

Agronomy Journal Abstract - TURFGRASS MANAGEMENT

Implications of Repeated Trinexapac-Ethyl Applications on Kentucky Bluegrass

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Abstract

Reducing turfgrass clipping production is often the goal of managers who recognize the need to save time, money, or landfill space. The objective of this study was to investigate the long-term implications of repeated trinexapac-ethyl [4-(cyclopropyl- α -hydroxy-methylene)-3, 5-dioxocyclohexanecarboxylic acid ethyl ester] applications at two fertility levels (150 and 300 kg N ha⁻¹ yr⁻¹) on Kentucky bluegrass (*Poa pratensis* L.). Trinexapac-ethyl (TE) was applied at 0.17, 0.23, or 0.29 kg a.i. ha⁻¹ every 4 wk or at 0.23, 0.29, or 0.34 kg a.i. ha⁻¹ every 6 wk for three growing seasons. Clippings were reduced by 22 to 41% when TE was applied every 4 wk (five applications per season) from May through August, and turfgrass quality was improved. A 6-wk application schedule (four applications per season) did not reduce clipping production as consistently as the 4-wk application schedule due to a postsuppression *rebound effect*. Nitrogen fertility above 150 kg N ha⁻¹ yr⁻¹ was not necessary to maintain excellent turfgrass quality. Turf treated with TE consistently displayed better visual quality than untreated turf regardless of the TE application rate. Repeated applications of TE resulted in less dollar spot disease (*Sclerotinia homeocarpa* F.T. Bennett). Applications of TE not only reduced Kentucky bluegrass clipping production but were also effective in managing turfgrass growth. The postsuppression rebound effect can be utilized to manipulate turfgrass growth, allowing the turf to grow rapidly when it is beneficial to do so. No deleterious implications were observed following repeated TE applications.

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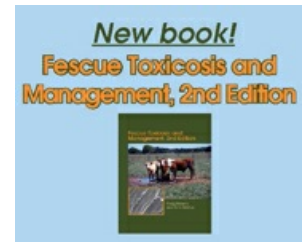
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