CREEPING BENTGRASS WATER USE AND GROWTH IN RESPONSE TO PLANT GROWTH REGULATORS
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Creeping bentgrass (*Agrostis stolonifera* L.) is the species of choice for golf turf in the cool-humid region. Several plant growth regulators (PGRs) are applied to manage vertical growth and improve turf conditions. Water restrictions and availability are an increasing concern for golf turf and management practices that reduce needs are necessary. A greenhouse study evaluated three PGRs: flurprimidol (FL: 4 oz/A), paclobutrazol (PB: 8 oz/A) and trinexepac-ethyl (TE: 4.4 oz/A), for their effect on water use and growth during a 24 day dry-down cycle. Mature ‘L-93’ bentgrass plugs were cultured in sand columns (4 cm diam. x 30 cm) and acclimated for approximately 55 days. The turf was well watered, mowed at 12 mm and received 14.7 kg N ha⁻¹ wk⁻¹ during this time. PGRs were applied starting three weeks prior to dry down and applied every 7 d. PGRs reduced total water use by 23, 14 and 6.4% for PB, FL and TE, respectively. Additionally, PGRs significantly reduced vertical growth, 73, 33 and 22 % for PB, FL and TE, while total dry matter yield and root mass were unaffected. PGRs appear to be an important tool for turf managers interested in reducing vertical growth and water use.