Weed Control and Ornamental Tolerance with Indaziflam

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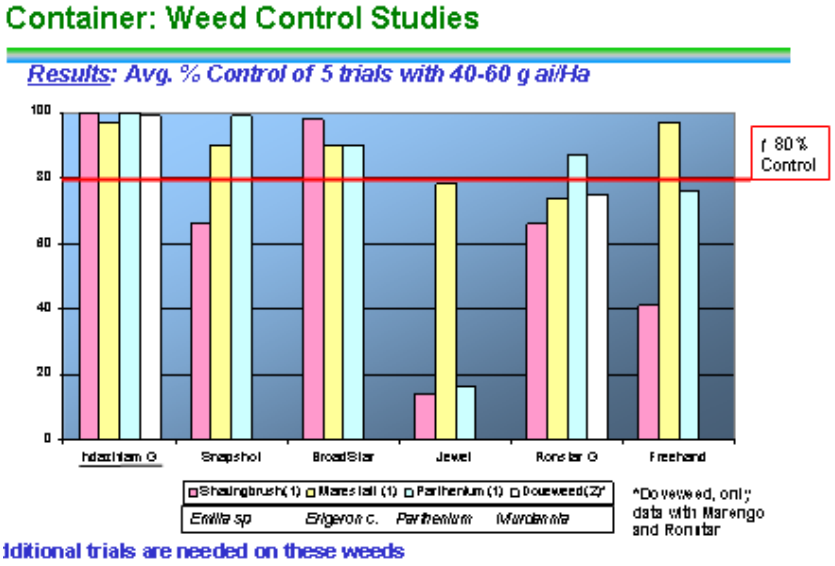
Indaziflam is a new cellulose biosynthesis inhibitor (CBI) under development by Bayer Environmental Science for broadspectrum pre-emergent weed control. Indaziflam is classified as an alkylazine herbicide in WSSA group 29. It works by inhibiting crystalline cellulose deposition in the cell wall which affects cell wall formation, cell elongation and division; thus, only actively growing meristematic regions of roots and shoots of emerging weed seeds are affected.

Since 2008, indaziflam has been tested for weed control and plant tolerance in container ornamentals and around field grown nursery trees. To evaluate weed control in container ornamentals, multiple rates of indaziflam G were tested in various potting mixes. Indaziflam G was watered in following the application and weed seeds were surface-sown one to three days later. At rates of 40-60 g ai/ha, indaziflam G provided excellent weed control for 3-5 months against a large variety of weeds, including hard-to-control weeds such as Eclipta (*Eclipta alba),* prostate spurge (*Euphorbia maculata)* and common groundsel (*Senecio vulgaris).*



Ornamental tolerance studies were done by applying indaziflam G over-the-top, at rates ranging from 30-160 g ai/Ha, to mature liners transplanted into 1-3 gallon size containers. A second application was made two months later. Plant quality and marketability assessments were made throughout the studies; root quality was evaluated at the end of the studies. To date, 109 plant species/ cultivars have been tested and 40-60 g ai/Ha was safe on 100% of the conifers, 83% of woody ornamentals, 75% of herbaceous ornamentals, and on 70% of the ornamental grasses.

Indaziflam 20 WP, at 40-80 g ai/Ha, provided above 90% weed control around field grown nursery trees. Perennial weeds emerging from rhizomes or roots, such as nutsedge (*Cyperus* sp.) or encroaching bermudagrass (*Cynodon dactylon)*, were not controlled. Trees were about 3 years old and 5-6 feet tall; injury to trees was not observed.

Going forward, additional efficacy and tolerance studies will be conducted.