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. **Always read the product label. Label use requirements and application setbacks are legally enforceable.**

Water Quality *Best Management Practices for All Agricultural Herbicides*

Core Practice	Description	Benefit
1. Scout fields for weeds and match the management approach to the weed problem.	Scout for weeds, then map infestations throughout the year. Determine the whether weed control will result in significant crop yield benefits. Carefully match weed control options - including non-chemical control - to weed pressures. Use herbicides only in situations where they are necessary and will be cost-effective. Use herbicides with long-lasting effect ("residual control") only in fields that have high densities of target weeds or in fields where weed information is lacking (e.g., newly rented or purchased acres). Consider post-emergent weed control alternatives.	Responding accurately to specific weed pressures, using post-emergent control and using alternative chemical and non-chemical (e.g., cultivation) controls can lower costs and prevent water resource impacts.
2. Evaluate reduced or split herbicide application rates.	Evaluate a reduced-rate herbicide program. Banding - especially in ridge-till rotations - can significantly reduce herbicide costs. Use split applications to reduce the amount of herbicide loss in runoff during early spring rains. Consider using the lowest label rate in a "rate range." Start on a small area to test what works best on your farm. Scout fields for weed escapes and be prepared for follow-up weed management including post-emergent herbicide application, rotary hoeing, or inter-row cultivation.	In many cases, banding and a carefully planned reduced-rate herbicide program can result in effective weed control, reduced costs, and a reduction in herbicide loss to the environment.
3. *For Surface Water protection:* Soil incorporate herbicides.	Evenly incorporate herbicides to the depth recommended on the product label. Improper incorporation, excessive crop residues, or poor soil tilth may result in erratic, streaked or otherwise unsatisfactory weed control. Combine soil incorporation of herbicides with another tillage operation to avoid additional field passes and loss of crop residue.	Incorporated herbicide is less vulnerable to being lost in runoff and reaching nearby streams, lakes and surface tile inlets.
4. *For Surface Water protection:* Evaluate surface drainage patterns in your field and install filter strips and establish buffer zones for streams, sinkholes and tile inlets.	Work with crop consultants and other ag professionals. Study Natural Resources Conservation Service (NRCS) listings for herbicides and soil properties that can lead to herbicide losses in runoff to surface waters (rivers, streams and lakes). Consider herbicides that NRCS lists as having low loss ratings for runoff from your soils, or consider non-chemical weed control methods in sensitive areas. Then, in addition to required label setbacks or buffers, install vegetative filter strips and establish buffers along vulnerable surface waters, karst features, tile inlets and sinkholes.	Filters and buffers reduce field runoff and setbacks eliminate applications where losses are most likely. Reducing use of herbicides known to move to surface water reduces the potential for surface water contamination.
5. *For Groundwater protection:* Determine the depth to groundwater in your fields and consider protective practices in vulnerable areas.	Work with crop consultants and other ag professionals. Study Department of Natural Resources groundwater pollution sensitivity maps and Natural Resources Conservation Service (NRCS) listings for herbicides and soil properties that contribute to herbicide losses by leaching. Consider herbicides that NRCS lists as having low loss ratings for leaching from your soils, or consider non-chemical weed control methods in sensitive areas. Follow label requirements or recommendations where water tables are shallow.	Reducing herbicide use in sensitive areas reduces the potential for groundwater contamination. Adhering to label groundwater advisories and exclusions reduces aquifer pollution.
6. Rotate herbicide sites of action (chemistry).	Avoid using herbicides with the same site of action over an extended period of time. Rotate or combine herbicides with different sites of action yet with equivalent effectiveness for target weeds. Evaluate this practice in the context of other effective weed control practices, such as field scouting, crop rotation (including rotation of herbicide-tolerant crops), and mechanical weed control.	In the long term, this practice can help reduce the total annual loss of particular herbicides to water resources and the environment. It may also slow the development of herbicide resistance in weeds or weed species shifts.
7. Use precision application methods.	Precision application of herbicides includes auto-steer, auto-boom shutoff, and variable application rate technology. Used by themselves or in combination, these practices can reduce needless herbicide use resulting from overspray, spray overlap, and higher than recommended application rates.	Precision applications can result in less total herbicide applied when compared to conventional application methods; this means less potential loss to the environment.
8. *For Groundwater protection:* Develop an Irrigation Water Management Plan.	If you irrigate, implement a water management scheduling plan that uses a soil probe, rain gauge, daily crop water use estimations and a soil water balance worksheet.	Effective irrigation management reduces leaching of chemical to groundwater.