Follow Label Requirements to Keep Chlorpyrifos Out of Waterways

Chlorpyrifos detections in Minnesota waterways are rising again following the pesticide's return to agricultural use in 2024. After two years with no detections (2022–2023), chlorpyrifos has reappeared in rivers and streams, primarily in Southern Minnesota. Some of these spikes have exceeded Minnesota chronic water-quality standard (0.041 parts per billion), raising concerns about water quality and the long-term use of chlorpyrifos as a pest-management tool.

Chlorpyrifos, the active ingredient in insecticide products such as Pilot 4E, Warhawk, and Drexel Chlorpyrifos 4E*, is used to manage a range of insect pests in agriculture, including soybean aphid. In Minnesota, it is currently conditionally registered for agricultural use on soybeans, sugarbeets, alfalfa, and winter wheat.

Because of federal regulatory changes, chlorpyrifos was not registered for agricultural use in 2022 and 2023, and no surface water detections were observed during that period. When Minnesota reinstated conditional registration in 2024, chlorpyrifos began to reappear in rivers and streams — with most detections occurring in August, a time when soybean aphid treatment occurs. Detections outside this application window are minimal or absent.

When chlorpyrifos moves off-field through sediment runoff, spray drift, and other transport pathways, it can reach nearby waterbodies at levels that may harm aquatic life, degrade stream and river ecosystems, and contribute to waterbody impairments. These impairments can lead to future restrictions on how, or whether, chlorpyrifos can be used. Currently, 10 waterbodies are listed as impaired for chlorpyrifos in Minnesota. In response, the Minnesota Department of Agriculture (MDA) is updating its multiyear response plan, originally developed in 2019, to address these water impairments through education, outreach, and compliance assistance.

The good news is that following chlorpyrifos best management practices (BMPs) and strictly adhering to all label requirements can reduce off-target movement and help keep chlorpyrifos out of waterways. As you consider treatment options for insect pests and plan for midseason applications, the MDA encourages you to review all chlorpyrifos label requirements and restrictions, especially mandatory setback requirements, and work with crop advisors, or local Extension educators to explore multiple pest management tools. The following chlorpyrifos BMPs, which include both voluntary practices and label-mandated requirements, can help reduce the risk of water contamination and protect Minnesota's water resources:

- Use field scouting and economic thresholds before making insecticide decisions. Consult local Extension educators for detailed information on scouting methods and current economic thresholds.
- Use multiple pest-management tools as part of an integrated pest-management strategy, including alternative insecticides when appropriate.
- Maintain all label-required setbacks from permanent water bodies such as rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fishponds. Setbacks are 25 feet

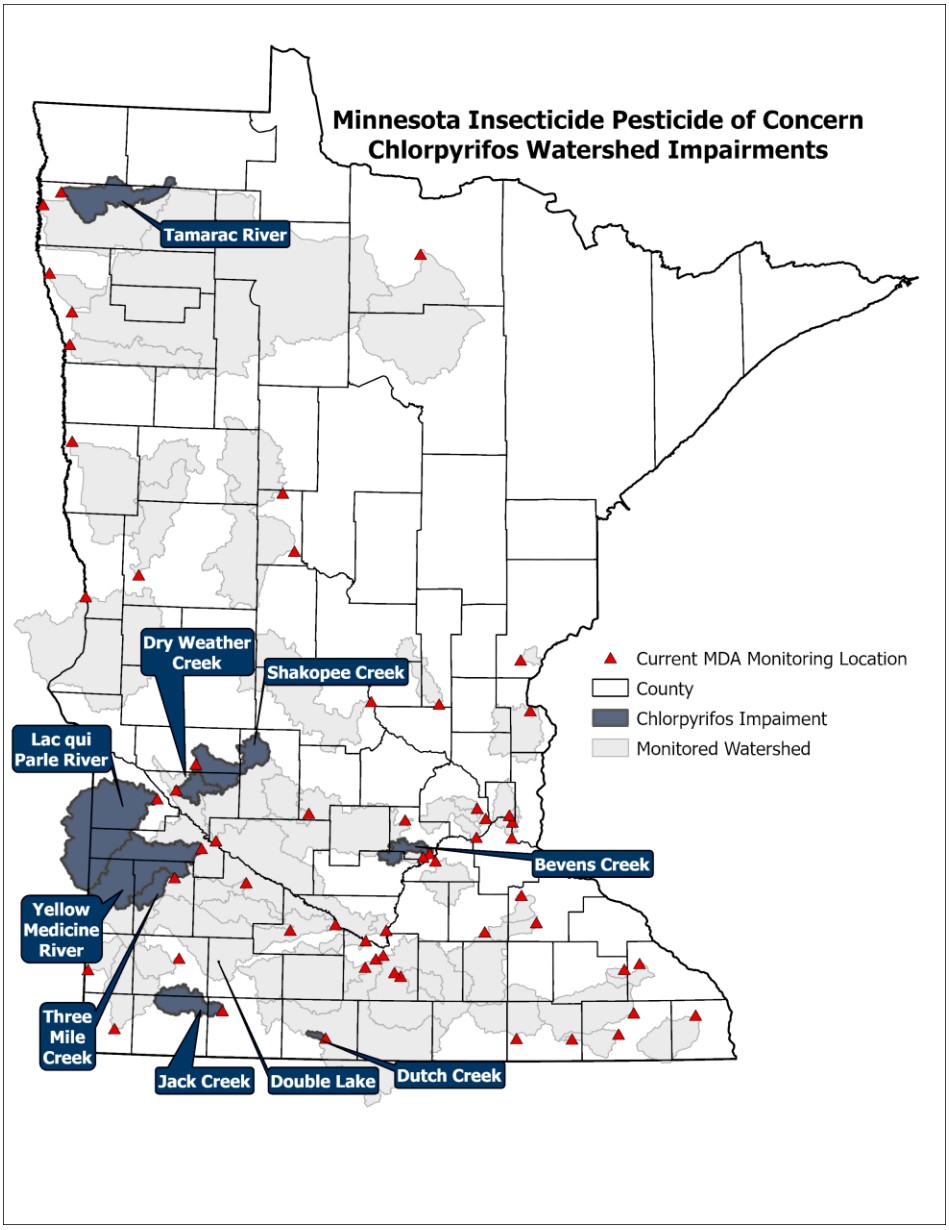
for ground and chemigation applications, 50 feet for orchard airblast, and 150 feet for aerial applications, measured from the edge of water at the time of application.

- Follow all label requirements for spray droplet size (255–400 microns), ground boom height (≤ 4 ft), and wind-speed limits (3–10 mph), as well as additional boom-width and nozzle-orientation requirements for aerial applications.
- Follow label-recommended application rates, including mandatory per-acre, per-application, per-season, and per-year limits to help minimize insect resistance.
- Rotate chlorpyrifos with other insecticide modes of action within and between seasons if economic thresholds are met.
- Maintain vegetative buffers along waterways, drainageways, and low-lying areas where runoff and sediment may concentrate.

Minnesota growers and applicators have a strong track record of adapting to new information and protecting both productivity and natural resources. Following pesticide label requirements and adopting BMPs remain essential for safeguarding water quality and maintaining access to important pest-management tools. While pesticide applications may be needed in conjunction with other pest management approaches, how products are applied makes a difference, especially when it comes to following mandatory label requirements. Using pesticides correctly helps protect crops, keep water clean, and avoid fines or other regulatory consequences.

Remember: **The label is the law!**

***** *Use of trade names is for educational purposes only. No endorsement is implied, and no discrimination is intended.*


Minnesota Insecticide Pesticide of Concern
Chlorpyrifos Watershed Impairments
Tamarac River
Dry Weather Creek
Shakopee Creek
Lac qui Parle River
Yellow Medicine River
Three Mile Creek
Jack Creek
Double Lake
Dutch Creek
Bevens Creek
Current MDA Monitoring Location
County
Chlorpyrifos Impaiment
Monitored Watershed