



OVERSEEDING WARM SEASON LAWNS WITH COOL SEASON TURFGRASS SPECIES

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IMPACT STATEMENT

In 1988, a study was initiated at the Arkansas Agricultural Research and Extension Center, Fayetteville, to assess low-input methods of establishing cool season turfgrass species into established bermudagrass and zoysiagrass lawns. Early planted treatments (mid-September) performed better than the later planted treatments (mid-October) in all visual quality rating categories in bermudagrass. All treatments were superior to the dormant warm season species with regard to color. The data indicate that cool season turfgrass species may be able to provide aesthetically pleasing winter color when established in dormant, warm season lawns.

BACKGROUND

Warm season grasses such as hybrid bermudagrass and zoysiagrass have become the species of choice for many southern homeowners because of their ability to withstand prolonged periods of heat and drought. Improved zoysia cultivars have increased disease resistance and improved shade tolerance. A major drawback of zoysia and bermudagrass is that they turn an aesthetically unpleasant straw color with onset of cold weather. By overseeding cool season species into established warm season lawns, it is possible to extend the growing season of a green lawn. For broad appeal to homeowners, an overseeding program must be effective (in establishing year 'round green turf color), inexpensive, and simple.

RESEARCH DESCRIPTION

Cool season grass blends were obtained from Loft's Seed Co. The blend known as "Triplex" consisted of equal portions of three perennial ryegrass cultivars; 'Palmer III', 'Prelude III', and 'Repel III'. The other blend known as "Athletic Field Mix"

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consisted of 10% 'Palmer III' perennial ryegrass, 10% 'Preakness' Kentucky bluegrass and 80% 'Rebel III' tall fescue. In addition to the two blends, the effects of planting date and scalping or not scalping the warm season species prior to seeding were tested. Seeding rate for each blend was 5 lb/1000 ft² and each plot was fertilized using a complete fertilizer (19-19-19) at the rate of 1 lb nitrogen (N)/1000 ft² two weeks after seeding to promote establishment. All other management inputs were in accordance with recommendations for warm season species. All plots were evaluated monthly for color, quality, density, and percent weeds.

The field test was established as a split, split-plot with blends being the main split and planting date and pre-plant scalping as subsequent splits. Immediately following both seedings, plots were irrigated daily until emergence, which occurred within 8 to 10 days after seeding. All plots were qualitatively rated monthly and mowed to 0.75 in. during periods of active growth.

FINDINGS

Initial data analysis showed treatment differences for seeding date only in bermudagrass. The early-planted (mid-September) treatments performed better than the late-planted treatments (mid-October) (Table 1). Although not statistically significant, the early seeding date had fewer winter weeds compared to late-planted treatments. The "Triplex" blend in bermudagrass rated 2.5 points higher for color, density, and texture in the early-seeded plots vs. the late-seeded plots (Table 1). Color and density were higher in early-planted "Athletic Field Mix" than late-planted and percent weeds were greater in the late-planted treatments when compared with the early-seeded plots. Treatment differences were not significant in the zoysia plots, although all treatments were superior to dormant zoysia with regard to color (Table 2).

Preliminary visual and quantitative analysis indicate that cool season turfgrass species may be able to provide aesthetically pleasing winter color when established in warm season, dormant lawns. All overseeded plots were no lower than 6 on the color scale and much better than the zoysia and bermudagrass controls until a late December period of very cold weather. Color ratings for the months of January and February should indicate how well they recovered.

In summary, perennial ryegrass blends and blends of Kentucky bluegrass, tall fescue and perennial ryegrass were overseeded into existing bermudagrass and zoysiagrass plots. Both blends showed promise by providing an extended season of green color to winter dormant bermudagrass and zoysiagrass lawns when overseeding occurred in mid-September.

Table 1. Quality ratings of cool season turfgrass blends overseeded into established bermudagrass turf, December 1998.

Cultivar/treatments	Color ^z	Density ^z	Texture ^z	Weeds (%)
Triplex Blend				
Early planted				
scalped	8	9	8	2
not-scalped	9	9	8	2
Late planted				
scalped	6	7	6	5
not-scalped	6	6	7	10
LSD ($P < 0.05$)	1.7	1.6	1.6	NS ^y
Athletic Field Mix				
Early planted				
scalped	8	9	6	2
not-scalped	8	9	7	2
Late planted				
scalped	6	6	6	5
not-scalped	6	6	7	15
LSD ($P < 0.05$)	2.0	2.2	NS	NS
Bermudagrass control ^x	1	5	6	2

^z Color, density, and texture ratings are based on a scale of 1-9, with 9 being "best".

^y Not significant.

^x Bermudagrass was dormant at this rating time.

Table 2. Quality ratings of cool season turfgrass blends overseeded into established zoysia turf, December 1998.

Cultivar/treatments	Color ^z	Density ^z	Texture ^z	Weeds (%)
Triplex Blend				
Early planted				
scalped	7	7	7	0
not-scalped	7	7	8	2
Late planted				
scalped	7	6	6	2
not-scalped	6	5	6	0
LSD ($P < 0.05$)	NS ^y	NS	NS	NS
Athletic Field Mix				
Early planted				
scalped	8	8	7	0
not-scalped	7	7	7	0
Late planted				
scalped	7	6	7	0
not-scalped	7	6	8	0
LSD ($P < 0.05$)	NS	NS	NS	NS
Zoysia control ^x	1	8	6	0

^z Color, density, and texture ratings are based on a scale of 1-9, with 9 being "best".

^y Not significant.

^x Zoysia was dormant at this rating.