Efficient Sampling Techniques for Turfgrass Carbohydrate Analysis. (C05-narra214603-Oral)

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Abstract:

This study was conducted to investigate the effects of different post-harvest sampling techniques on the concentrations of total nonstructural carbohydrates and its components in a creeping bentgrass (Agrostis stolonifera) fairway. The clippings were collected from 'Penncross' and 'Crenshaw' cultivars mowed at 0.64 cm on June 12, July 17 and August 7 during 2001. The samples were subjected to different post-clipping sampling techniques. Instant freezing in liquid nitrogen (N), rapid cooling in a dry ice chamber and ambient temperature collection techniques were examined. The percent TNC and its component concentrations were measured using laboratory methods. Though not all the TNC components showed similar trends with differential sampling techniques, results indicate that maximum stability of TNC and fructan levels can be maintained by immediately treating the clippings with liquid N and freeze-drying the clippings later on. No significant differences were observed in reducing sugar concentrations with respect to different sampling techniques. Sucrose concentrations were greater in samples, which were air-dried after initially being treated with liquid N and held in dry ice.

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