

# Turfgrass fertility, pesticide programs compared

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Results of four treatments in the experiment: (A) integrated pest management program, (B) consumer program, (C) natural organic program, and (D) no input program. Credit: Photograph by Victoria Caceres

Traditional turfgrass management programs rely heavily on the use of synthetic pesticides and fertilizers. In response to increased public scrutiny and legislation, organic and biological alternatives are becoming more accepted, but research indicates that these alternatives have not been widely adopted by either homeowners or the lawn care industry. Results of a new study that compared common but disparate turfgrass management approaches may help lawn care professionals to evaluate, market, and implement alternative management programs.

Purdue University researchers reported on a field study that evaluated and compared the aesthetic and economic characteristics of four

turfgrass fertility and pesticide programs. In a recent issue of [HortTechnology](#) Victoria A. Caceres, Cale A. Bigelow, and Douglas S. Richmond noted that the reasons that homeowners and professionals do not adopt organic alternatives "primarily revolve around a combination of high aesthetic standards and a perceived lack of reliability or cost effectiveness associated with biologically based alternatives." For the study, the researchers compared four turfgrass fertility and pesticide programs in an effort to provide a framework for lawn care professionals. Programs included a consumer program (CP), an integrated pest management program (IPMP), a natural organic program (NOP), and a no-input program (NIP). The researchers measured aesthetic characteristics such as canopy greenness and turfgrass quality (color, density, and uniformity) and determined economic aspects by recording the cost of materials and labor associated with each fertility and pesticide program.

"Results of the experiments showed that all programs significantly improved visual appearance compared with the no-input program (NIP), and, although the integrated pest management program and consumer programs consistently had the highest ratings, the natural organic program produced lawns of similar quality on the majority of rating dates", stated Purdue's Caceres. "The no-input program also resulted in canopy greenness levels similar to or significantly greater than those provided by the IPMP and CP on most dates. Aside from the NIP, the lowest total maintenance costs were associated with the IPMP during both study years."

Although homeowners and professionals still have choices when it comes to turfgrass management, results of the study may help to clarify some of the impacts and potential benefits associated with different approaches. The researchers added that "the results highlight how incorporation of scouting into different fertility and pesticide programs may provide short-term economic benefits without any significant

aesthetic impacts."

**More information:** [horttech.ashspublications.org/ ...  
nt/abstract/20/2/418](http://horttech.ashspublications.org/...nt/abstract/20/2/418)

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