The effects of scalping timing on glyphosate efficacy
September 1, 2017

August is over and the window for fall overseeding is open. If you are planning a complete renovation, or even spot treating difficult-to-control weeds before seeding, glyphosate will likely be an important arrow in your quiver. Most labels of glypohsate-containing products recommend withholding defoliation for several days before or after an application for maximum efficacy – but how soon before or after can you scalp and seed without reducing efficacy? I received this question last fall, and, because I didn't have a great answer, decided to test a hypothesis with the following study.

Site conditions. Tall fescue mowed at three inches was treated with a 41% glyphosate product at 6.4 pts/acre and scalped one day before treatment (DBT) or one hour before treatment, or one hour or one to five days after treatment (DAT) in Mead, NE and Manhattan, KS in fall 2016. The same treatments were also evaluated in each location in spring 2017. Green cover of tall fescue was rated until 32 weeks after treatment (WAT).

Results. After treatment in fall 2016 in Nebraska, all treatments except scalping one hour after treatment completely controlled tall fescue 32 WAT. Scalping one hour following treatment resulted in 67% green cover of tall fescue 32 WAT, not *statistically* different from untreated plots (97% green cover of tall fescue) (Figures 1 & 2).

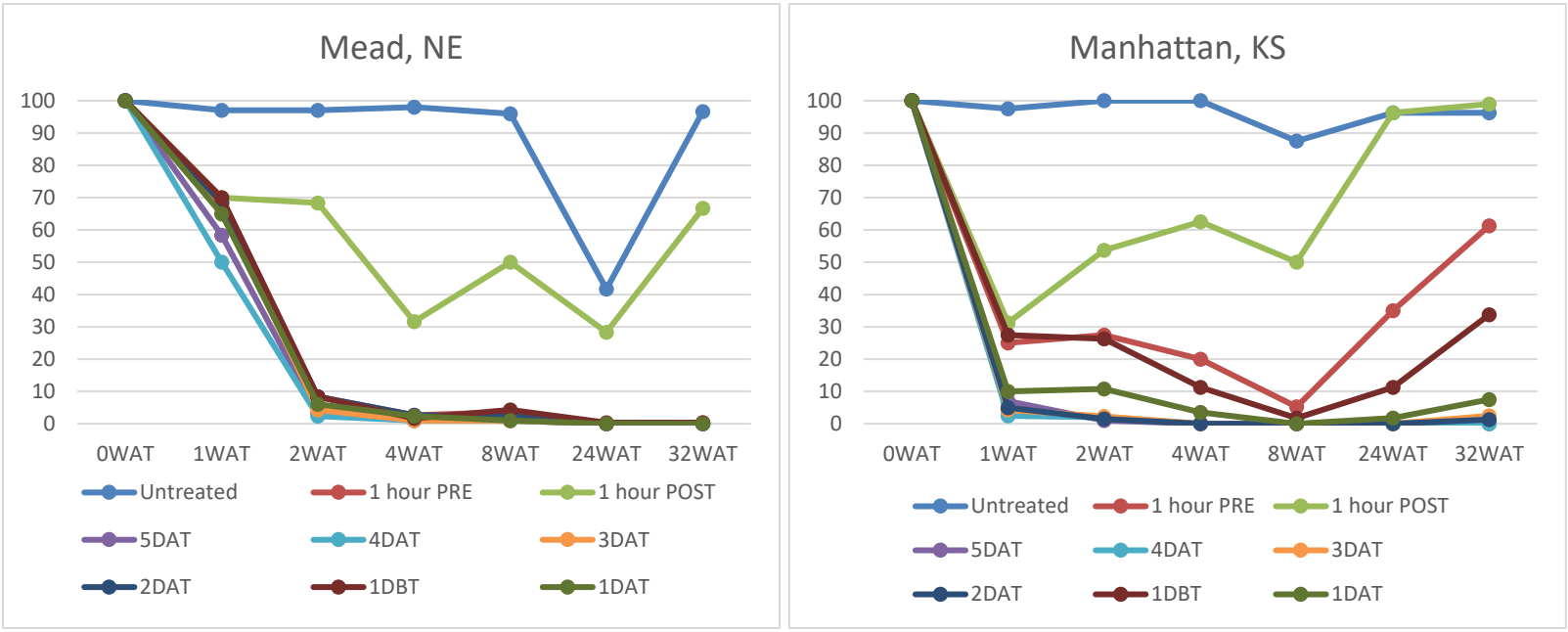

Figure 1. Effects of scalping treatments on glyphosate efficacy in fall in Mead, NE (*left*) and Manhattan, KS (*right)*.

In Kansas, untreated plots and plots scalped one day or one hour before treatment, or one hour after treatment had similar tall fescue cover at 32 WAT (Figure 1). All other scalping timings reduced tall fescue cover compared to the untreated by 32 WAT. Further, scalping four or five days after treatment with glyphosate resulted in complete control of tall fescue 32 WAT, and scalping one, two, or three days after treatment were not *statistically* different (8, 1, or 3% green cover of tall fescue, respectively). Spring applications are yielding similar results.

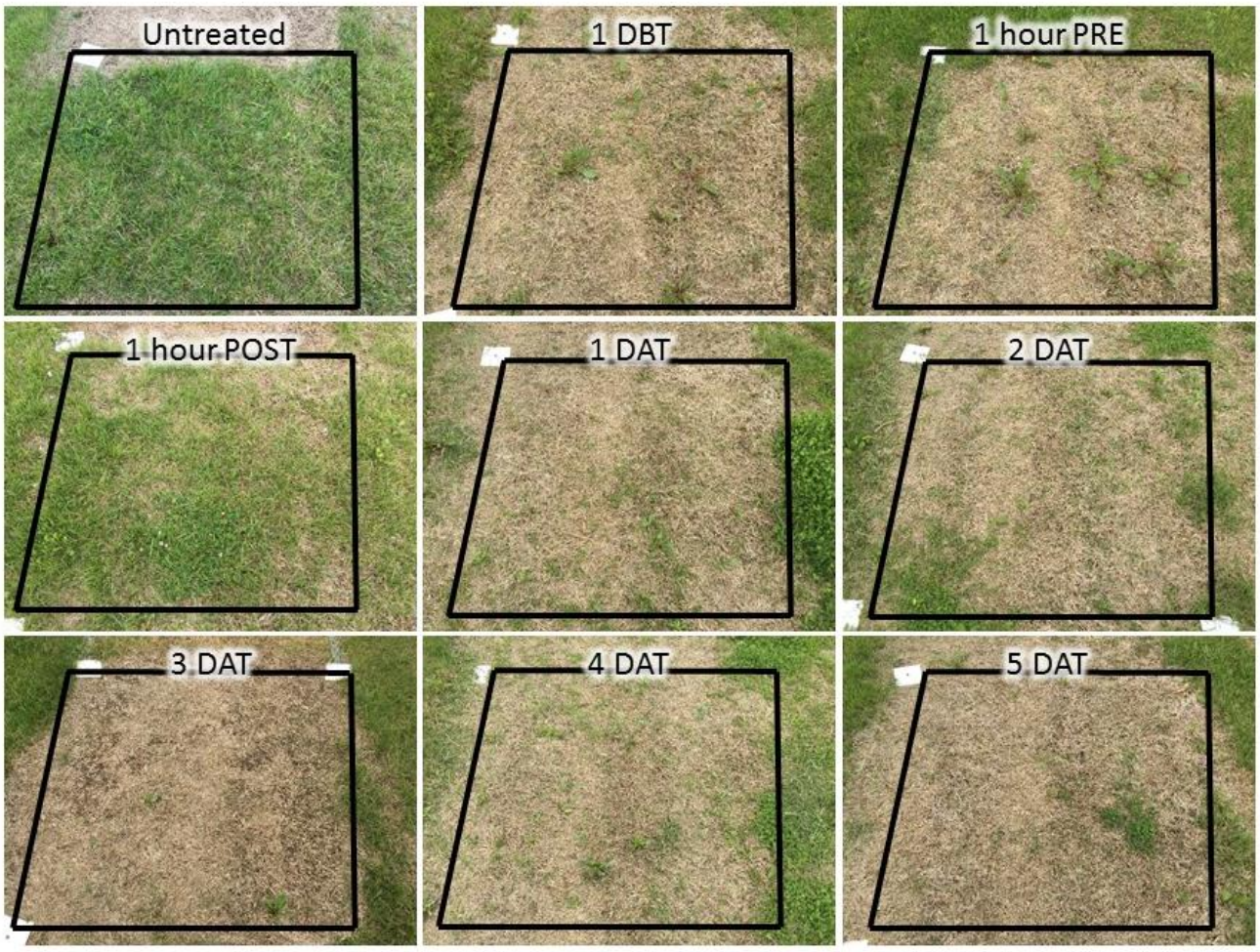

Figure 2. Effects of fall scalping treatments on glyphosate efficacy 32 weeks after treatment in Mead, NE.

Bottom line. Our preliminary data indicate that *tall fescue* control with glyphosate is not reduced by scalping as soon as one day following treatment. Further, scalping turf immediately after an accidental application of glyphosate may be a good strategy to mitigate injury. Scalping one hour or one day before treatment with glyphosate was effective in Nebraska, but not in Kansas. While these data were collected on lawn-height turf, I believe the results will translate to lower cutting heights. My basis for this assumption is the total "distance" herbicide must travel to reach growing points following an application. It would seem that the speed of translocation allows a sufficient concentration of glyphosate to accumulate in growing points of three-inch turf in as little as 24 hours following application, so it's logical that this amount of time will also be sufficient for more closely mown turf. However, these results may differ among species, especially for those with more meristems because of rhizomes or stolons.

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