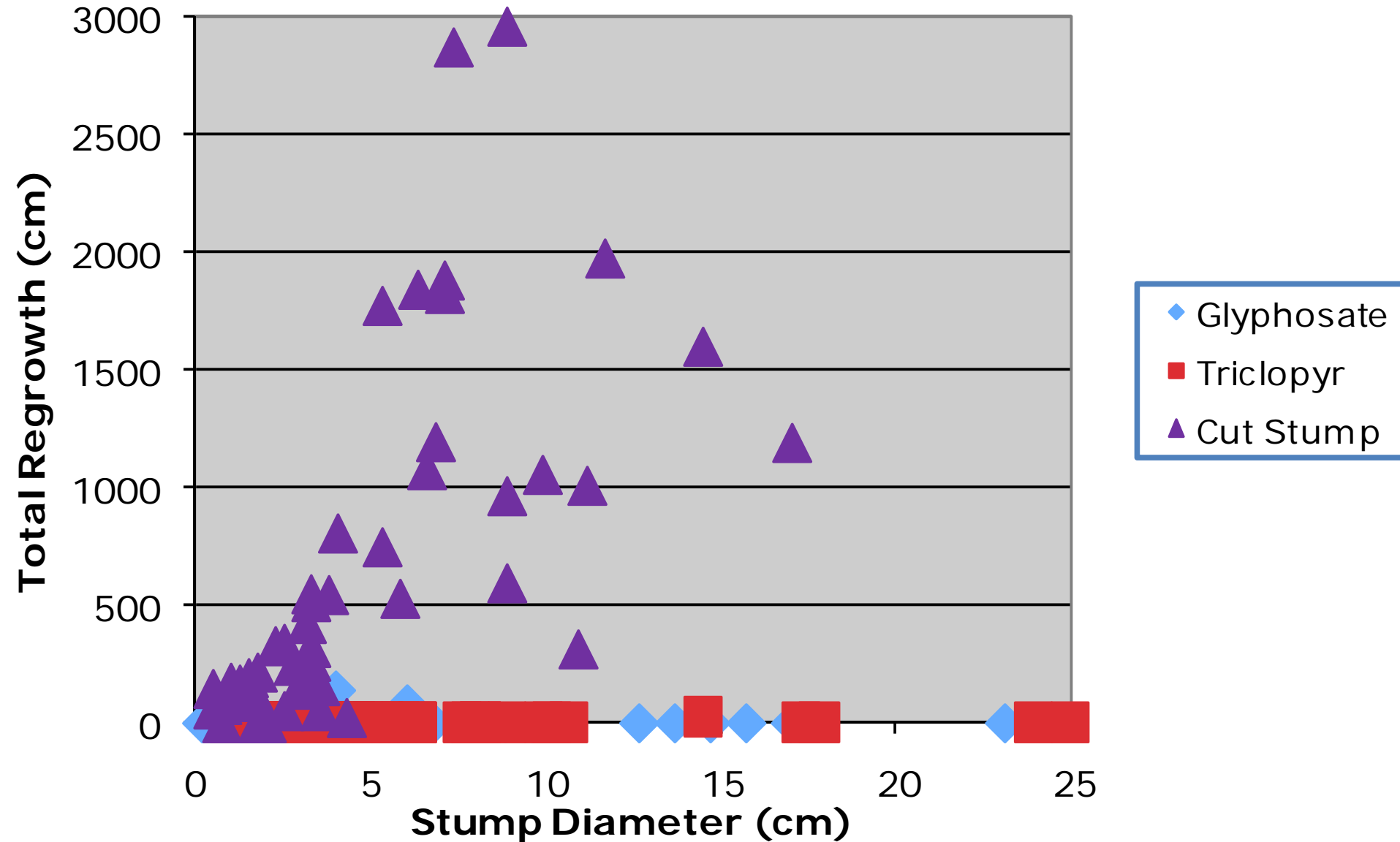




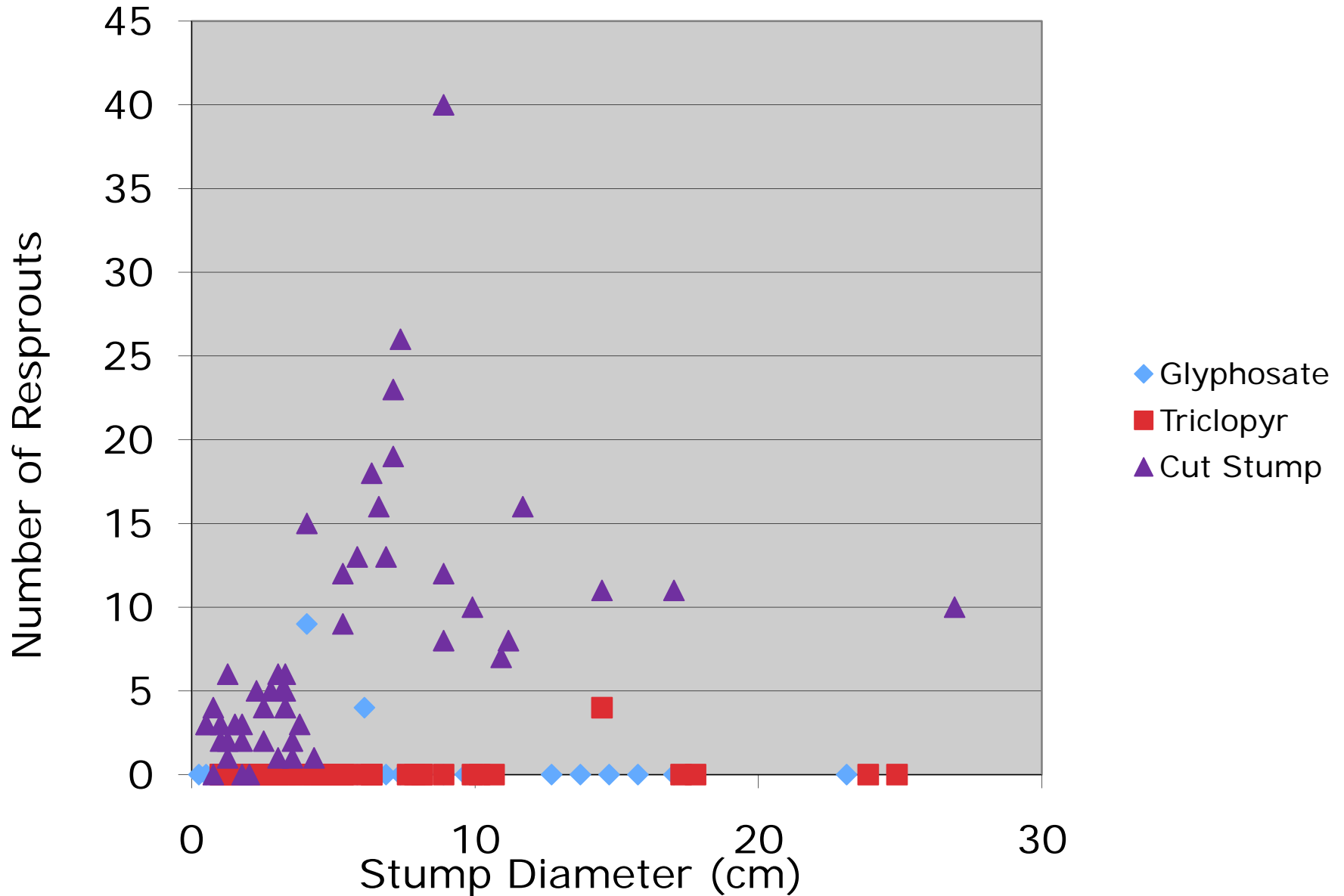
Data Collected

- Data collected 6, 12 and 18 months after treatment (MAT)
- Number of resprouts per stem
- Total length of resprouts per stem
- Lateral root resprouts within a 30 cm radius of stem are included in totals

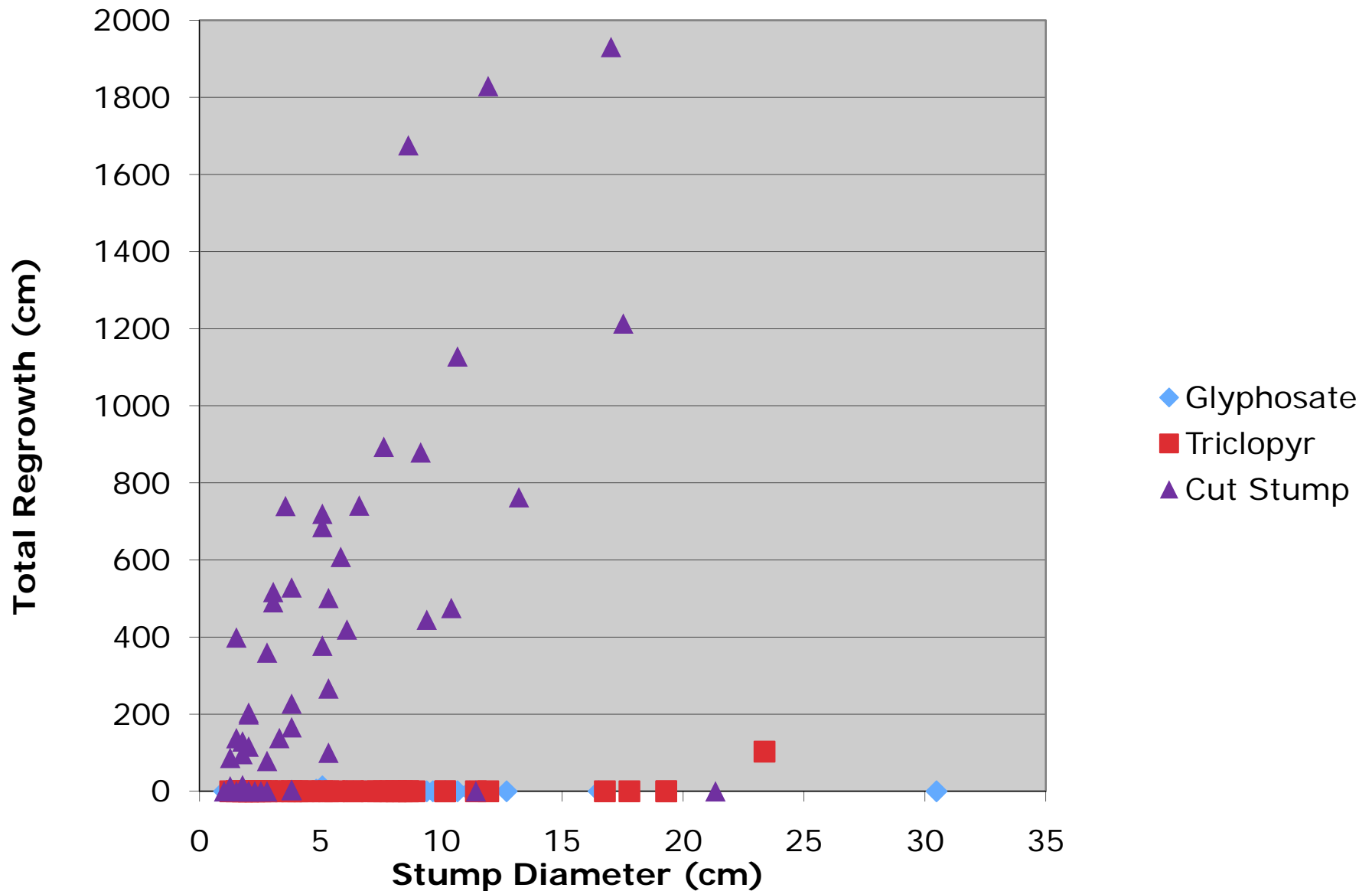
Riparian Area: Total shoot regrowth 6 months after April 2008 treatment



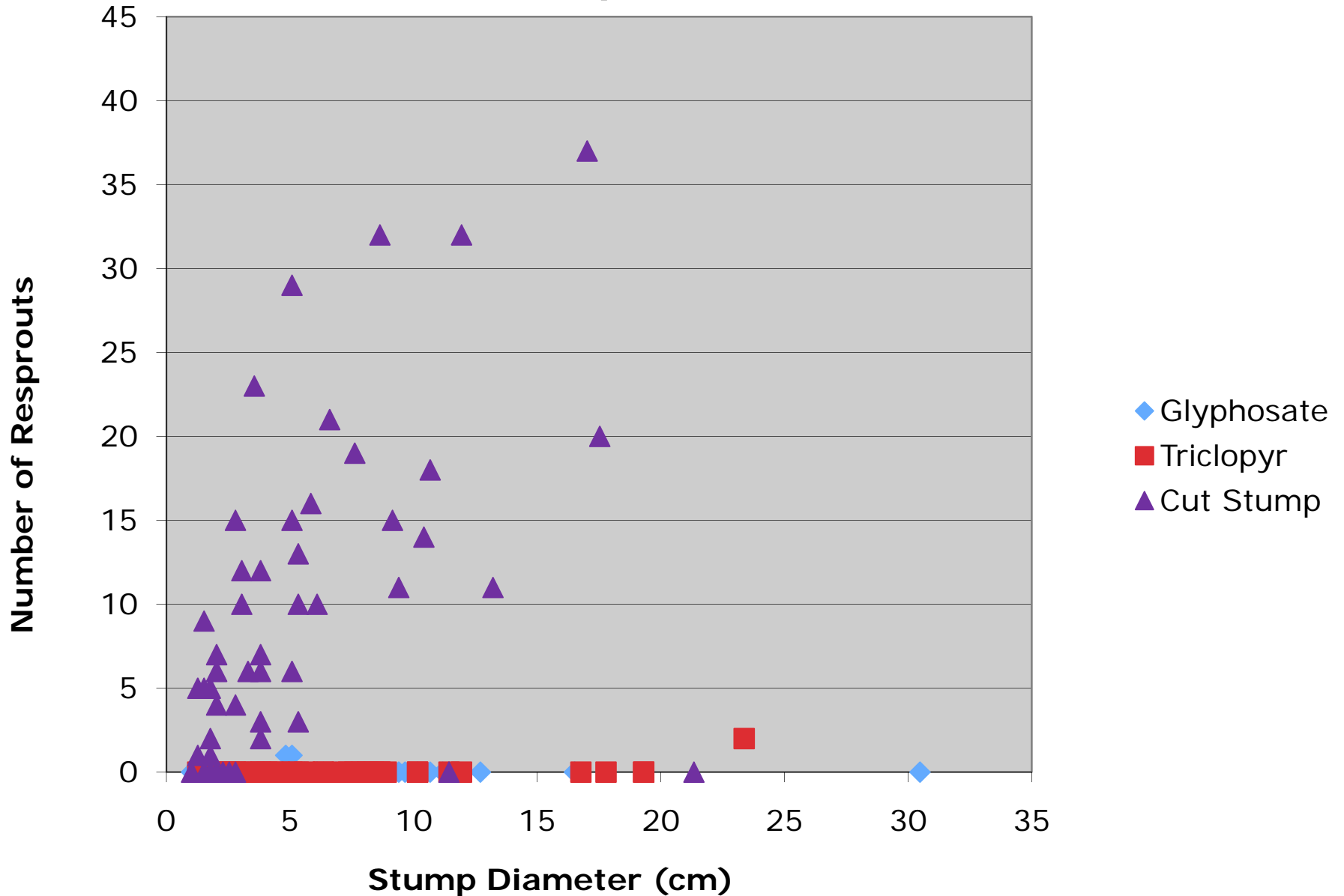
Riparian Area: Total number of resprouts 6 months after April 2008 treatment



Upland Site: Total shoot regrowth 6 months after April treatment



Upland Site: Total number of Resprouts 6 months after April 2008 treatment



Glyphosate



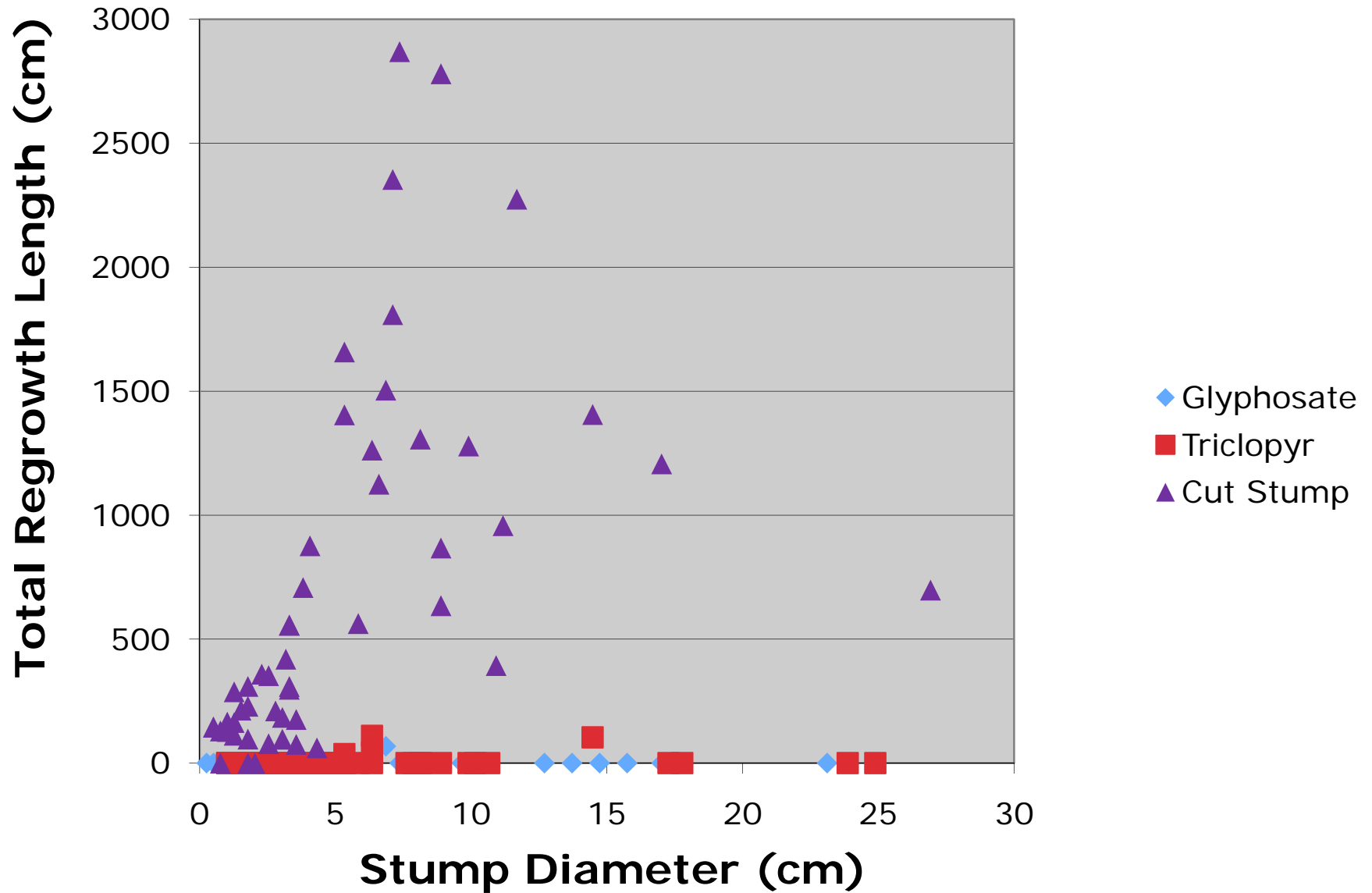
Triclopyr



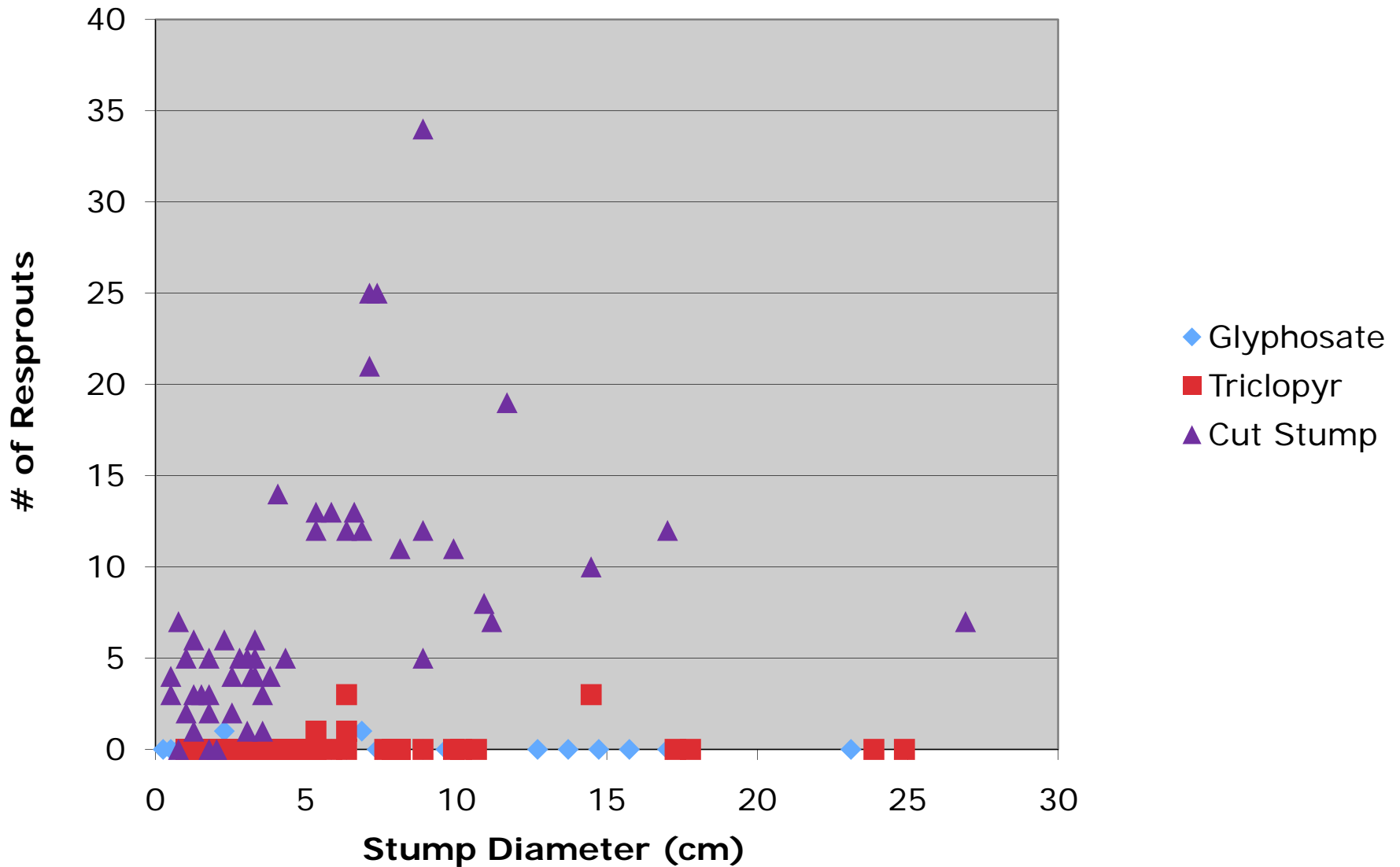
Cut Stump



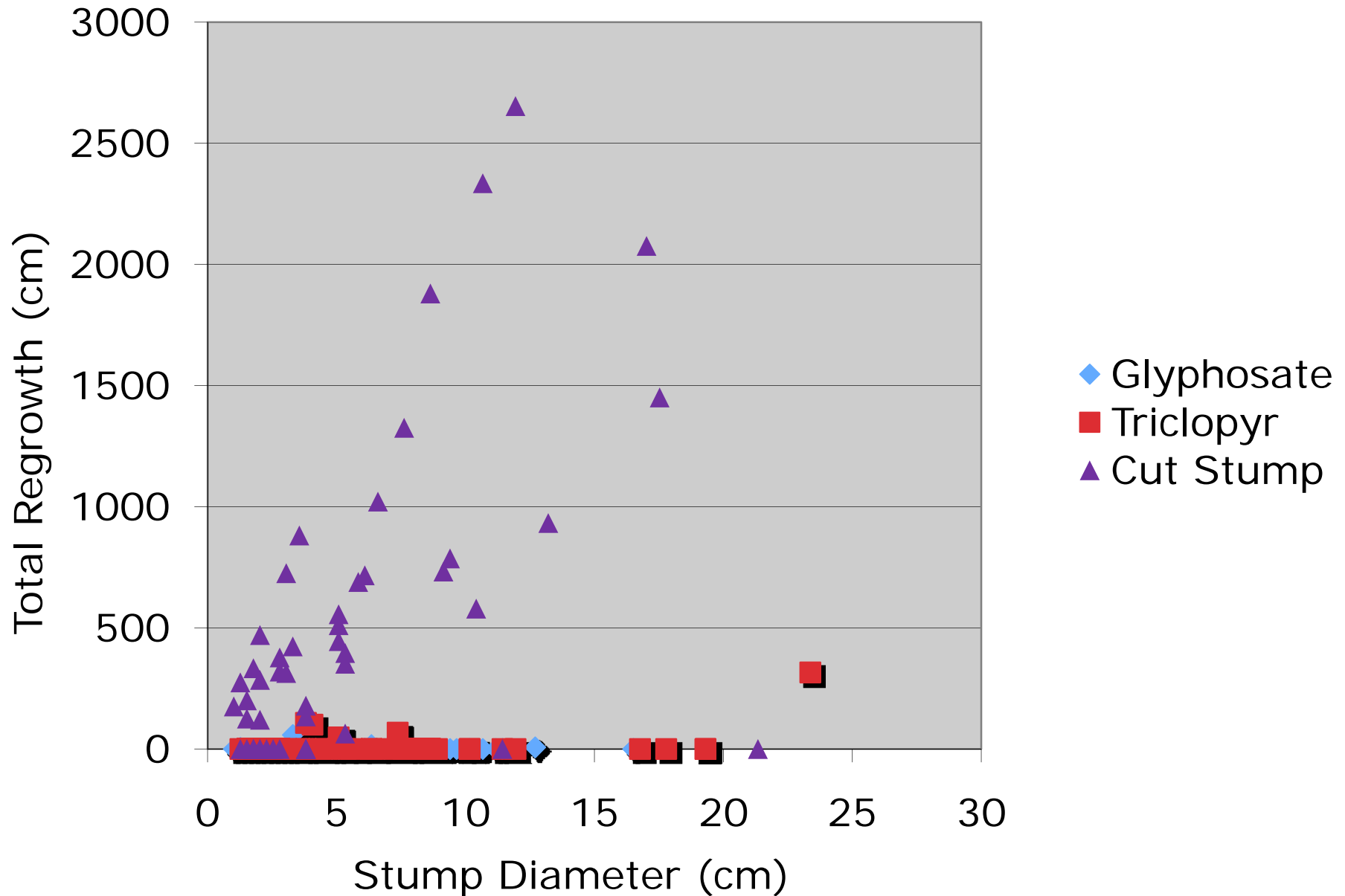
Riparian Area: Total shoot regrowth 12 months after April treatment



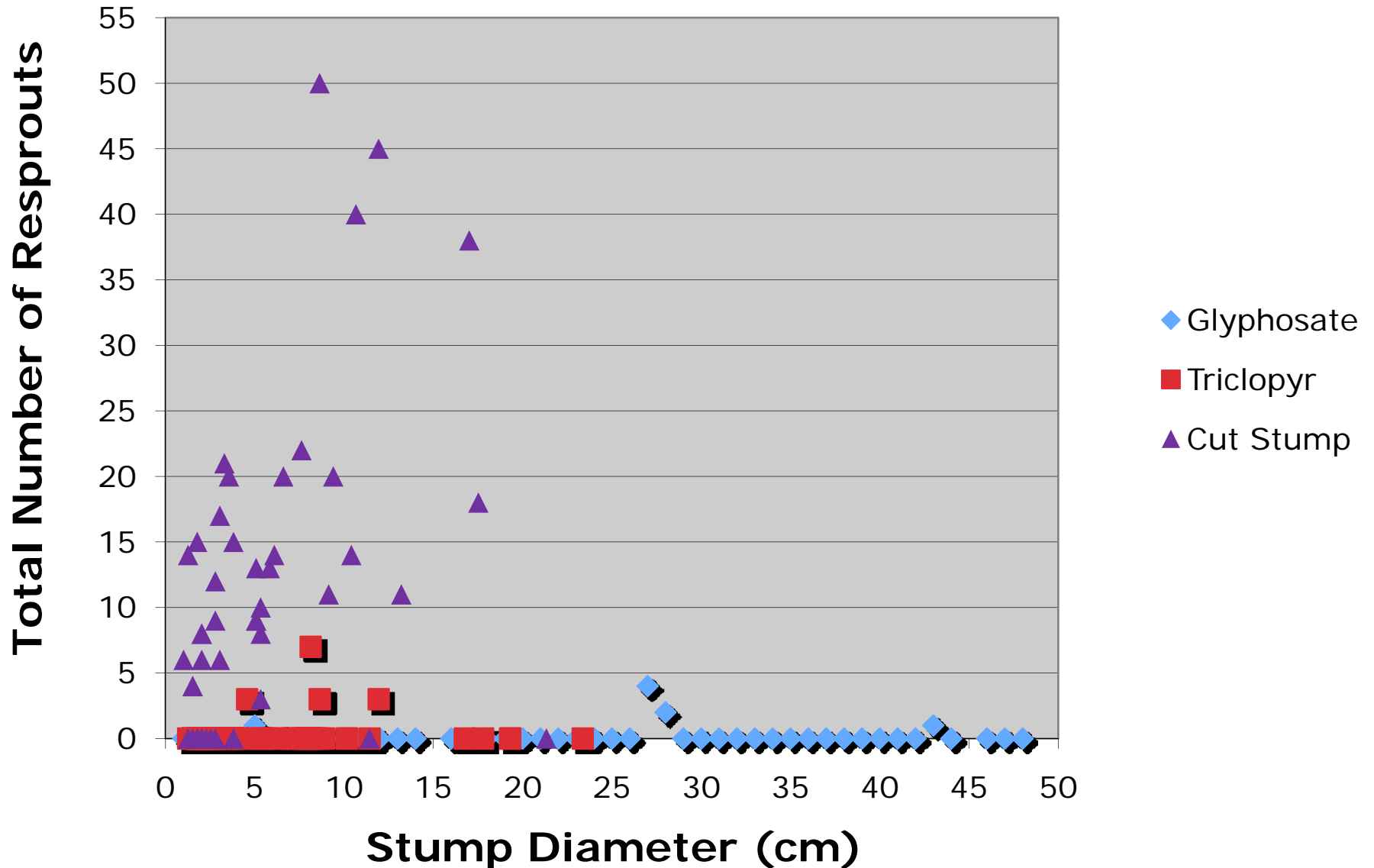
Riparian Area: Total number of sprouts 12 months after the April 2008 treatment



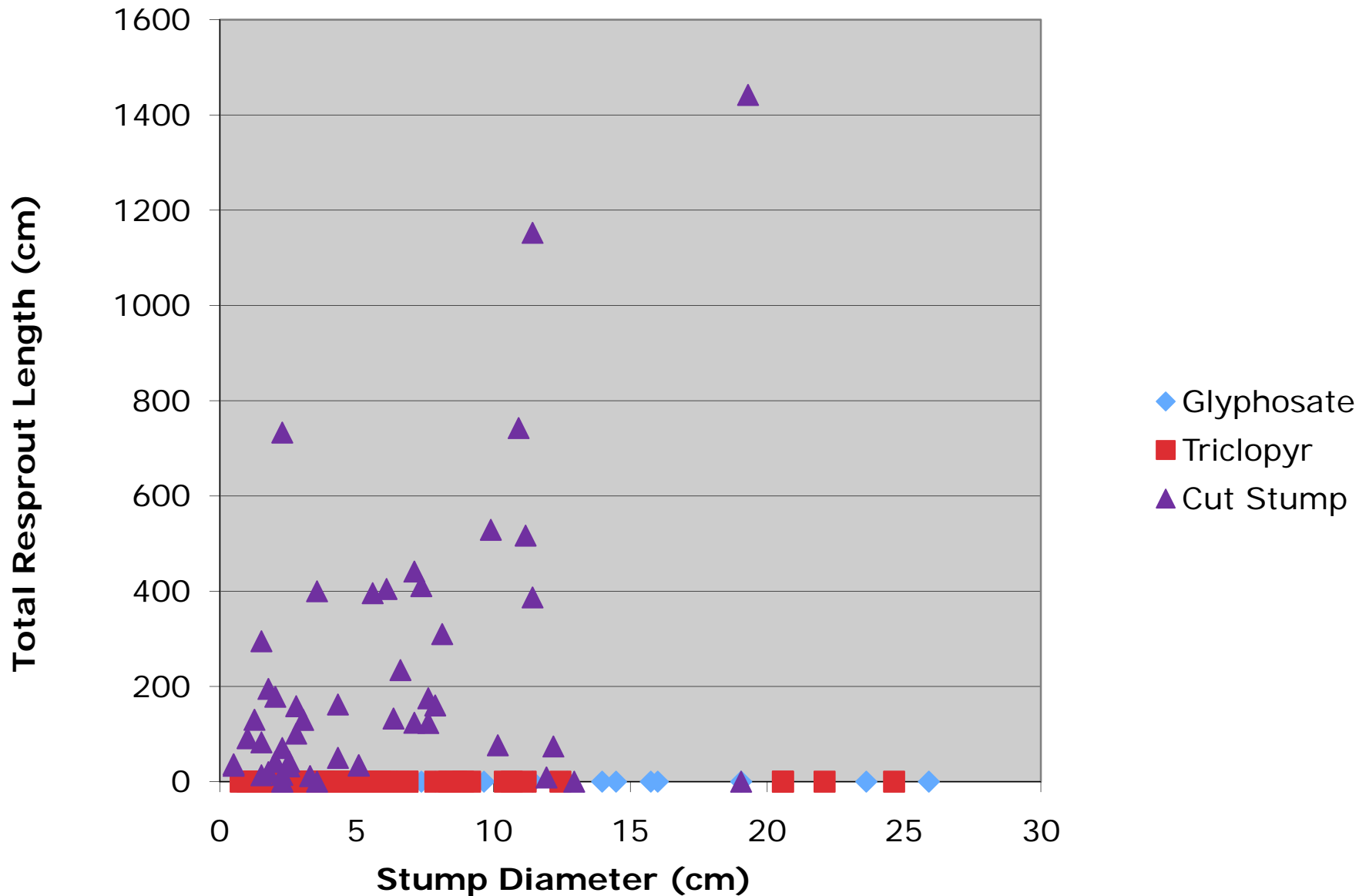
Upland Area: Total shoot regrowth 12 months after April 2008 treatment



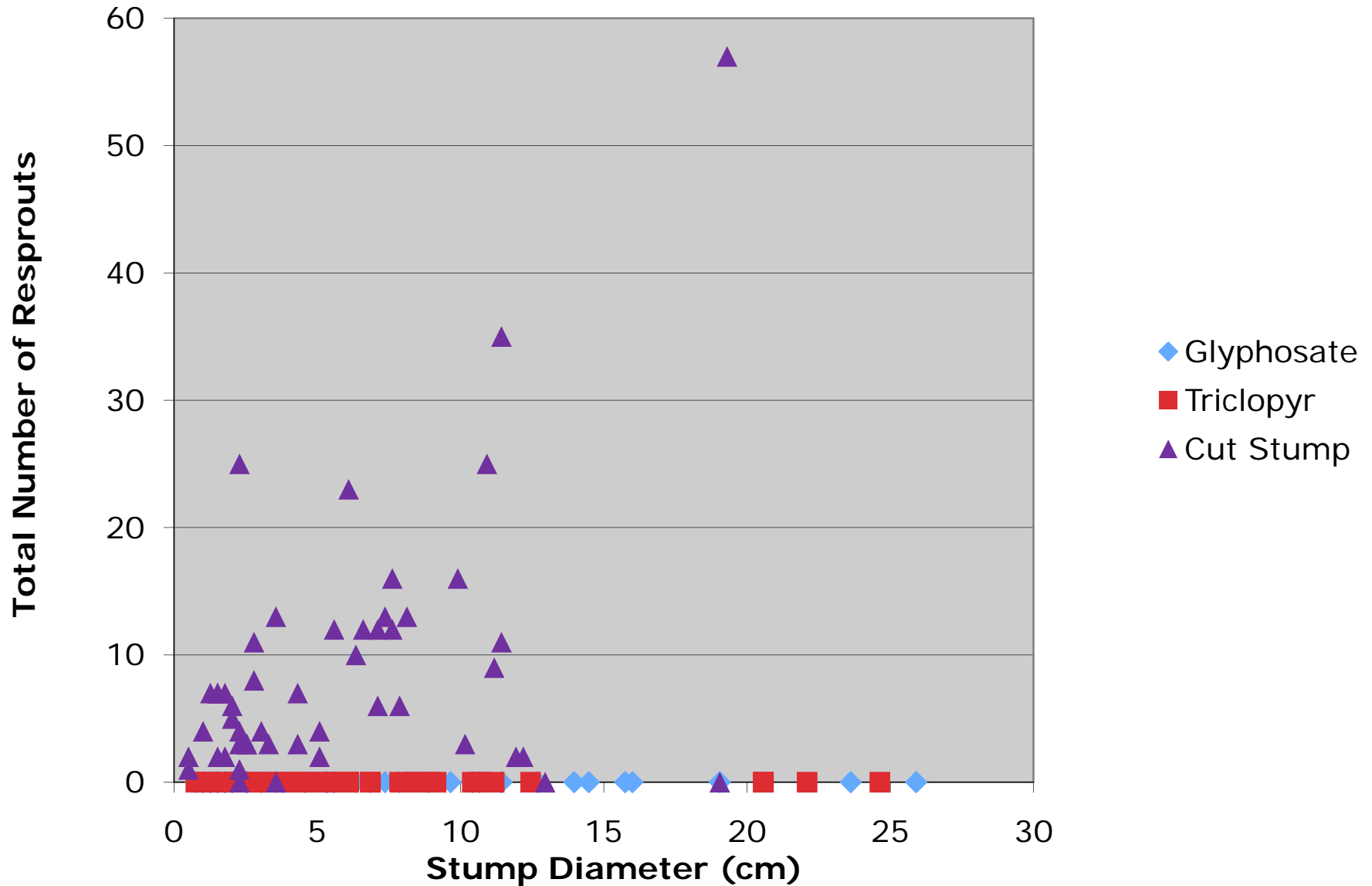
Upland Area: Total number of resprouts 12 months after April 2008 treatment



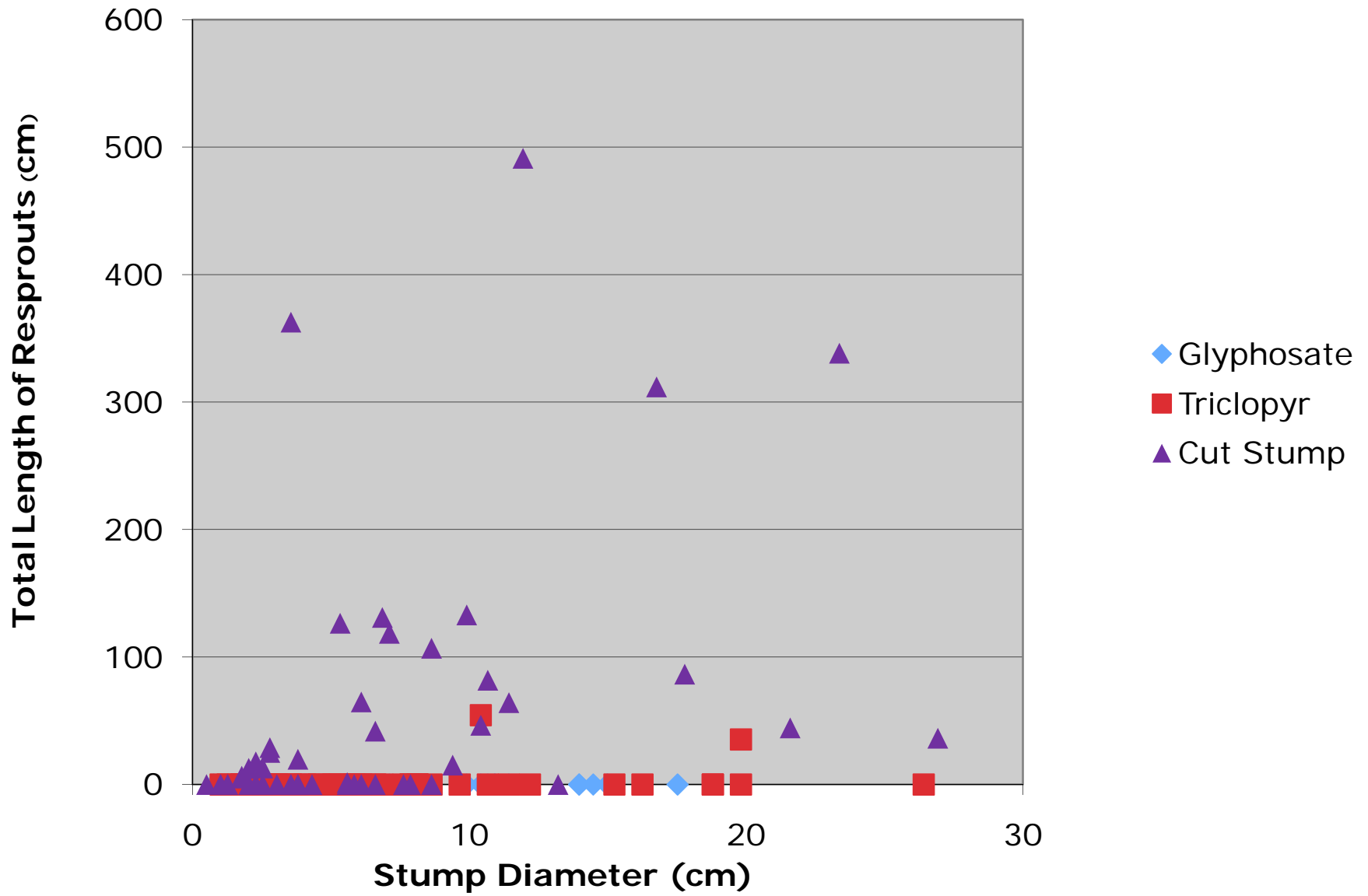
Riparian Area: Total shoot regrowth 6 months after November 2008 treatment



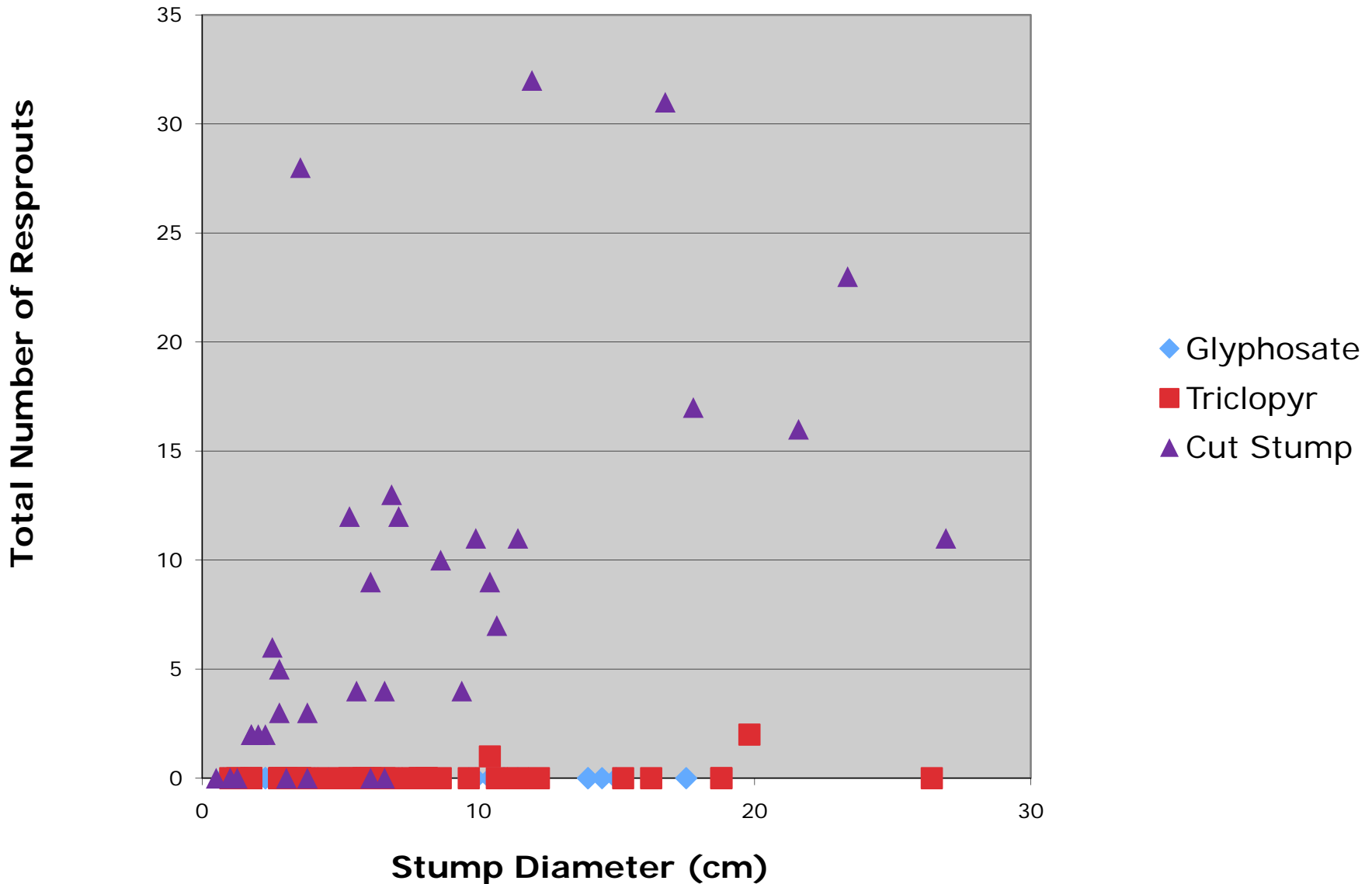
Riparian Area: Total number of resprouts 6 months after November 2008 treatment



Upland Area: Total shoot regrowth 6 months after November treatment



Upland Area: Total number of shoots 6 months after November 2008 treatment



Conclusion

- At 6 and 12 MAT, no differences between herbicide efficacy
- Stem diameter did not impact efficacy
- No determination of spring versus fall timing yet
- Connection between stem diameter and amount of regrowth from cutting only

Future research

- Reduced rates for cut stump treatments
- Basal treatments at reduced rates
- Impact of Chinese privet
 - Native vegetation
 - Physiographic regions in AL

Questions?