



**Highway Maintenance Manual**  
**Chapter 07 Roadside Management**  
**Section 10 Woody Vegetation**  
**Subject 05 Use of Herbicides**

**Bureau of Highway Maintenance**  
**July 2015**

## **1.0 Authority**

[s. 84.07, Wis. Stats.](#) Provides for the maintenance and preservation of highways on the state trunk system.

[NR 80](#) Use of Pesticides on Land and Water Areas of the State of Wisconsin. This is a Department of Natural Resources administrative rule. This rule regulates the application of pesticides on land and water areas of the State.

[NR 107](#) Aquatic Plant Management. This is a Department of Natural Resources administrative rule. This rule regulates the application of pesticides on aquatic organisms.

[ATCP 29](#) Pesticide Use and Control. This is the Department of Agriculture, Trade and Consumer Protection administrative rule. It describes posting requirements for herbicide applications and outlines the use and control of pesticides.

[NR 706](#) Hazardous Substance Discharge Notification and Source Confirmation Requirements.

## **2.0 General**

Herbicides must be registered by the Environmental Protection Agency for the intended use. They must be used in accordance with the requirements and regulations of administrative rules ATCP 29, NR80, and NR 107.

Herbicides must be used properly and safely. Care should be taken to preclude damage to desirable plants and non-target vegetation. In all cases, **read and follow the label directions.**

Herbicides may be applied either by county forces or by a private contractor. In either case, the applicators should be properly trained. Private contractors must be certified and licensed in Category 6.0, Right of way and natural areas. Herbicides classified as "Restricted-use" herbicides may only be applied by certified pesticide applicators. If application is to be by private contractor, see HMM 07-05-20, Herbicide Application Contracts.

State and county employees working with pesticides, including herbicides, as part of their employment responsibilities are considered Commercial Applicators Not for Hire and, as such, are not required to be certified and licensed. However, the Occupational Safety and Health Administration, (OSHA) requires that employers ensure employees exposed to any hazardous substances, including any herbicide, are trained to handle those substances properly. Therefore, it is strongly recommended those involved with applying herbicides, either in a supervisory role or directly with the application, take the appropriate training offered by the University of Wisconsin Extension whether or not they choose to become certified.

OSHA also requires the employer have on record a Material Safety Data Sheet (MSDS) for each hazardous substance that enters the workplace. The MSDS provides important health, safety and environmental information.

It is important the most current label, labeling and MSDS are on file. Labeling refers to the actual label and to all additional information such as brochures and handouts provided by the manufacturer or dealer at the time of purchase. Herbicide labels and material safety data sheets may be accessed online through the manufacture of the herbicide.

Keep a daily record of all herbicide applications for at least **two years** from the date of application. Attachment 1 is an example log for use. ATCP 29 specifies a record of any herbicide application requires the applicator be certified be kept on file for 2 years after the date of application. For department purposes, this means that a daily record must be kept of any application made by an outside (private) contractor hired to apply any herbicide or

any application of a restricted use herbicide made by the counties. Though not required, it is recommended a record of **all** herbicide applications, regardless of whether certification is required, be kept by the organization that made the application for at least two years. These records must be made available to the department upon request.

Herbicides used in the following application methods must be labeled for that particular method.

### **3.0 Foliar Applications**

Some herbicides may be applied to the foliage of trees whenever they are in leaf. Do not apply herbicides to foliage during the spring, summer and early fall before the leaves have started to senesce (turn color). Applications at this time cause the leaves to die and turn an objectionable brown known as "brown-out". This condition generates objections from the public.

If foliage treatment is the preferred application method, use an herbicide containing fosamine as the active ingredient, such as Krenite Sâ, just prior to the start of fall coloration, usually about the middle of September. Fosamine does not kill the foliage immediately but causes the plant to not leaf out the following spring. Occasionally, retreatment may be necessary if some of the harder-to-kill species send out new shoots in the spring following the fall application.

### **4.0 Cut Stump and Stubble Applications**

Whenever live woody vegetation is cut, prevent regrowth from the cut trunk or stem by applying an appropriate herbicide to the cut surface. For cuts larger than about 3-inches in diameter, apply the herbicide to thoroughly wetting the cambium layer found just inside the bark. For cuts smaller than 3-inches in diameter, the entire surface should be treated. Use a spray bottle or sponge brush to apply the herbicide. Avoid application during heavy upward sap flow in the spring, when sap flowing out of the wound will prevent good absorption.

Apply the herbicide immediately after cutting for maximum effectiveness. Effectiveness will likely be reduced if application is delayed one hour, with a serious drop-off in penetration after about 4 hours. If application is delayed after cutting, re-cut the stump and apply the herbicide to the live tissue. Delaying herbicide application to freshly cut trees can result in re-sprouting from the tree collar and roots. Immediate application also aids in locating the stumps to be treated, especially the smaller sizes. Add a dye to the product to aid in keeping track of the treated vs. the untreated stumps if it does not contain one already.

Some herbicides labeled for cut stump treatments are formulated to be ready to use directly from the container, especially when purchased in smaller quantities. Others should be diluted with a "carrier" to reduce the concentration of the active ingredient. Dilute with a petroleum-based penetrant during winter months to avoid freezing.

### **5.0 Basal Bark Applications**

Basal bark treatment involves the application of a herbicide in a 12- to 18-inch band around the trunk or stem below the lowest branch. The selected herbicide should be mixed with refined mineral oil, diesel fuel, kerosene, or other suitable carrier and applied until the bark around the entire circumference of the tree is wet. This method is effective on trees up to about 6-inches in diameter and may be effective on larger thin-barked species.

### **6.0 Waters of the State**

A permit from the DNR is required to apply an herbicide to a water of the state. Waters of the state include but are not limited to lakes, streams, ponds and ditches, whether public or private. Ponds that exist due to flooding are not considered waters of the state. If a drainage ditch has constant water flow, it is considered a water of the state. Contact the [DNR Aquatic Plant Management Coordinator](#) for the appropriate county with aquatic plant management questions or to obtain herbicide application permits

No permit is needed if there is no standing water. Apply the "wet sock" test to determine if there is standing water. If your socks get wet when standing in the ditch without shoes, it is considered to be standing water.

According to [NR 107.11\(4\)\(e\)](#), drainage ditches on rights of way are exempt from the permit requirements if the Department of Natural Resources determines fish and wildlife resources are insignificant.

### **7.0 No-Spray Areas**

Occasionally, adjacent landowners/residents request the department not use herbicides on the right of way adjacent to their property. These requests may be honored if a written agreement is obtained from the person(s) making the request stating they will maintain the portion of right of way in question to the minimum standards required by department guidelines. The agreement should contain a clause stating if the requester fails to abide by the agreement, the department will resume normal maintenance activities. See HMM 07-05-25, Pesticide-free Zones.

Since January, 1999 the department has participated in a multi-partner Habitat Conservation Plan (HCP) to protect the endangered Karner blue butterfly. See HMM 07-15-10, Karner Blue Butterfly Accommodations, for specific requirements of the HCP.

### **8.0 Purchase and Storage of Herbicides**

Herbicide purchases should be carefully planned for immediate and complete use; the amount purchased should reflect the amount to be applied within the current year.

Store herbicides and other pesticides in their original container and in a protected and secured area to prevent access by unauthorized people and animals. **Do not store near food.** Post signs clearly indicating herbicides are stored in the building. To prevent damage to the herbicide or the container, keep the temperature of the storage area between 40° F and 100° F. Keep the area well-ventilated. Be sure containers that have been opened are tightly sealed to avoid leakage.

### **9.0 Spills**

The department's responsibilities when a spill of a hazardous substance occurs are described in administrative rule NR 706.05.

### **10.0 Container Disposal**

Empty metal or plastic containers should be triple rinsed, punctured and recycled or landfilled unless they can be reconditioned and reused by the herbicide manufacturer. Rinsate, leftover diluted pesticides from cleaning pesticide application equipment or containers, waste should be disposed of by applying it to target plants.

Dispose of empty paper containers in a sanitary landfill.

Burning or burying pesticide containers is illegal in Wisconsin, regardless of what the label says.

### **11.0 Disposal of Excess Products**

Left-over product is best avoided by purchasing only what will be used during the current season. Unopened containers left at the end of the season should be returned to the dealer from who purchased, if possible. Other remaining product should be stored as described above and used during the next season. Always use the oldest product first.

If a herbicide becomes outdated or cannot be used according to label directions, it is considered hazardous waste and disposal must follow regulations found in administrative code [NR 660](#), Hazardous Waste Management.

### **12.0 Herbicide Application Contracts**

If it is deemed to be in the best interest of the department to apply herbicides to woody plants via private contractor, refer to Sections 3.0 and 4.0 of HMM 07-05-20, Herbicide Application Contracts.

### **13.0 Payments**

The cost of herbicide applications conducted for the purpose of woody plant control should be charged to Activity Code 043, Woody Vegetation. The cost of work performed or contracted by the county should be submitted on the county's Routine Maintenance Agreement monthly invoice. Charge the cost of work contracted through Wisconsin Department of Transportation regional offices to the appropriate project ID number

### **14.0 Damage Claims**

The department is not responsible for damages to crops or other claims from adjacent property owners when herbicides are applied to state trunk highway rights of way in accordance with the labeling and applicable laws and regulations. If claims are brought against the department, refer the complainant to the organization that applied the herbicide (i.e. the private contractor or the county highway department).

### **15.0 Additional Information**

[Wisconsin Department of Agriculture, Trade and Consumer Protection \(DATCP\) Pesticides](#)

[Wisconsin Department of Natural Resources \(WDNR\) Aquatic Pesticides](#)

[UW extension Pesticide Applicator Training](#)

[UW extension Integrated Pest and Crop Management Resources](#)

Attachment 1

PESTICIDE APPLICATION RECORD

(Must be filled out on the day of the application)

- 1. Applied for WisDOT Region \_\_\_\_\_  
Contact Name \_\_\_\_\_ Contact Phone \_\_\_\_\_
  - 2. Application Date \_\_\_\_\_  
Starting Time \_\_\_\_\_ Ending Time \_\_\_\_\_
  - 3. Application Location: County \_\_\_\_\_ Highway \_\_\_\_\_  
From \_\_\_\_\_ To \_\_\_\_\_  
Side of Highway (North, Northeast, Median, etc.) \_\_\_\_\_
  - 4. Application Equipment Loading Location:  
Description \_\_\_\_\_  
Address \_\_\_\_\_
  - 5. Applied By (Business Name) \_\_\_\_\_  
Individual Applicator's Name \_\_\_\_\_  
Address \_\_\_\_\_  
Applicator's Certification Number \_\_\_\_\_
  - 6. Target Pest or Plant \_\_\_\_\_
  - 7. Pesticide (Herbicide) Brand or Product Name \_\_\_\_\_  
Manufacturer \_\_\_\_\_ EPA Registration Number \_\_\_\_\_  
EPA Classification: Restricted Use \_\_\_\_\_ General Use \_\_\_\_\_
  - 8. Amount of Pesticide (Herbicide) Applied:  
Gallons or Pounds of Concentrate \_\_\_\_\_  
Formulation (Liquid, wettable Powder, etc.) \_\_\_\_\_  
Additives \_\_\_\_\_  
Gallons of Spray Mixture \_\_\_\_\_ Total Area Treated \_\_\_\_\_  
Application Rate \_\_\_\_\_  
Spot Sprayed \_\_\_\_\_ Broadcast Sprayed \_\_\_\_\_
  - 9. Type of Area or Site Treated \_\_\_\_\_  
\_\_\_\_\_
  - 10. Weather Conditions: Temperature \_\_\_\_\_ Cloud Cover \_\_\_\_\_  
Wind Direction \_\_\_\_\_ Velocity \_\_\_\_\_ Humidity \_\_\_\_\_
- Comments and Remarks:

Signed \_\_\_\_\_

Applicator

Distribution: County and Transportation Region. Retain for 2 years.