

# **Silvicultural Practices and Invasive Exotic Plants**

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# OUTLINE

- **Invasive/Exotic Weed Biology**
- **Silvicultural Practices for Plantations and Naturally Regenerated Stands**
- **Invasive/Exotic Avoidance**
- **Invasive/Exotic Control/Examples**

# **Invasive Weed Biology**

- **Pioneer Species - Intolerant of Shade**
- **Shade Tolerant Species**
- **Herbs**
- **Vines**
- **Shrubs**
- **Trees**

# Shade Tolerant Exotics

- **Herbs: Nepalese Browntop, Garlic Mustard**
- **Vines: Periwinkles, Chocolate, Honeysuckle**
- **Shrubs: Privets, Autumn Olive, Winged Burning Bush**
- **Trees: Tallow/Popcorn, Chinaberry**

# **Intolerant Exotics**

- **Herbs: Tall Fescue, Silvergrass, Cogongrass**
- **Vines: Kudzu, Wisterias**
- **Shrubs: Multiflora Rose**
- **Trees: Ailanthus, Paulownia, Russian Olive**

# **Biological Reality**

**Annuals (herbs) – You must get them before they have sex!**

**Perennials (herbs, vines shrubs, trees) - Get them before they get big, numerous, and/or have sex!**

# Silvicultural Operations/Opportunities

## Naturally Regenerated Stands:

- TSI
- Thinnings
- Regeneration Cut

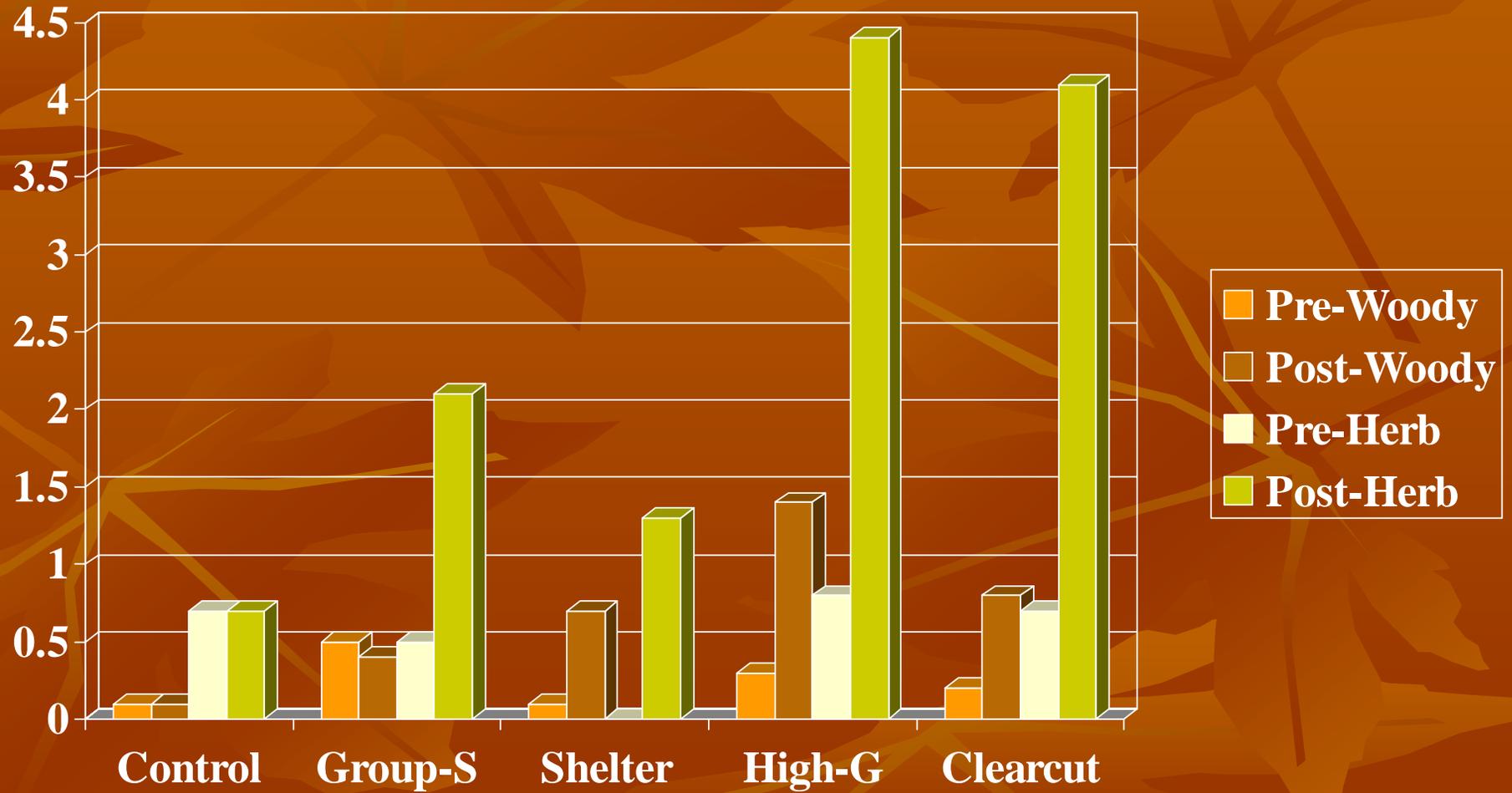
## Plantations:

- Site Preparation
- Release
- TSI
- Thinnings
- Regeneration Cut

# **Bad Things To Do**

- **Partial Cutting**
- **Clearcutting without Release/Site Prep**
- **Any Cutting before Invasive is Controlled or You Have a Plan**

# Exotic Species (#/plot)



# **Avoidance**

**Thou Shalt Look Over Thy Neighbor's Fence**

**Thou Shalt Not Provide an Opening/Hole**

**Thou Shalt Fill All Holes Immediately**

# **Control**

**Thou Shalt Use All  
Techniques, Resources,  
Tricks... Available (ACAP)**

# Examples:

- *Ailanthus altissima* – Intolerant Tree
- *Akebia quinata* – Tolerant Vine



# Tree-of-Hell

- If You Make a Hole
- If You Have a Source of Regeneration
- Ailanthus Will Come!



# Tree-of-Hell

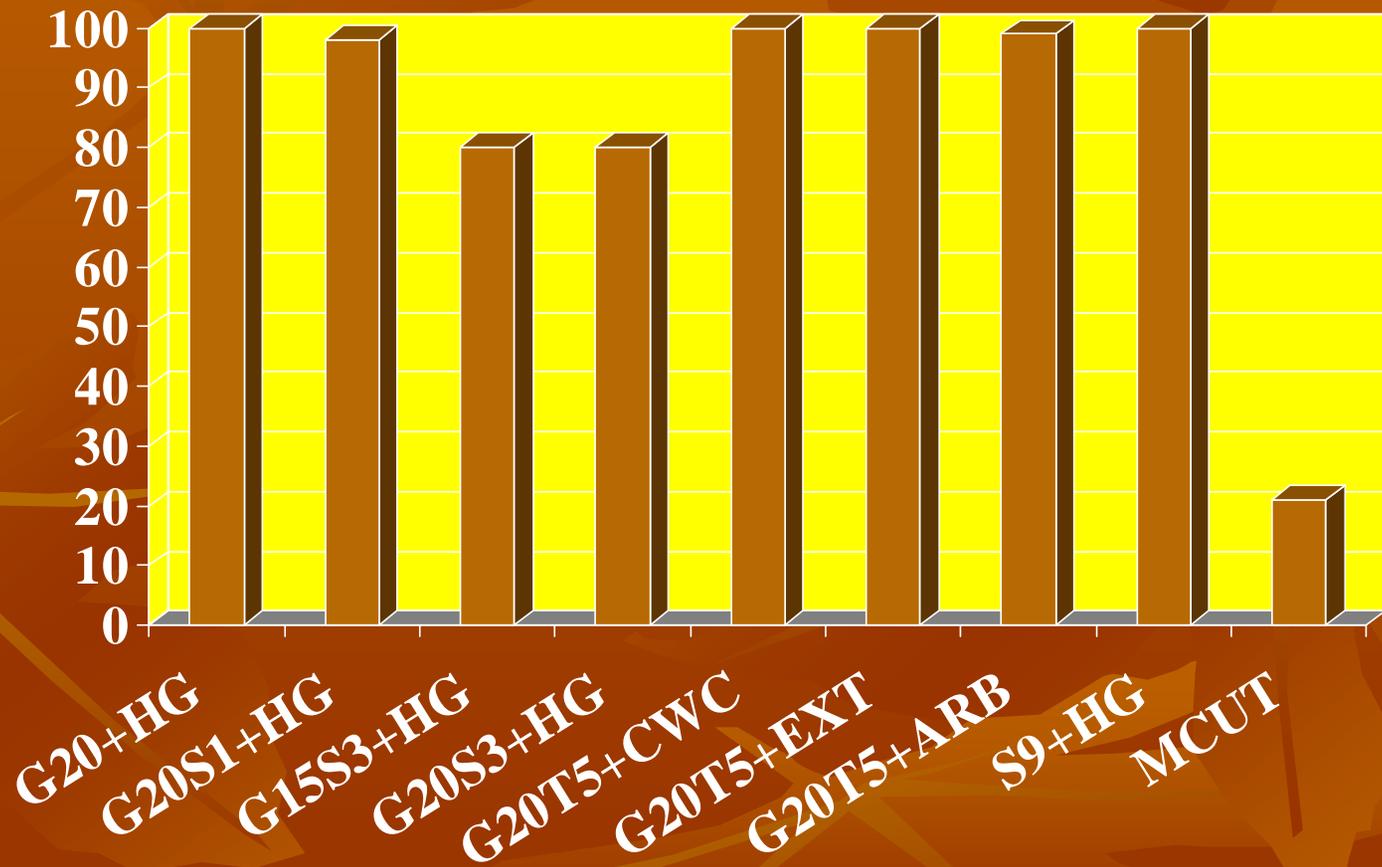
- **If You Pull It, You WILL Get Tired**
- **If You Cut It, It WILL Resprout**
- **If You Cut-and-Stump-Spray, It WILL Resprout**
- **If You Foliar Spray, Be Sure Not To Kill Others**
- **If You Basal Spray, You Have A Chance**

# Death By Basal



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# Ailanthus Mortality- 1YAT



# Ailanthus Stems (#/ha) 2YAT



# Chocolate Vine (*Akebia quinata*)

Grows as a twining vine or vigorous ground cover.

Grows so quickly that it can overtake ground-level vegetation, understory shrubs, and even canopy trees.

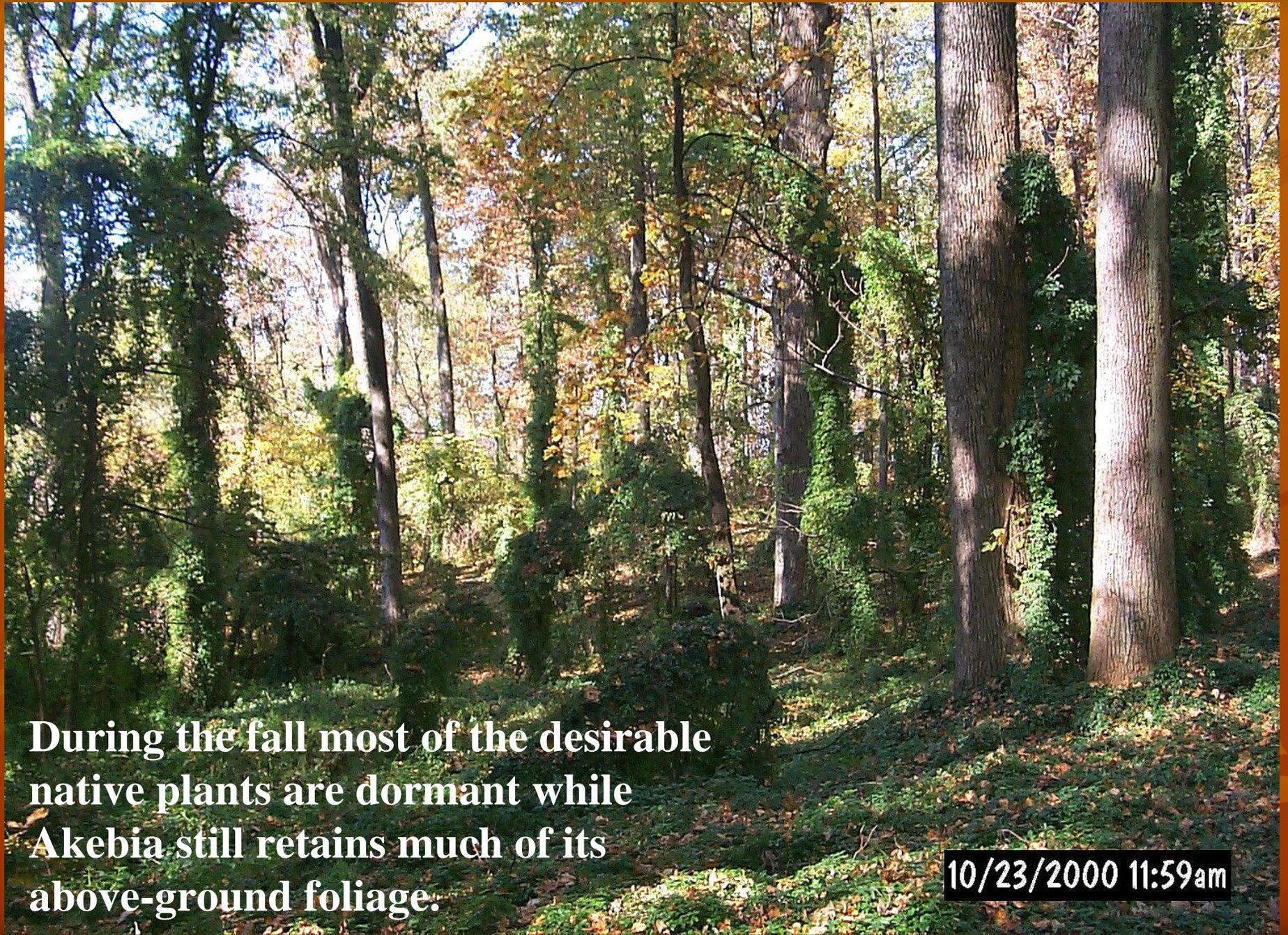
Found in 16 states in the eastern U.S., from Michigan to Connecticut and south to Georgia.



# Chocolate Vine



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**During the fall most of the desirable native plants are dormant while Akebia still retains much of its above-ground foliage.**

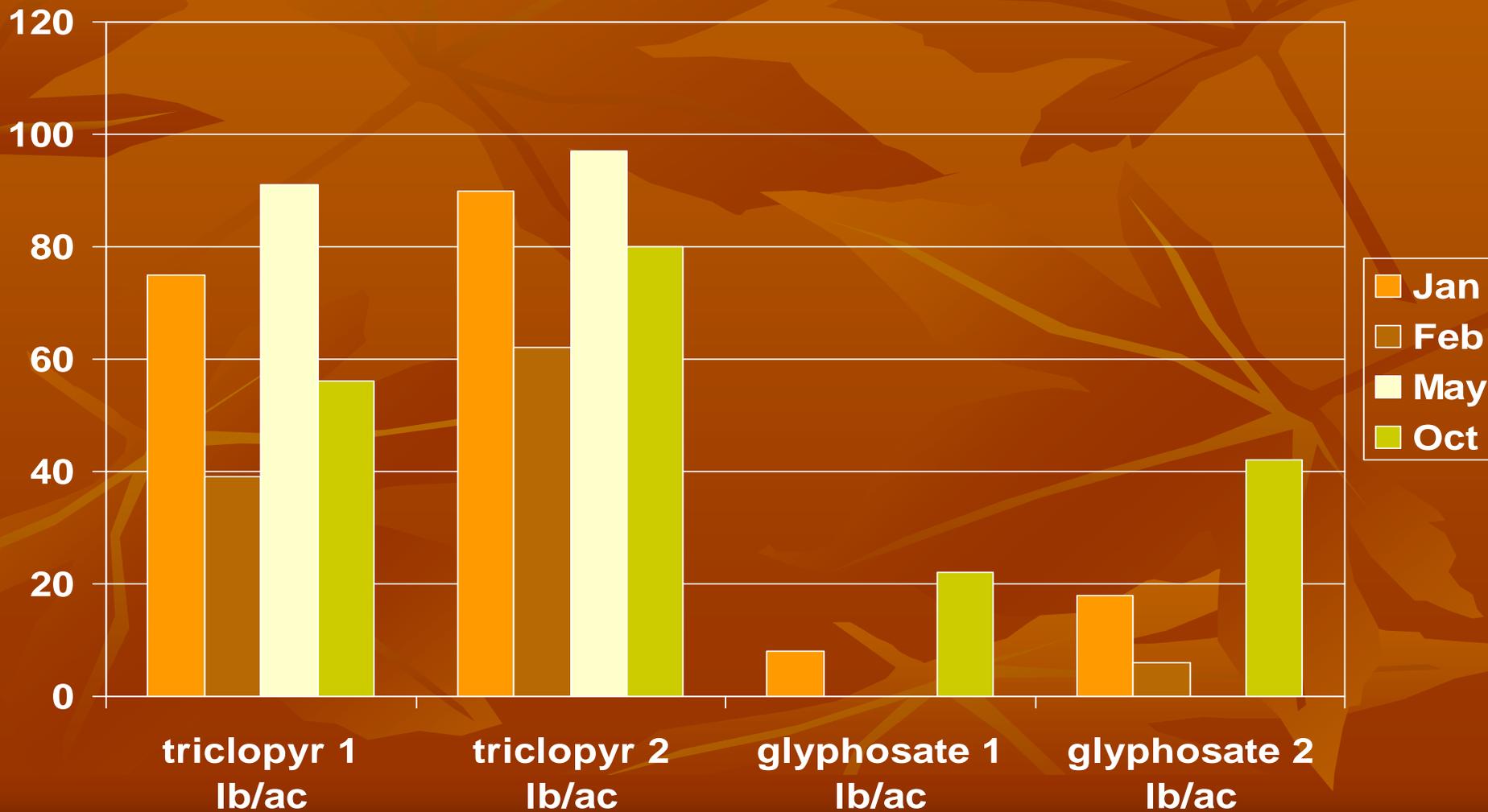
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**Only the foliage that is partly protected by the layer is present during the dormant season.**

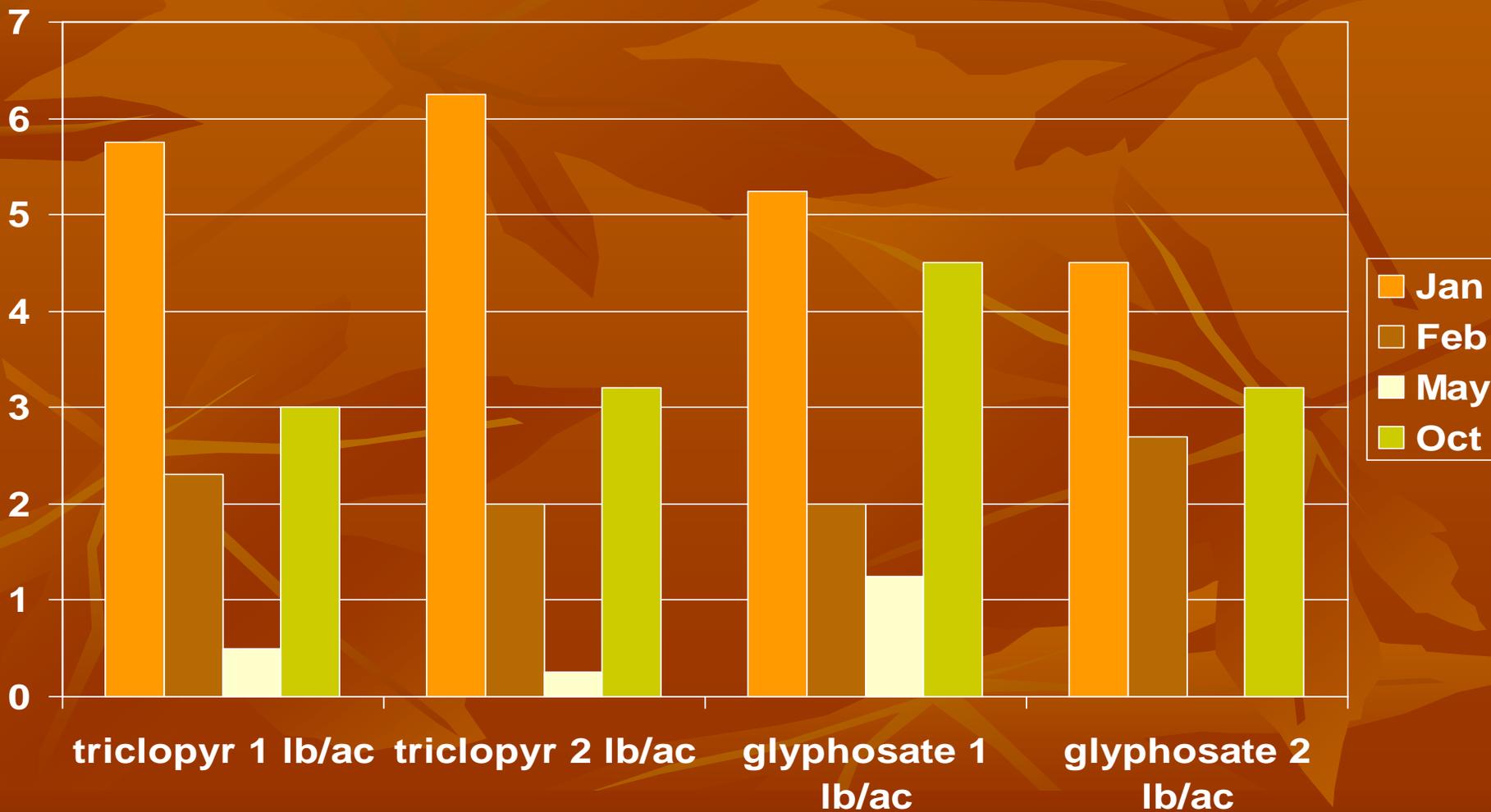


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# Akebia Control 6 MAT



# Native Plant Species (#/plot)



# Jack-in-the-Pulpit (*Arisaema triphyllum*)



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# **Chemicals to Use (Must Get Tough)**

- **Glyphosate fine for most herbs, Imazapyr, Metsulfuron, or Triclopyr necessary for some.**
- **Most shrubs and vines require Imazapyr or Triclopyr, some even Picloram**
- **Trees require Triclopyr, Imazapyr and/or Picloram**

# Silvicultural Operations

- **Minimize Soil Disturbance**
- **Maximize/Optimize Chemical Use**
- **Look Around for Biologicals (Any Success Stories?)**

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