Stratification and Gibberellic Acid Effects on Seed Dormancy in Eastern Gamagrass. (C04-rogis143532-Poster)

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Abstract:

Eastern gamagrass (Tripsacum dactyloides, L.), a warm season, perennial grass with great potential for forage and conservation uses, has a high level of dormancy, making establishment difficult. Wet prechilling up to six weeks is a standard method for providing germinable gamagrass seed. Earlier research showed that gibberellic acid (GA) increased germinability of decupulated gamagrass, but was less effective when the caryopsis remained in the cupule. We hypothesize that gibberellic acid together with prechilling may increase germination of cupulated seed above levels obtained by prechilling alone. This study assessed the germination of three lots of cupulated eastern gamagrass to 0.001M GA3 and exposure to 4C for 0 to 7 weeks. Seeds soaked in GA solution produced greater germination during the first three weeks of prechilling, after which germination levels of GA and water treated seed were similar. Seed reached peak germinability after four weeks of prechilling and remained at this level during the final weeks. It was concluded that application of GA was only weakly effective at increasing germination of eastern gamagrass above levels obtained by prechilling alone.

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