

Column Name - The Heartland Minute

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“Maximizing Effectiveness of Glyphosate in the Garden”

Roundup, Killzall, Pronto Weed and Grass Killer are all glyphosate herbicides used to kill unwanted plants. The efficacy of this herbicide depends on the quality of water it is mixed with. Water hardness is a measure of how much salt is in the water, whereas harder water indicates higher salt content. Positively charged calcium and magnesium salts are particularly problematic because they can bind with the negatively charged glyphosate molecules. This inhibits plants from absorbing the glyphosate.

You can add ammonium sulfate to the spray tank before the glyphosate. It is negatively charged and can bind to hard water ions. This allows the glyphosate to work as intended and may even increase efficacy of weed control as the herbicide may be absorbed more readily by weeds. Adding the ammonium sulfate to soft water is not helpful.

It is recommended to test your water to determine the level of hardness. The Extension office has water sample kits that we can provide and send to a lab for testing. If your water is above 120 parts-per-million, it is at a level that could benefit from including ammonium sulfate in glyphosate mixes. In general, add 8.5 pounds of ammonium sulfate per 100 gallons of water (1.4 ounces per gallon; 4 tablespoons per gallon).

Information comes from K-State horticulture instructor, Cynthia Domenghini.

For more information regarding Agriculture and Natural Resources, 4-H Youth Development, or K-State Research and Extension call the office at 620-583-7455, email me, Ben Sims, at benjam63@ksu.edu, or stop by the office which is located inside the courthouse. Be sure to follow K-State Research and Extension- Greenwood County on Facebook for the most up-to-date information on Extension education programs and the Greenwood County 4-H program.