Fluid Fertilizer Foundation

Fluid Facts

FOLIAR K APPLICATIONS SAFE WITH GLYPHOSATE

The incidence of K deficiency has increased in recent years due to 1) reduced K availability under drought conditions, 2) soil compaction, 3) reduced applications of K for soybeans due to low commodity prices, 4) higher corn grain yields, and 5) increased soybean acreage in rotation with corn, increasing K fertilizer requirements.

Summary Points

- Foliar K applications can be mixed with glyphosate with minimal crop injury.
- Foliar K applications can be mixed with glyphosate with minimal reduction in weed control.
- However, performance is influenced by K source.

Table 1. The effect of fertilizer additive on grain yield applied alone as a weed-free treatment and tank mixed with glyphosate, Novelty, 2004 and 2005.

Fertilizer additive	Rate K_2O lbs/A	Yield 2004		Yield 2005	
		Weed-free	Glyphosate tank mixture	Weed-free	Glyphosate tank mixture
		bu/A			
Non-treated		9.6		15.9	
Weed-free		66.3		47.6	
NIS			68.1		42.5
NIS + DAS			69.9		40.9
3-18-18	2.4	66.7	67.1	47.5	41.5
3-18-18	9.6	70.4	66.8	46.5	40.1
3-18-18	19.2	66.8	68.9	46.7	38.5
0-0-25-17-KTS	2.4	68.6	65.1	48.1	39.1
0-0-25-17-KTS	9.6	68.2	65.1	48.7	35.1
0-0-25-17-KTS	19.2	66.6	66.0	47.5	36.6
5-0-20-13	2.4	67.7	66.4	47.2	40.5
5-0-20-13	9.6	70.2	66.6	46.9	40.7

Conclusions

Soybean injury resulting from foliar applications of up to 19.2 lbs/A of K2O from several K fertilizer sources (i.e., KCl, KTS, and 3-18-18) was generally less than 10 percent. Potassium fertilizer sources tank-mixed with glyphosate, such as 3-18-18, 5-0-20-13 (KTS + urea-triazone) and KCl controlled more than 90% of weeds and produced grain yields similar to herbicide applications with ammonium sulfate, while providing additional K to the soybean plant in a single-pass weed management in north Missouri. However, two-pass weed management in southern Missouri provided excellent weed control for all additives and grain yields were similar or greater than glyphosate plus ammonium sulfate. The results of the study indicate that foliar K applications can be mixed with glyphosate with minimal crop injury and reduction in weed control, depending on product selection and application rate.

Credits

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