MANAGEMENT OF ANNUAL BLUEGRASS (*Poa annua* L.) USING POST-EMERGENCE HERBICIDES AND PLANT GROWTH REGULATORS

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ABSTRACT

Annual bluegrass (*Poa annua* L.) is a problematic weed on creeping bentgrass (*Agrostis stolonifera* L.) turf. Weed encroachment on creeping bentgrass putting greens is undesirable as annual bluegrass exhibits a light green color, bunch-type growth habit, and poor tolerance to common turfgrass diseases. Annual bluegrass is also a prolific seed producer; a single plant can produce up to 2,200 seeds in one growing season. Herbicide options to control annual bluegrass are limited, and currently no postemergence herbicides for annual bluegrass control are labeled for creeping bentgrass maintained at a putting green height (3 mm). Therefore, the objectives of this research were to evaluate bispyribac-sodium, a postemergence herbicide labeled for creeping bentgrass at fairway height (12 mm), for safety on creeping bentgrass putting greens and for the control of annual bluegrass. The second objective was to evaluate various plant growth regulators (PGRs), including trinexapac-ethyl, ethephon, and mefluidide, for suppression of annual bluegrass seedheads. Two field studies were carried out over 3 years on various putting greens in Columbia, MO. Results with bispyribac-sodium alone or with monthly applications of paclobutrazol demonstrated that chemicals were safe to creeping bentgrass putting greens during the spring/summer, and annual bluegrass control could be achieved up to 90%. For seedhead suppression, treatments containing ethephon were most effective, resulting in up to 95% suppression of seedheads.