Roundup tolerant Tall Fescue/Perennial Ryegrass Trial

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Introduction:

Previous work reported by Crystal Fricker at Pure Seed Testing Inc. demonstrated that it is possible to develop tall fescues and fine fescues that have relatively good tolerance to low rates of glyphosate. This trial is part of an ongoing effort to evaluate tolerance of tall fescues and other grasses to glyphosate at rates that are effective in controlling annual bluegrass.

Preliminary work demonstrated that many commercial cultivars of tall fescue tolerate Roundup Pro applications at a rate of 10 ounces of product per acre. Empirically, we have also determined that many tall fescues and at least one perennial ryegrass tolerate mid spring through mid summer applications of Roundup Pro with minimal discoloration and moderate growth suppression. Late summer through fall applications cause unacceptable turf injury to both tall fescue and perennial ryegrass. The 10 ounce rate of Roundup Pro is effective in killing all annual bluegrass types we have treated so far.

In this trial we are routinely treating all plots with Roundup Pro in early summer and again in mid summer in order to control annual bluegrass and determine long term tolerance of plots to the herbicide. In addition, all plots receive one application of a grass specific pre-emergence herbicide after the early summer Roundup treatment.

Observations:

All tall fescues have tolerated Roundup treatments without excessive turf injury after both early and mid summer applications. The perennial ryegrass has tolerated the roundup treatments well in 2008, but was injured from the mid summer application in 2007. Growth suppression is significant and lasts 3-4 weeks after each Roundup spray. Follow up nitrogen fertilizer applications help with recovery of the tall fescue and perennial ryegrass after growth suppression subsides.

By removing the annual bluegrass from tall fescues, winter disease damage is more apparent, with most cultivars showing severe injury from Microdochium patch and/or Net Blotch disease. Disease damage causes plot thinning and allows reinvasion of annual bluegrass from previously dormant seed. It appears likely that annual treatment with Roundup Pro and pre-emergence herbicides will be needed to keep annual bluegrass populations below objectionable levels.

Note:

Roundup Pro is not registered for use as a selective annual bluegrass control herbicide in tall fescue, fine fescue, or perennial ryegrass. This work is simply attempting to determine the feasibility of using Roundup Pro for annual bluegrass control and is not intended to provide recommendations for this purpose under field conditions.