

Herbicide Application for Natural Areas Management

What is it and why use it?

Herbicide serves two primary purposes in Natural Areas Management. First, it is applied during site preparation to eliminate invasive species without disturbing the soil beneath. Additionally, in established natural areas, it is used to help control the spread of unwanted plants that threaten native species. Combined with limited mowing and occasional prescribed burning, these methods contribute to maintaining healthy ecosystems, preserving biodiversity, and protecting habitats.

What is herbicide?

Herbicide is a chemical used to control unwanted plants, particularly invasive or non-native species, by targeting specific parts like the roots or leaves to prevent growth or cause the plant to die.

What is the benefit of herbicide application?

Herbicide application is beneficial because it **helps control invasive and unwanted plants that threaten the local environment, allowing native species to grow and thrive**. In Detroit, where green spaces are important for wildlife and the community, this method **helps maintain habitat health**. Herbicide application is efficient, effective, and **causes less disruption than alternatives** like hand-pulling or tilling, which can damage the soil and require more time and effort. By targeting only harmful plants, herbicides **help protect the surrounding environment**, ensuring that areas not requiring treatment remain undisturbed. Ultimately, herbicides offer a practical and environmentally sensitive way to **restore balance to Detroit's natural spaces**.

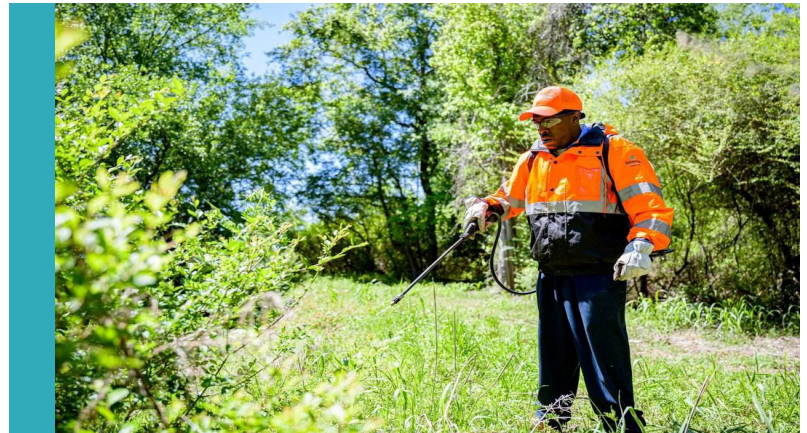
How is herbicide applied?

Herbicides are applied by trained professionals using controlled methods, which include:

Spot Treatment and Foliar Spraying:
Herbicide is applied directly to the leaves of unwanted plants using handheld sprayers or tractors during their growing season, allowing the plants to absorb the chemical and die.

Cut-Stump Treatment:
The stem or trunk of a woody plant is cut, and herbicide is applied to the freshly cut surface.

Basal Bark Treatment:
Herbicide is sprayed around the base of trees or shrubs with thin bark. Because it is easily absorbed by the plant, no cutting is required. This method, along with the cut-stump method, is effective for controlling smaller woody plants, often in forests or woodlands.



Trained professional applying an herbicide spray to unwanted vegetation.



Tree of Heaven, an invasive species found in Detroit, controlled with herbicide.



Native wildflower meadow at Palmer Park, spot treated for invasive species.



When does herbicide application generally occur?

The timing of herbicide application depends on the type of plant and the local environmental conditions. However, it generally occurs during:

Growing Season (Spring to Summer):

Plants are actively growing and can better absorb chemicals through their leaves.

Late Summer to Early Fall:

As plants prepare for winter, they direct nutrients to their roots, making it an ideal time for herbicide to be absorbed into the root system.

Is it safe to apply herbicide?

When used correctly and according to label instructions, herbicides can be safe for people and the environment. Herbicides should only be applied by licensed professionals that adhere to safety guidelines, wear proper protective gear, and apply the herbicide carefully to avoid harming nearby plants, animals, or water sources.

Can herbicide use cause harm to nearby vegetation?

Herbicide will not harm nearby vegetation if applied correctly. Professionals ensure precise application under the right conditions to prevent unintended effects on nearby plants. For instance, they consider weather data, such as wind speed, to ensure the herbicide does not drift onto adjacent plants. When applied properly, herbicides are an effective tool for managing unwanted species with minimal impact on surrounding vegetation.

What are common types of herbicide?

Glyphosate (e.g. Roundup): An herbicide effective at controlling grasses, broadleaf weeds, and woody plants. It's applied as a spray and used in agricultural, commercial, and residential settings.

[Resources: <https://content.ces.ncsu.edu/glyphosate-1>, <https://www.epa.gov/ingredients-used-pesticide-products/glyphosate>]

Triclopyr (e.g. Garlon 3A): A selective herbicide that controls woody plants, invasive species, and broadleaf weeds by disrupting plant growth. It can be applied as a foliar spray or cut-stump treatment, with aquatic formulations available, and is commonly used in large scale forestry and land management practices.

[Resources: <https://npic.orst.edu/factsheets/triclopyr/gen.html>, <https://apps.dnr.wi.gov/swims/Documents/DownloadDocument?id=330738547>]

How does one decide which herbicide to use?

Herbicides are chosen based on the target species, ecosystem, and management goals. **The selection process balances effectiveness, safety, environmental impact, and application methods to achieve the desired outcome with minimal negative effects.**

How long should you wait before using areas treated with herbicide, and how can spraying affect public use of parks?

After herbicide is applied, it is recommended to wait 24 to 48 hours before entering the treated areas to allow the chemicals to dry and minimize any risks. Signs will be posted to provide guidance on when it is safe to return. During this time, public access to treated areas may be restricted as a precaution to protect visitors and pets.

Additional Resources:

Herbicide Use in Natural Areas

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5386111.pdf

Introduction to Weeds and Herbicides

<https://extension.psu.edu/introduction-to-weeds-and-herbicides#section-31>

Herbicide Selection and Use

<https://plantscience.psu.edu/research/projects/wildland-weed-management/publications/natural-resource-management-factsheets/herbicide-selection-and-use>



Invasive Knotweed treated with a glyphosate herbicide.



Example of an herbicide application sign in use.



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