

TABLE 2. 1966 BENTGRASS STRAIN EVALUATIONS
East Lansing, Michigan

(4 x 4' plots in 3 reps; planted in August of 1962 on a loamy soil)

Selection	Visual Quality Rating (1-Best; 9-Poorest)
MSU - 28 - Ap	1.5
NJ - 55 - 1	1.5
Springfield	1.5
MSU - 24 - Ap	1.6
NJ - 55- 4	1.8
Pennpar	2.6
MSU - 26 - Ap	2.7
Highland	4.2
Northland	4.5
Holfiar	5.0
Holmes	5.1
Baldwin	5.5
Exeter	7.2
Bore	8.6

Evaluation of Experimental Bentgrasses. Thirty-eight experimental selections in 4 x 4 foot plots are under evaluation for potential commercial use. Two MSU selections, two NJ selections from Rutgers and Springfield from Kansas are ranking high in overall turf quality. Holfiar, a colonial bentgrass which had shown promise, is on the decline. Highland, Northland, Baldwin, Exeter and Bore have been inferior.

STOP 2

Harlan Stoin

High Temperature Growth Reduction Investigations. An important problem with cool season grasses such as the bentgrasses and bluegrasses is the reduction in growth caused by hot summer weather. To better understand this problem it is important to know why the growth of the plants slows down and eventually ceases. Therefore, biochemical studies are underway to determine if there are differences in how these grasses utilize nitrogen within the plant when grown under high temperatures compared to low temperatures. Different rates and sources of nitrogen are also being used to see if these have any effect on the amount of growth reduction that occurs. Much of the work is being done in growth chambers; however heating cables have been placed in bentgrass plots to obtain some field data on these temperature effects.

To date our findings show an overall increase in the soluble nitrogen content of grasses grown under high temperatures. An especially large increase occurs in the content of asparagine. Free ammonia also increases. These findings indicate the possibility that growth of turfgrasses is being affected by ammonium toxicity at high temperatures.