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AMMONIUM SULFATE: FERTILIZER OR SPRAY ADDITIVE?

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Southeast Missouri is still an intense transition zone. So often the Northern areas get snow, the Central areas ice, and the Southern areas rain. All in an area less than 100 miles long. The same goes for many of our weed control issues, including the use of spray-grade ammonium sulfate or AMS. Ammonium sulfate is used very widely North of us, while just South of us, it's often not available.

Way up North, it's been clearly documented that hard water with lots of calcium and magnesium will inhibit the performance of glyphosate and that ammonium sulfate will counteract that effect. My former counterpart, Bill Johnson once said that there wasn't a clear advantage to ammonium sulfate, but that it was cheap insurance. But, another former counterpart, Ford Baldwin said that it was very effective at rusting spray equipment.

Since we're in the "grey zone", we've done a few studies in the past few years. Our first study tested Roundup with and without AMS with typical iron-sulfur well water versus county water versus distilled water. This was a burndown scenario with normal winter weeds. There was no consistent difference with ammonium sulfate, but worse yet, the trends were opposite of what we expected. The distilled water did ever-so-slightly better with ammonium sulfate, and the well water did ever-so-slightly worse.

However, more recently we've seen some interesting things on ryegrass. Ryegrass can be hard to kill and Monsanto's official recommendation for ryegrass is 3-pint equivalents of Roundup plus ammonium sulfate. That rate would be 33 fluid ounces of their latest Weathermax formulation. In our tests, ammonium sulfate boosted ryegrass control from 40 to 70% when we used pint-equivalent rates of Roundup. When we went to three pint-equivalents (33 ounces of Weathermax) it was hard to tell where we did and didn't use AMS.

Last year- we again saw some big differences where AMS was included and also saw an added boost from a pH-stabilized formulation of glyphosate called Engame. However, the Engame activity may have had more to do with the AMS than the pH effects.

At last year's Delta Weed Workers meeting, there was a general consensus that ammonium sulfate provided limited benefits. In general, we'd agree; however, when the label specifies it, or you are targeting ryegrass it should be used. Finally, don't forget the wisdom of the phrase, "If it ain't broke, don't fix it". If you have used AMS and happen to like it, then stick with it, if you haven't and things are fine, don't worry about it. If you have any doubts, this is one of those cases where you can run a tankload with or without it to see for yourself.