

BATTLE RIVER AGRONOMY UPDATE

Water Quality and Herbicide Performance

For many years it has been recognized that water quality can have an impact on how well some herbicides perform in the field. Many times inconsistent results in herbicide performance can be traced back to the water source used. So obviously it's a good idea to have your water tested to see what's in it. Don't assume that if you are using dugout water or slough water that you are safe from having excess minerals to deal with. Dugout water can be found with a very wide range of EC values (which is an indicator of the amount of dissolved minerals in the water) and should not be assumed to be safe, so have that water tested to be sure.

Water quality issues come in several forms. Some water qualities have no effect on some herbicides but at the same time can greatly reduce the effectiveness of others. Here are the things to consider when choosing a water source:

- 1) **CLEANLINESS**
 - Refers to the amount of suspended silt and organic matter in the water. This can greatly reduce the effectiveness of glyphosate or Reglone.
- 2) **HARD WATER**
 - Excess calcium or magnesium in the water can inhibit the control you achieve with glyphosate or amine formulations of 2,4-D or MCPA.
- 3) **BICARBONATES**
 - High levels of this ion in the water can adversely affect the performance of Amine formulations of 2,4-D or MCPA, as well as tie up grass killers from the "Dim" family, which includes Achieve and Centurion.
- 4) **IRON**
 - In large amounts, iron is another of the minerals that can tie up glyphosate. The other problem with high iron water is that it quickly oxidizes, producing a precipitate (rust) that can plug your screens and nozzles.

Many herbicides perform well in water that is less than ideal. However, you should always be aware of what potential problems you might encounter when you use certain sprays with your water. There are generally steps you can take to minimize the impact and will allow you to get the best possible performance from your herbicides.

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