

Kansas Agricultural Experiment Station Research Reports

Volume 3
Issue 4 *Turfgrass Research*

Article 4

7-2017

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Recommended Citation

Hoyle, J. (2017) "Native Turfgrass Tolerance to Indaziflam Applications," *Kansas Agricultural Experiment Station Research Reports*: Vol. 3: Iss. 4. <https://doi.org/10.4148/2378-5977.7153>

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TURFGRASS RESEARCH 2017



JULY 2017

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Native Turfgrass Tolerance to Indaziflam Applications

Jared A. Hoyle

Summary. Multiple research trials were conducted from 2014 to 2016 in the Manhattan, KS, area to determine the use of indaziflam in native turfgrass systems. Results indicated that evaluated species are tolerant to indaziflam applications throughout the year.

Rationale. Native turfgrass systems contain vegetation of many species and can reduce the need for fertilizer, fuel, and water inputs. Due to diverse flora, weed control applications in native turfgrasses can be problematic.

Objective. The objective of the collaborative study is to determine the best use of indaziflam in native turfgrass systems.

Study Description. Multiple research trials were conducted in the greater Manhattan, KS, area from 2014 to 2016 to determine native and naturalized turfgrass species' tolerance to indaziflam applications. Evaluated species included little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), indian-grass (*Sorghastrum nutans*), and tall fescue (*Schedonorus arundinaceus*). Evaluated Specticle (active ingredient, indaziflam) formulations (200 lb/a) applications included: formulation (Specticle FLO and Specticle G), application method (broadcast, over-the-top and directed spray), application timing (spring, summer, fall, and winter), and vegetation management (mown, non-mown, burned, and non-burned). Additional treatments were Specticle Total (indaziflam + diquat + glyphosate) at 10.6 lb ai/a and 21.2 lb ai/a, Snapshot 2.5 (4 pounds trifluralin per acre + 1 pound isoxaben per acre), Barricade 65WG (0.5 pounds prodiamine per acre), and a non-treated control was included for comparison. Liquid applications were applied using a CO₂ pressurized backpack sprayer calibrated to deliver 40 GPA at 32 psi. Each

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study site was arranged in a randomized complete block with 4 replications. Plant tolerance was evaluated on a 1-10 scale (1 = significant damage, 6 = minimal acceptable quality, and 10 = quality equal to or better than the non-treated). Phytotoxicity was evaluated on a 0-100% scale. Evaluations were conducted bi-weekly for 6 weeks after each application. Analysis of variance (ANOVA) was performed in SAS 9.4 (SAS Institute Inc., Cary, NC) and means were separated according to Fisher's protected least significant difference (LSD) level at 0.05.

Results. Results indicated that evaluated species are tolerant to indaziflam applications throughout the year. Specticle Total applications should be applied in the winter only to little bluestem, big bluestem, and indiangrass. Future research will evaluate additional native species and weed control.



Figure 1. Native turfgrass research trial located at Colbert Hills Golf Course in Manhattan, KS.

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