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TURFGRASS RESEARCH 2015



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Crabgrass Control in Spring Seeding Using Early and Late Combinations of Prodiamine and Dithiopyr

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Summary. With less crabgrass pressure, the Kansas site showed an inhibitory effect of pre-emergent herbicides on spring tall fescue (*Lolium arundinaceum*) seeding and establishment. However, at the Nebraska site, greater crabgrass pressure showed a benefit of pre-emergent herbicide use in new spring seeding of tall fescue.

Rationale. Crabgrass (*Digitaria* spp.) germination typically occurs during cool-season turfgrass spring seeding. Pre-emergent herbicides are recommended for control of summer annual grassy weeds such as crabgrass but can inhibit germination of desired turfgrass. Reduced rates with split applications of dithiopyr and prodiamine in liquid and dry formulations could decrease crabgrass pressure without inhibiting turfgrass establishment.

Objective. Determine if various application timings or rates would improve seedling safety or crabgrass control.

Study Description. Research was conducted at the Rocky Ford Turfgrass Research Center in Manhattan, Kansas, and the John Seaton Anderson Turfgrass Research Center in Mead, Nebraska. Research sites were treated with Roundup+Reward 2 weeks before seeding. Plots were established by seeding tall fescue at 10 lb/1,000 ft², followed by the initial application of herbicides, power-raking in two directions, and an application of 11-52-0 at 1 lb P₂O₅/1,000 ft². This experiment was designed as a 2 x 2 x 6 factorial with two active ingredients, two formulations each, and six application strategies. Plots were 5 x 5 ft in each location with three replications.

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Applications were made with a CO₂ backpack sprayer using a three-nozzle boom with 8002VS nozzles at 30 psi in 2 gal/1,000 ft², or spread with a shaker can. Areas were mowed at 2.5 inches once seedlings reached approximately 3 inches and weekly thereafter. Cover ratings of tall fescue, large crabgrass, and yellow foxtail were taken at 2-week intervals. This experiment was designed as a 2 x 2 x 6 factorial with two active ingredients, two formulations each, and six application strategies. Means were separated using Fisher's Protected LSD ($P \leq 0.05$).

Results. Dithiopyr appeared to be slightly safer than prodiamine for this use, and applications 4 weeks after seeding appeared to be safer on tall fescue and as effective for crabgrass control as at-seeding applications. Granular fertilizer formulations appeared to be safer on tall fescue than sprayable formulations. Outside stresses such as drought or high temperatures may exacerbate any possible damage.



Figure 1. Research trial location at Rocky Ford Turfgrass Research Center in Manhattan, Kansas.



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