Differential Tolerance of Selected Turfgrass Weeds to Glyphosate. (C05-goss154934-Oral)

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Abstract:

The use of glyphosate for weed control in managed turfgrass systems is increasing. The objective of this experiment was to determine the required dose to control common turfgrass weeds. Glyphosate was applied to one to three month old plants grown under greenhouse conditions at 0.0000, 0.0100, 0.0125, 0.0250, 0.050, 0.075, 0.100, 0.250, 0.500, 0.750, 1.00, 2.24, 4.5, 10 and 50 kg ha-1. Plant height and above-ground biomass were collected 60 days after treatment. LD50 (lethal dose required to reduce above ground biomass or height by 50%) and LD90 (lethal dose required to reduce above ground biomass or height by 90%) values were calculated for each species. Glyphosate was applied to large crabgrass (Digitaria sanguinalis) dandelion (Taraxacum officinale), yellow nutsedge (Cyperus esculentus) annual bluegrass (Poa annua) and creeping bentgrass (Agrostis stolonifera). LD50 values were 0.75, 1.00, 4.50, 0.75 and 2.24 kg glyphosate ha-1, respectively. LD90 values were 10, 50, 50, 4.5 and 10 kg glyphosate ha-1, respectively. This experiment indicated 50% control of common turfgrass weeds rates above 1.00 kg ha-1 however, 90% control of common turfgrass weeds required rates of up to 50 kg ha-1.

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