

Early Assessments of Irrigation, Species, and Fertility on Commercial Turf

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In an attempt to resolve ongoing debate, we are assessing 3 irrigation regimes on 3 turf species growing under 9 fertility programs. The main plots are the irrigation regimes, unirrigated, watered once a week at night with 0.7 inch, and watered daily at 2 P.M. with 0.1 inch. Irrigation months are May through September. The subplots species are Kentucky bluegrass, perennial ryegrass, and turf-type tall fescue. The sub subplots are nitrogen additions with varied amounts and timings of applications. These nine treatments are shown below:

Treatment Numbers									
Date	1	2	3	4	5	6	7	8	9
April 7 (R-1)	1		1		1/2	1		1	1/2
May 19 (R-2)			1	1	1	1	1		
June 30 (R-3)			1/2	1/2	1/2	1	1		
Aug 11 (R-4)						1	1		
Sept 7	1	1	1	1	1			1	1/2
Sept 22 (R-5)						1	1		
Nov 3 (R-6)		1		1	1		1		1
lbs N/M/yr	2	2	3.5	3.5	4	5	5	2	2
Applications/yr	2	2	4	4	5	5	6	2	3

R 1-6 are rounds of application common to the Michigan lawn care industry.

The plot area was established in 1997, and fertility treatments were initiated last fall. The perennial ryegrass plots maintained the greenest color throughout the winter and early spring. Furthermore, fall applied nitrogen enhanced spring greenup regardless of species or irrigation regime. During a June drought, we detected significant differences among treatments with regards to surface temperatures. The daily watered plots that received the most nitrogen were the coolest. In the unirrigated plots the tall fescue looked better than the Kentucky bluegrass which in turn out performed the perennial ryegrass.

Visual quality ratings have been higher where nitrogen has been applied with no differences between the daily and weekly watered plots with both regimes fairing much better than the unirrigated plots. So far none of the results have been surprising, but the researchers hope that this long-term study will help settle the long-standing debate regarding proper watering of lawn height cool-season turfgrasses and whether or not the amount and timings of nitrogen fertilization's make a difference in these findings. As future funding allows, additional measurements of shoot density, root mass, clipping yield, surface temperatures, and pest activity will be taken from the 243 plots.