

2002 NTEP Zoysiagrass Cultivar Evaluation – 2002

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Objective

The objective of this study was to determine the survivability, performance, and susceptibility to *Rhizoctonia* large patch (zoysia patch) of seeded and vegetatively established zoysiagrass for use on golf courses in Indiana.

Rationale

Zoysia is ideal for southern IN fairways and tees because of reduced water, irrigation, and pesticide inputs. Zoysia has long been established vegetatively, but seeded cultivars are now being developed and are commercially available. With the reduced establishment costs of seeded varieties compared to vegetative varieties, zoysia may now fit into budgets of many more golf courses. It is important to evaluate the feasibility of zoysiagrass in terms of winter survivability, summer performance, and susceptibility to *Rhizoctonia* large patch.

How It Was Done

Twenty-four varieties of zoysiagrass were established in the third week of June 2002 at the William H. Daniel Research and Diagnostic Center on a silt loam soil. The experimental area was tilled and fumigated prior to establishment to minimize competition from annual grasses and broadleaf weeds. The area was then smoothed and leveled to prepare the seedbed. A starter fertilizer (8-22-16) was applied prior to seeding at 1.5 lbs P₂O₅/1000 ft². Seed rate was approximately 0.5 lb/1000 ft² for the 11 seeded cultivars and the 13 vegetative cultivars were established with 1.5 in by 1.5 in plugs on 12 inch centers. The seeded varieties were covered with AgroFabric to encourage germination, and then the entire area was watered 2 to 3 times daily to encourage germination and establishment. Maintenance on the area is typical of fairways and includes mowing at 0.5 inch 3 times per week, irrigation to prevent moisture stress, and 3 lbs N/1000 ft²/yr (1 lb in June, July, and August). This study will also be inoculated with *Rhizoctonia* large patch (zoysia patch) in fall of 2003 and susceptibility to this disease will be monitored throughout the life of the experiment.

Results to Date

This test was started last summer so there are very few results to report at this time. The seeded cultivars generally covered faster than the vegetative cultivars, but this is primarily a factor of seed rate vs the spacing of vegetative plugs. We would expect little genetic difference in spread between seeded and vegetative cultivars when seeded, sprigged, or strip-sodded at equivalent rates. Very few of the cultivars reached 100% cover by the first frost, which is an indication of the slowness of spread. Our early studies show zoysia is very sensitive to seeding date and seeding on June 1 produces improved cover by the first frost. The vegetative cultivars had the best winter color. Though this may be an artifact because they generally have the best genetic color, this could be an indication of decreased winter survival.

- When making cultivar selections, it is best to consult the NTEP web page at www.ntep.org for complete performance data from around the country on cultivars, placing special emphasis on how cultivars perform in IN, IL, KY,

MI and/or OH (depending if you are located in northern, central, or southern IN) under the specific maintenance regime you intend for that grass.

Table 1. Percent cover and winter color of 24 zoysiagrass cultivars.

		% Cover			Winter color 24 Oct
		25-Jul	10-Aug	20-Sep	
J-37	Seeded	53	77	100	3.0
Zenith	Seeded	50	75	100	3.0
Chinese Common	Seeded	27	60	100	3.7
Companion	Seeded	40	67	97	2.7
PST-R7MA	Seeded	20	47	97	3.0
PZA 32	Seeded	45	73	97	2.0
PST-R7ZM	Seeded	15	43	93	2.7
PZB 33	Seeded	40	67	88	1.7
6186	Veg	12	22	85	5.0
PST-R7LT	Seeded	20	40	83	3.0
PST-R7TH	Seeded	15	33	82	3.7
BMZ 230	Veg	13	20	77	8.0
DALZ 0102	Veg	8	20	75	6.7
DALZ 9604	Veg	12	25	72	3.0
DALZ 0104	Veg	12	17	70	5.3
Zorro	Veg	8	20	68	6.3
Emerald	Veg	10	17	60	5.7
Himeno	Veg	10	17	58	4.7
Meyer	Veg	8	13	55	5.3
El Torro	Veg	5	10	50	7.7
DALZ 0101	Veg	8	18	47	7.0
DALZ 0105	Veg	7	13	47	6.0
Zen 400	Seeded ^a	7	12	28	6.3
GN-2	Veg	7	12	23	5.7
LSD (0.05)		8	9	17	1.6

^a Zen 400 is available as a seeded cultivar, but we established it vegetatively from a local source for this study.