

Stop 16 Continued

Relationships of Leaf Carbohydrates to Nitrogen Feeding Rates - Investigations by David Green as part of his Masters thesis involved characterization of the soluble carbohydrates occurring in Merion and common Kentucky bluegrass, Toronto creeping bentgrass, and Pennlawn red fescue. Merion was the only species which contained significant levels of fructosan in the leaf tissue. An oligosaccharide was the dominant sugar fraction in all four species. The disaccharide, sucrose, and the two monosaccharides, glucose and fructose, were unaffected by nitrogen feeding rates as high as 12# of nitrogen per 1,000 sq. ft. in either one application or six seasonal fractions. Effects attributable to nitrogen treatments were only observed in the oligosaccharide and polysaccharide fractions of leaf tissue but conditions such as summer dormancy in common Kentucky bluegrass and Pennlawn red fescue which produced critical decreases in the mono- and disaccharide fractions resulted in corresponding increases in the polysaccharides.

Thus, nitrogen feeding rates as high as 12# of nitrogen per 1,000 sq. ft. in either one single application or six seasonal fractions failed to deplete the carbohydrate level of leaf tissue in the four grasses studied. Much data is available showing the decrease in root production at higher nitrogen feeding rates. Since these results indicate that the leaf is capable of photosynthesizing sufficient carbohydrates it is possible that a blockage or defect is occurring in the transport of carbohydrates to the root system.

STOP 17

(optional)

Board Wagons

Shadegrass Ecology Study - The study was initiated in 1961 to investigate the relative degree and the mechanisms of shade adaptation. It was conducted under extremely heavy natural shade (5% of incident light) with eighteen grass mixtures included. The main conclusion from this study was that disease and not light competition was the major factor influencing the heavy shade adaptation and culture of turfgrasses.

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DATES TO REMEMBER

March 11 and 12, 1965

The 35th Annual Michigan Turfgrass Conference