Science Societies

Iron- and Boron-Based Products for Ground Ivy Controls

May 29, 2024

Ground ivy pictured in a Kentucky bluegrass field in West Lafayette, IN. Photo by Aaron Patton.

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Public concern over the use of synthetic herbicides has increased interest in alternative control methods. Furthermore, government regulation of pesticide use has reduced the availability of herbicides for landscape and turfgrass care. Although cultural practices that maintain dense turf are the best way to reduce weeds, cultural control methods alone cannot provide complete weed control. In recent years, alternative weed control methods that substitute natural or organic materials, including micronutrients like boron and iron, for conventional pesticides have increased in popularity. However, the effectiveness of these products and their injury to turfgrass is not well studied.

A field study published in *Agrosystems, Geosciences & Environment* tested the efficacy of three boron-containing products and one iron-containing product for controlling ground ivy (*Glechoma hederacea* L.), a perennial weed. The study also examined whether the alternatives could be used without injuring a Kentucky bluegrass (*Poa pratensis* L.) lawn. Boron-containing products effectively controlled ground ivy but caused unacceptable injury to Kentucky bluegrass, whereas iron-containing products did not cause any turfgrass injury and resulted in high quality turf with reduced ground ivy cover.

These results indicate that while some micronutrients can be toxic to certain weeds, not all are safe for use in cool-season turfgrass.

Adapted from

Amgain, N.R., Beck, L.L., & Patton, A.J. (2023). Ground ivy (*Glechoma hederacea*) control with boron and iron in Kentucky bluegrass turf. *Agrosystems, Geosciences & Environment*, *6*, e20411. https://doi.org/10.1002/agg2.20411
