Seasonal Variation in Carbohydrates in Creeping Bentgrass Under Simulated Stress. (C05-narra220035-Poster)

Authors:

- S.Narra - *University of Illinois, IL*
- T.W.Fermanian - *University of Illinois, IL*
- J.M.Swiader - *University of Illinois, IL*
- B.E.Branham - *University of Illinois, IL*
- H.T.Wilkinson - *University of Illinois, IL*
- T.B.Voigt - *University of Illinois, IL*

Abstract:

Any future 'Precision Turfgrass Management' system will require the evaluation of turfgrass stress through indirect measurements of plant components. One such component might be the accumulation of TNC. To evaluate the effects of mowing stress on TNC concentrations, a field experiment was setup in fall 1997 in a creeping bentgrass fairway. Clippings were collected from eight cultivars mowed at three different heights from 1998 through 2001. TNC levels were predicted using NIR Spectroscopy after building a predictive equation. The plots mowed at 0.64 cm showed higher TNC levels than 1.27-cm and 1.90-cm mowed plots on 14 of the 29 dates. Significant seasonal fluctuations in TNC concentrations were also observed during 1998 and 1999. Visual quality evaluated during 1998 and 1999 was significantly lower at 0.64-cm than at 1.27 or 1.90 cm. However, the reduced quality of 0.64-cm mowed plots fully recovered to the level of the 1.27 or 1.90-cm mowed plots during 2000. Dry clipping weights analyzed during 1999 and

2000 showed highest quantity at 0.64 cm, followed by 1.27 cm and 1.90 cm. No differences were observed among different cultivars in any of the measured parameters.

Corresponding Author Information:

Siddhartha Narra
University of Illinois
1102 S Goodwin Ave
Urbana, IL 61801

phone: 217-333-5591
e-mail: narra@uiuc.edu

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