# Spectral Reflectance Response of Three Turfgrasses to Leaf Dehydration. (C05ploense105852-Poster)

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### Abstract:

Pre-visual detection of plant stress could reduce application of costly or environmentally sensitive corrective inputs and maintain visual turfgrass quality. The purpose of this study was to determine wavelengths at which turfgrass canopy reflectance is most sensitive to progressive dehydration. Studies were conducted using hybrid bluegrass (Poa pratensis L. x Poa arachnifera Torr.) (HBG), Kentucky bluegrass (Poa pratensis L.) (KBG) and perennial ryegrass (Lolium perenne L.). Changes in turfgrass reflectance within the red region (400-700 nm) were well correlated to decreasing leaf water content. Within the near infrared range only Kentucky bluegrass exhibited correlation between canopy reflectance and decreasing leaf water content. Broad bands of great differences in species reflectance difference (between fully turgid and wilted leaves) were observed in the near infrared region, at 736-878 nm in Study 1 and 734-874 nm in Study II.

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