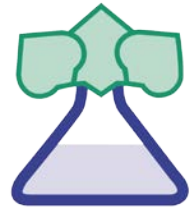


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"Analysis You Can Grow With"®



Water Testing for AMS Requirement

“Is poor quality spray water affecting your herbicide efficacy?”

What impact does poor quality spray water have on herbicide efficacy?

Water containing high concentrations of dissolved cations (K^+ , Ca^{2+} , Mg^{2+} , Na^+ , and Fe^{2+}) can greatly decrease the amount of weed control from a number of widely used herbicides. These positively charged cations bind to the negatively charged herbicide molecules, forming complexes that cannot be absorbed into plant cells. If high cation concentrations are present in spray water, herbicide efficacy can be greatly degraded.

What treatment is available for poor quality water?

The best solution to control the impact of excessive cations in spray water is the addition of ammonium sulfate (AMS) to the spray tank. AMS dissolves in water forming ammonium (NH_4^+) and sulfate (SO_4^-). The negatively charged sulfate ion then reacts with many of the dissolved cations in the solution, forming compounds that are not reactive with herbicide molecules.

How much AMS is needed?

In order to determine the most effective rate of AMS to add to spray solutions, a water quality test is needed to determine the cation concentration. Once the concentration of each cation is determined, an equation is used to calculate the amount of AMS that is needed to neutralize these cations.

The “AMS Test” will identify the concentration of K^+ , Ca^{2+} , Mg^{2+} , Na^+ , and Fe^{2+} in your spray water, and calculate the proper rate of AMS needed to ensure complete weed control from your herbicide program.

For further information please call American Agricultural Laboratory at 308-345-3670.