Recovery of ‘Chisholm’ Zoysiagrass after Sod Harvest as Affected by Simazine and Nitrogen Fertility

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‘Chisholm’ zoysiagrass (Zoysia japonica Steud.), evaluated as DALZ 0102 in the 2002 National Turfgrass Evaluation Program, is a vegetatively propagated zoysiagrass recently released by Texas A&M AgriLife Research-Dallas, TX and Kansas State University. Chisholm has a rapid rate of establishment (Okeyo et al., 2011), and forms a medium-coarse textured turf with high quality and cold hardiness that is appropriate for use in lawns, recreational areas, and golf course roughs in the Midwestern transition zone. More information is needed regarding effects of N fertility and herbicidal weed control on Chisholm recovery after sod harvest before widespread production.

The preemergence herbicides oxadiazon and pendimethalin can increase stolon production and establishment rate of ‘Meyer’ zoysiagrass (Z. japonica) from plugs when annual grassy weeds are prevalent (Fry et al., 1986). Simazine is a commonly used preemergence herbicide in warm-season turf production that does not negatively affect sod tensile strength or rooting of ‘Emerald’ zoysiagrass (Z. japonica × Z. pacifica Goudsw.) (Dickens et al., 1989). Chisholm, Meyer, and several experimental Emerald × Meyer progeny have similar recovery rates after sod harvest (Okeyo et al., 2010), but nothing is known about how N fertility or herbicides influence Chisholm recovery. The objective of our study was to determine if Chisholm recovery after harvest is influenced by simazine or N application level.

The experiment was conducted in 2011 and repeated in 2012 on Chisholm zoysiagrass at the Rocky Ford Turfgrass Research Center in Manhattan, KS. Turf was mowed at three inches once weekly and irrigated to prevent drought stress before, and during the study. Sod was cut to a depth of 1 inch on 8 June 2011 and 22 May 2012 with a sod cutter (Ryan Jr. Sod Cutter, Schiller Grounds Care, Inc., Johnson Creek, WI). Sod strips were not left behind, and all Chisholm recovery was from rhizomes. The experimental design was a split-plot in a randomized complete block design with three replications. Whole-plots measured 3.0 × 9.0 ft and included: (i) simazine