

has improved after topdressing whether for the light and frequent program or for the spring and fall program. The data in 1990 were similar for the most part. The most consistent turf quality ratings were for the light and frequent programs which is consistent with previous years. At times the Check plots ranked equal to other treatments, but for several dates the Check plots had clearly inferior ratings. The thatch accumulation in the Check plots resulted in puffy conditions and scalping at times during the season. The light and frequent programs have produced uniform soil conditions as well in the layer developed since the initiation of the study. Plots receiving spring and fall topdressings at the higher rate have developed layers as would be expected with infrequent topdressing at heavy rates. On some dates in other years plots receiving some soil in the topdressing material have rated as good or better than when sand alone was applied. This did not occur in 1990, however. On two dates, clipping weights were collected (data not shown). There were no meaningful differences observed in clipping weights. This study will continue for 2 more years to determine the longer term impact of these treatments. Over the short term (3 years or so) almost any topdressing program might be reasonably successful. In most cases, it is only after many years that the true effect of a topdressing program would begin to appear.

CULTIVATION STUDIES

A study to evaluate the effect of timing of cultivation of annual bluegrass fairway turf was initiated in 1989 at the Hancock Turfgrass Research Center. Dates of cultivation are given in Table 6. Our hypothesis is that cultivation after seedhead production may enhance rooting while cultivation in mid-summer may increase susceptibility to stress. Plot size is 6 ft. by 10 ft. with 3 replications. Turf quality ratings indicate there were no meaningful differences in the appearance of the turf in 1990. We will be evaluating thatch and rooting responses in future years. This is a cooperative study with J. M. Vargas, Jr.

Another cultivation study on the effect of cultivation programs on turf quality and thatch conditions was established in 1987 on a block of Ram-I Kentucky bluegrass at the Hancock Turfgrass Research Center. The turf had a significant thatch layer at the initiation of the study. Treatments include solid and hollow tine cultivation aerification with large, medium and small equipment. Because of stones in the soil no soil density or pore size distribution measurement will be taken, but effects on thatch will be determined. Samples were obtained from each plot in the fall of 1990. Data are not yet available from these samples. Visual examination of the thatch layer reveals that when aggressive core cultivation with hollow tines leaves the thatch well intermixed with soil. Solid tine cultivation brings no soil to the surface so the thatch layer is intact on plots aerified with solid tines.

Table 6 Cultivation Timing Study
 1990 Quality Ratings
 Initiated June 7, 1989, Hancock Turfgrass Research Center

Treatment	Rating Dates				
	6/29	7/17	8/13	9/21	10/25
Early Spring April 15	8.0a*	8.0a	7.5a	7.0a	7.2a
After Poa Seedheads June 15	7.2a	8.0a	7.4a	7.5a	7.5a
High Stress July 15	7.8a	7.5ab	7.6a	7.2a	7.2a
Fall September 15	7.8a	8.0a	7.5a	7.5a	7.2a
Late Fall November 1	7.5a	7.2 b	7.6a	7.5a	7.0a
Check	7.5a	7.8ab	8.0a	7.5a	7.0a

* - Means followed by the same letter are not significantly different at the 5% level using Duncan's Multiple Range Test.