

Invasive Plant Species Management



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Importance of Invasive Plant Management

Life History of Plants:

- Understand growth and reproduction cycles
- Growth stages: annual, biennial, perennial
- Assess anatomical differences: herbaceous vs. woody, and tree/shrub vs. vine
- Tailor management strategies accordingly



Accurate Identification:

- Be confident in your plant identification before managing
- Native look-alikes

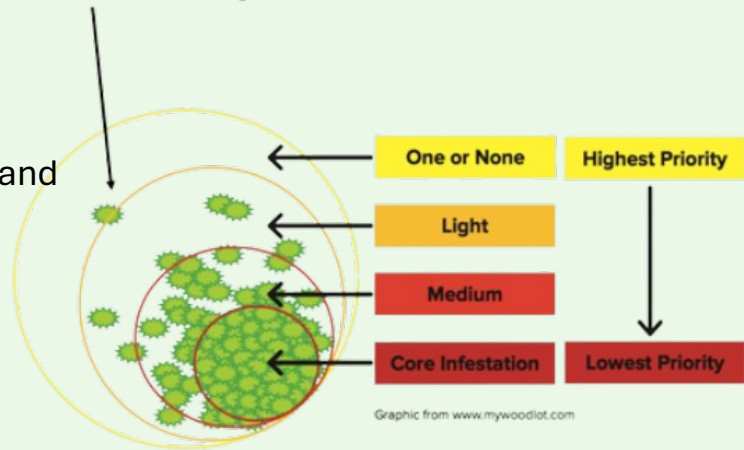


(Barbara Tokarska-Guzik, University of Silesia)

Control Work Would Begin Here

Prioritizing Management

- Prioritize control efforts by the size and intensity of the invasion
- Smaller invasions first
- Prevents smaller infestations from becoming unmanageable
- Work towards core areas over time



(Barbara Tokarska-Guzik, University of Silesia)

Herbicide Use in Managing Invasive Plants

Types of Herbicides:

Systemic Herbicides:

- Absorbed and translocated throughout the plant
- Perennials and deep-rooted plants

Non-Systemic (Contact) Herbicides:

- Kill only the plant tissue they touch
- Annuals and smaller weeds

Mode of Action:

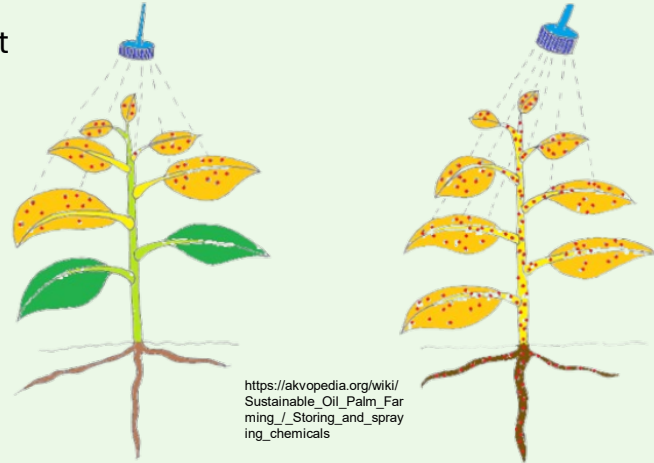
Selective Herbicides:

- Target specific types of plants
- Minimize impact on desirable vegetation

Non-Selective Herbicides:

- Kill all plant types they contact
- Useful for clearing all vegetation in an area

Contact Herbicide Systemic Herbicide



Herbicide Use in Managing Invasive Plants

Application Methods:

Localized, Non-Broadcast:

- Focus treatment on specific plants or areas
- Reduces herbicide use and non-target damage

Safety Considerations:

Mitigate Risk:

- Always follow label instructions
- Use appropriate personal protective equipment (PPE)
- Keep herbicides away from public areas and water sources
- Minimize environmental impact by careful application



<https://ohioline.osu.edu/factsheet/fabe-531>

Japanese Knotweed

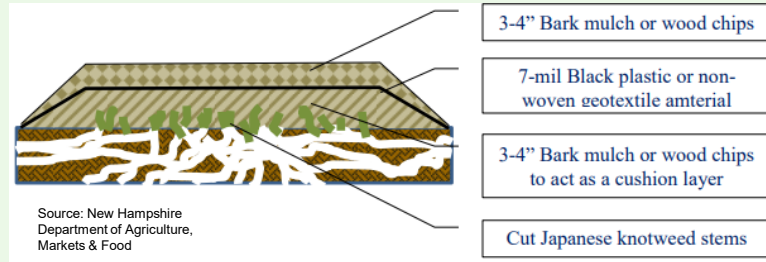
Fallopia japonica

Functional Group: Herbaceous Perennial

Mechanical Control

Smaller Patches (<20 stems):

- Cutting: Repeatedly cut throughout the growing season, as often as once/week



<https://www.ndpi.com/2223-7747/10/10/2152>

<https://www.youtube.com/watch?v=0PhEedkiywl>

Larger Patches:

- Requires a persistent, reliable labor source for manual control
- Use heavy black landscaping cloth, old carpet, or erosion control fabric to smother
- Requires biweekly maintenance
- Must be repeated for up to 10 years

Japanese Knotweed

Fallopia japonica

Functional Group: Herbaceous
Perennial

Chemical Control

Smaller Patches (<20 stems):

- Stem Injection: Inject glyphosate into stems
- Cut-Drip Application: Apply glyphosate to cut stems

<https://www.ndpi.com/2223-774>

<https://www.youtube.com/watch?v=9PrCsu>



Larger Patches:

- Initial Cut/Mow: When plants are ~3' tall
- Foliar Spray: Apply glyphosate when regrown to 3-5' tall, or apply to uncut, mature stems just before flowering
- Avoid: Foliar application during flowering to protect bees

Japanese barberry

Berberis thunbergii

&

Multiflora rose

Rosa multiflora



<https://www.youtube.com/watch?v=0PhEedkiywl>

Functional Group: Woody Shrubs

Mechanical Control

Hand Pull

- Small plants and seedlings
- Pull when soil is moist
- Wear gloves

Cutting *

- Cut larger plants
- Multiple times during growing season
- Expect re-sprouting

**May not completely eradicate plants; herbicide treatment may be necessary for full control*

Japanese barberry

Berberis thunbergii

&

Multiflora rose

Rosa multiflora

Functional Groups: Woody Shrubs

Chemical Control

Foliar Application

- Use glyphosate or triclopyr solution
- Works anytime the plant has leaves
- Avoid spraying when flowering



Cut-Stump Application

- Glyphosate solution immediately after cutting
- More effective on Multiflora Rose; less recommended for Japanese Barberry

Basal Bark Application

- Use glyphosate or triclopyr ester in bark oil any time of year

Norway maple

Acer platanoides

&

Black locust

Robinia pseudoacacia

Functional Group: Woody Trees

Mechanical Control

Seedlings & Saplings

- Hand pulling for seedlings
- Weed Lever or cutting for saplings, but re-sprouting will occur
- Follow-up necessary



Cutting *

- Cut larger trees
- They will re-sprout, so repeated cutting is necessary to control re-sprouting

**May not completely eradicate plants; herbicide treatment may be necessary for full control*

Norway maple

Acer platanoides

&

Black locust

Robinia pseudoacacia

Functional Group: Woody Trees

Chemical Control

Foliar Spray

- Use glyphosate or triclopyr
- Apply to seedlings and short saplings, ensuring full coverage
- Before flowering



Cut-Stump Application

- Apply glyphosate or triclopyr after cutting
- Avoid early spring

Basal Bark

- Spray lower 15" of trunk with triclopyr
- Effective year-round
- Apply to stems less than 6" in diameter

Girdling

- Remove ring of bark around trunk
- Interrupt nutrient flow
- Follow up with herbicide application

Asiatic bittersweet

Celastrus orbiculatus

Functional Group: Perennial Vine

Mechanical Control

Hand Pull - Seedlings and small plants

- Very small plants and seedlings
- Pull up by the roots when soil is moist



Cutting

- Cut larger vines at chest height and ankle height “Window Cut”
- Vines can be left to die in canopy

Asiatic bittersweet

Celastrus orbiculatus



Functional Group: Perennial Vine

Chemical Control

Foliar Application

- Use triclopyr solution
- Glyphosate is less effective on this species
- Apply during growing season

Cut-Stump Application

- Glyphosate or triclopyr after cutting
- Avoid during early spring

Basal Bark

- Glyphosate or triclopyr after cutting
- Avoid application during early spring

Reed Canary grass

Phalaris arundinacea



Functional Group: Perennial Grass

Mechanical Control

Hand Pulling / Digging

- Practical for small patches
- Remove entire root system to prevent regrowth

Mowing

- Effective for larger infestations
- Mow before seed set to reduce seed production
- Regular mowing can lower plant density over time

(Rob Routledge, Center for Invasive Species and Ecosystem Health)

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Reed Canary grass

Phalaris arundinacea

Functional Group: Perennial Grass

Chemical Control

Foliar Application

- Aquatic formulation of glyphosate
- Apply during growing season



Combination with Mechanical Methods

- Combining with mowing or fire can enhance effectiveness
- Mow or burn to reduce biomass before herbicide application.

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Invasive plant disposal

What do I do with it?

....it depends....

Ideally, leave on site

- -Does it have fruit/seeds?
- -Can you first dry it out and render it non-viable?
- -How much do you have?
- -What does your town transfer station say?



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Follow-Up Treatments

- Regularly monitor treated areas
- Reapply treatments as necessary to ensure complete eradication

Revegetation

- Replant Native Species:
- After removal, replant native species if necessary
- Reduces the likelihood of reinvasion
- Helps restore the ecosystem and promote biodiversity

Persistence

- Stay diligent with monitoring and maintenance
- Regularly check for new growth and address promptly





Thanks! Questions?



(Rob Routledge, Center for Invasive Species and Ecosystem Health)



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