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Adding ammonium sulfate to the spray solution can improve herbicide performance for those dealing with hard water.

DON'T LET HARD WATER MAKE WEEDS HARD TO CONTROL

BY JOHN DANIELS | AGRONOMIST, CENTRAL REGION

Ard water – caused by the presence of dissolved cations such as calcium, magnesium and iron – affects about 85 percent of the country and has been shown to reduce the efficacy of glyphosate and other weak acid herbicides. The positively charged cations in hard water bind with the negatively charged glyphosate molecules, resulting in less-effective weed control.

Fortunately, there is a simple, inexpensive remedy. When ammonium sulfate is added to hard water, it breaks down into ammonium and sulfate. The negatively charged sulfate binds to the positively charged cations in hard water. Consequently, conditioning hard water with ammonium sulfate in a sprayer before adding glyphosate can improve herbicide uptake and efficacy. For information on the USGA's Course Consulting Service Contact the Green Section Staff.

Learn More

Test your water to determine if and how much ammonium sulfate is needed.



Water with a hardness of 200 ppm or more should be treated with ammonium sulfate. As a general rule of thumb, a readily available 51-pound bag of ammonium sulfate per 300 gallons of water is enough to combat issues with hard water.

In addition to hard water, other factors such as pH, turbidity and even water temperature can affect the performance of pesticides. You can learn more about this important but often overlooked issue by reading, <u>The Influence of Spray Water Quality on Herbicide Efficacy</u>.



SOUTHEAST REGION AGRONOMISTS:

Chris Hartwiger, Director, USGA Course Consulting Service, <u>chartwiger@usga.org</u> Steve Kammerer, Regional Director, <u>skammerer@usga.org</u> Patrick M. O'Brien, Agronomist, <u>patobrien@usga.org</u> Todd Lowe, Agronomist, <u>tlowe@usga.org</u> Addison Barden, Agronomist, <u>abarden@usga.org</u> Information on the USGA's Course Consulting Service Contact the Green Section Staff