

1996 NTEP Zoysiagrass Test

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Objective

The objective was to evaluate the performance of vegetative and seeded varieties of zoysiagrass in Indiana

Rationale

Zoysiagrass is well adapted for golf course tees and fairways, and lawns in the transition zone in Indiana. New zoysiagrass varieties have been or will soon be introduced to the market including some seeded varieties. It is important to know the survivability, rate of establishment and performance of these varieties so turfgrass managers can make informed decisions regarding their use.

How It Was Done

Eight seeded and 11 vegetative varieties of zoysiagrass were planted on 10 July 1996 at the Purdue Agronomy Research Center on silt loam soil. Seed was spread on plots using a hand shaker jar, lightly raked and rolled. Vegetative varieties were planted using 2 by 2 inch plugs of greenhouse grown zoysiagrass. Plugs were planted on 1 foot centers. A starter fertilizer was applied after seeding/planting at 0.3 lbs. N, 1.5 lbs P₂O₅, and 0.3 lbs K₂O per 1000 sq. ft. Invasion of *Poa annua* in fall 1996, and spring and early summer 1997 necessitated the use of both preemergence and postemergence herbicides for *Poa annua* control. In 1999 the zoysiagrass was fertilized with 1.0 lbs N per 1000 sq. ft using urea applied on 9 June. The zoysiagrass was mowed at 0.75 inches three times per week with clippings returned. The site was irrigated to prevent drought stress. In addition to using herbicides to control *Poa annua*, herbicides have been applied to control crabgrass and broadleaf weeds. No insecticides or fungicides have been applied to the zoysiagrass.

Data collected in 1999 were color, spring green-up, leaf texture, and monthly visual quality ratings from May to Sep.

Results to Date

- The variety average visual quality rating after three years was 3.7. This provides a bench mark to compare the varieties on the market to the average performance of all zoysia varieties in this test
- The variety average visual quality rating has increased each year of rating. This is due to an increase in turf cover and density of all zoysia varieties but especially the vegetatively established varieties.
- Several vegetatively established varieties that did not perform well in 1997 and 1998 had high visual quality ratings in 1999. These included Emerald, Meyer, DALZ 9601 and Zeon. The improvement in visual quality ratings was due to increased cover and density.
- J-37 and Zen 400 were the best performing seeded varieties after three years.

Table 1. Average yearly visual quality ratings of zoysia varieties for 1997, 1998, 1999 and three year average visual quality ratings.

Variety	Visual quality ^a			Three year average
	1997	1998	1999	
J-37	6.0	5.7	5.4	5.7
J-14	3.8	6.0	5.9	5.2
ZEN-400	3.7	5.7	5.7	5.0
ZEN-500	3.8	5.6	5.4	4.9
Meyer	2.5	5.6	6.7	4.9
Emerald	2.5	5.2	6.9	4.9
J-36	3.8	5.3	5.1	4.7
Chinese Common	4.5	5.1	4.5	4.7
El Toro	3.0	5.4	4.1	4.2
Zenith	2.7	4.6	4.9	4.1
DALZ 9601	2.2	3.7	6.5	4.1
JaMur	2.2	4.3	4.8	3.8
Zeon	2.2	3.1	6.1	3.8
Korean Common	1.7	2.9	3.9	2.8
Miyako	2.0	2.4	3.9	2.8
DeAnza	1.7	1.9	2.1	1.9
Z-18	1.0	1.2	1.2	1.1
Victoria	1.0	1.3	1.1	1.1
HT-210	1.0	1.0	0.8	0.9
Variety Average ^b	2.7	4.0	4.5	3.7

^a Visual quality ratings were taken using a scale of 1 to 9 with 1 = no living turf, 5 = acceptable turf, and 9 = ideal turf.

^b Variety average is the average visual quality rating of all 19 varieties of zoysiagrass in the test for a given year and the three year average.