

# Water Quality **Best Management Practices** for **ALACHLOR**

February 2008

The Minnesota Department of Agriculture (MDA) has developed voluntary Best Management Practices (BMPs) to address the presence of alachlor and its breakdown products in Minnesota's groundwater from normal agricultural use (see reverse side of page for alachlor-specific BMPs). If the BMPs are proven ineffective, mandatory restrictions on herbicide use and practices may be required. The BMPs may also refer to mandatory label use requirements. Always read product labels. For information on monitoring results for alachlor and other pesticides in Minnesota's water resources, refer to the MDA's Monitoring and Assessment webpage:

[www.mda.state.mn.us/chemicals/pesticides/maace.htm](http://www.mda.state.mn.us/chemicals/pesticides/maace.htm)

The alachlor BMPs are companions to a set of core BMPs for use with all agricultural herbicides. Herbicide-specific BMPs have also been developed for use with acetochlor, atrazine, metolachlor and metribuzin. If you use any of these herbicides in the production of crops, be sure to consult each herbicide-specific BMP prior to applying these herbicides. State and federal law can require that the use of a pesticide be limited or curtailed due to the potential for adverse impacts on humans or the environment.

## Information about ALACHLOR

- Alachlor is a Restricted Use Pesticide that can only be purchased and applied by properly licensed or certified individuals. All pre-mixes and tank mixes containing alachlor are also Restricted Use Pesticides.
- Alachlor can leach through the soil to groundwater, especially where soils are coarse and groundwater is near the surface. Combined detections of alachlor and its breakdown products have been frequently detected in Minnesota groundwater beneath areas with coarse-textured soils.
- Alachlor may reach surface water bodies including streams, rivers and reservoirs following application and during rainfall events that cause runoff.
- Alachlor belongs to the class of "chloroacetamide herbicides" that manage weeds through a similar mode of action (chemistry). Other herbicides in this class include acetochlor and metolachlor. Herbicides in this class should be considered in the context of an Integrated Weed Management (IWM) Plan. All chloroacetamide herbicides have similar potential to contaminate water resources.

**Example trade names for products and package mixtures containing alachlor. List is not all-inclusive and can change with the introduction of new products; always check the label, or consult MDA's product registration database at <http://state.ceris.purdue.edu/doc/mn/statemn.html> and search for Active Ingredient.\***

Alachlor is an active ingredient in:	
Alachlor	Lariat
Bullet	Lasso products
Freedom	Micro-Tech
Intro	

\* Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied.



Certain soils, regions and watersheds are more vulnerable to losses of alachlor. Sensitive areas include those with highly permeable geologic material, highly erodible soils or seasonally high water tables (including areas with drain tiles). Note that portions of every Minnesota county may include one or more of these conditions.

Contact your Natural Resources Conservation Service or Soil & Water Conservation District for further information on specific soil and water resource conditions on and near your farm. Then work with crop consultants and educators to select and adopt the Best Management Practices that are appropriate for your field and farm.

**The BMPs are provided as a series of options.** Producers, crop consultants and educators should select options most appropriate for a given farming operation, soil types and geography, tillage and cultivation practices, and irrigation and runoff management. The MDA encourages development of Integrated Weed Management Plans for every Minnesota farm (see “Additional Information and References” for more information). **Always read the product label. Label use requirements and application setbacks are legally enforceable.**

**Water Quality Best Management Practices for ALACHLOR**  
To be used in conjunction with MDA’s core “BMPs for All Agricultural Herbicides”

Alachlor-Specific Practice *	Description	Benefit
1. Adopt the core “BMPs for All Agricultural Herbicides” when applying alachlor.	MDA’s core “BMPs for All Agricultural Herbicides” are designed as the baseline set of options to mitigate or prevent losses of herbicides to water resources. The core BMPs are available at <a href="http://www.mda.state.mn.us/herbicidebmps">www.mda.state.mn.us/herbicidebmps</a>	Adoption of core BMPs with those specific for alachlor and adherence to mandatory label use requirements and application setbacks result in opportunities for multiple water quality protection benefits.
2. Determine your soil’s texture and organic matter content, then limit alachlor application rates to the indicated label recommendation.	The practice is especially important for alachlor (and other chloroacetamide herbicides). Weed control with alachlor is sensitive to differences in soil organic matter and texture. Limit unnecessary and costly use of alachlor and protect the environment by carefully reviewing the label and adjusting the application rate to match your soil organic matter content and soil texture.	Proper alachlor application rates mean cost-effective use and efficient weed control with minimal risk of water resource impacts.
3. Adopt conservation tillage practices appropriate for your farm’s topography and in SE Minnesota karst areas.	Conservation tillage controls soil erosion that can contribute to losses of alachlor attached to soil particles during field runoff events and from fields with tile drain surface inlets. It also helps slow movement of water across the landscape when alachlor is dissolved in runoff water. Consult your Natural Resources Conservation Service and Soil & Water Conservation District offices for current tillage guidelines.	Controlling loss of soil and runoff helps reduce alachlor losses to surface waters.
4. Rotate use of alachlor (and acetochlor, metolachlor and other chloroacetamide herbicides) with herbicides from a different chemical class.	Evaluate this practice in the context of other effective control practices in the management system (e.g., use of tank mixes with multiple modes of action; crop rotation; planned, periodic use of herbicide-resistant varieties in a rotation; mechanical weed control; field scouting). Determine which crop in the rotation is in greatest need of chloroacetamide herbicides, and reserve their use for that crop.	With time, this practice will reduce development of herbicide resistant weeds or weed species shifts, and means less annual availability of these herbicides for loss to the environment.

\* For practices related to the use of specific herbicides refer to MDA’s herbicide-specific Best Management Practices. All BMPs are available at [www.mda.state.mn.us/herbicidebmps](http://www.mda.state.mn.us/herbicidebmps) See “Additional Information & References” for access to detailed guidance on all recommended practices.