ARS Beltsville news

These experiments are ongoing and results may change with time.

Bio-dethatch

Bio-dethatch was applied on June 11, 1975 at the rate of one lb/M to one-half of 10 x 10 ft. plots of seven Kentucky bluegrass cultivars, most of which had excessive thatch layers. Plots were not irrigated and no rain occurred for 15 days following the application. Thatch measurements were taken in November. There was no significant difference in thatch accumulation between the treated and untreated plots.

Treatments were repeated on May 6, 1976, and the plots were irrigated immediately following application. Thatch measurements were taken again in November of 1976. Bio-dethatch was not effective in reducing the thatch layer.

Tall fescue

An experiment to determine the effects of fertility levels, cultivation, and clipping removal on quality and thatch accumulation of tall fescue turf was initiated on October 13, 1974, on established tall fescue under turf management for several years. Turf quality was increased significantly by leaving clippings on plots. Aerification increased turf quality while verticutting decreased it when compared with no cultivation treatment. The greatest increase in turf quality from aerification was obtained where clippings were not removed and 10-10-10 was supplied at the rate of 1½ lb N/M each year.

High quality turf was produced with three yearly applications of 10-10-10 at 5 lb/M where clippings were not removed and plots were aerified. This combination of treatments resulted in turf quality as good as three applications of 15 lb/M with clippings removed and not aerified. There has been no accumulation of thatch during the experiment.

Pennlawn red fescue

Performance of Pennlawn red fescue turf as effected by irrigation, mowing height, and nitrogen fertilization was studied beginning in the spring of 1975. All possible combinations of three rates of N (½, 1, and 1½ lb N/M) applied in spring and fall and three mowing heights (1, 2 and 3 inches) were used. Four applications of the treatments were irrigated to promote summer growth.

Any beneficial effects from irrigation in preventing summer dormancy were offset by increased disease damage in 1975. Summer stress was not as severe in 1976 and three irrigations in July and August improved turf quality. However, the highest quality turf during spring and fall was on plots that were not irrigated. This is probably due to the greater use of nitrogen during the summer months on irrigated plots. On irrigated plots the 2-inch mowing height and 1½ lb N/M were the best treatments. The 3-inch mowing height and one lb N/M treatments were best on plots not irrigated.