

Differentiating 'good' and 'bad' insects crucial to IPM program

By DEBORAH SMITH-FIOLA

Beneficial insects are those insect predators and parasites which naturally keep pest insect populations under control. These include lady beetles, Syrphid flies, lacewings, Trichogramma wasps, etc., in both adult and larval stages. Pesticide use, including insecticides, herbicides, acaricides and fungicides (in that order), can be highly toxic to beneficial insects. As a rule of thumb, predators (which consume insects) tend to be less susceptible than parasitoids (which lay eggs inside of insects) but their response is more variable.

The toxic dose of a pesticide is never the same for beneficials and pests. Highly toxic pesticides, which break down quickly, may have less impact on beneficials than those with low toxicity yet a long residual. Pesticides may also decrease life span, fertility and/or mobility of beneficials.

Entomological research on the use of beneficial insects to manage pest populations is the future of IPM programs. Use the following tips when using pesticides to reduce mortality of beneficials:

Decrease pesticide application rates — This allows the survival of low levels of the pest, a food source/prey to the beneficials.

Spot treat — Spray only individual plants with a problem, rather than every single plant in the area. For example, if only one azalea in a row of ten has a lacebug problem, only spray that one azalea, not all ten. This allows beneficials to survive on non-treated plants and eventually move back to treated plants.

Use less sprayer pressure — Sprays seldom reaching the interior of a plant allow beneficials an untreated area in which to take refuge.

Use granular, systemic products — These tend to be less harmful to beneficials than foliar sprays.

Avoid general broad spectrum pesticides — These kill all pests they hit including beneficials. Choose a specific product for a specific pest.

Use biorational insecticides — Soaps and oils, once dry, have a negligible effect on beneficials. Many beneficials fly when products are applied, then return safely since there is no residual. Soaps will not harm beetle larvae (e.g. lady beetles). Some pesticides are more toxic to beneficials than others. Use the following list as a guide:

Highly toxic to beneficials: Diazinon, Dylox/Turcam, Dursban, Malathion, Orthene, Sevin, Talstar, Vydate.

Low toxicity to beneficials: Avid, Dimilin, Dipel, Di Syston, soaps, oils, Pentac, Mancozeb, Metasystox-R, Thiodan, Vendex.

IPM Newsletter, reprinted from The Greenside of GCSA of N.J.

GOLF COURSE NEWS

Peer-reviewed Beard-Green treatise spells out turfgrass's pluses

After more than 10 centuries of human use, the environmental benefits provided by turfgrasses are scientifically documented in the May-June issue of the peer-reviewed Journal of Environmental Quality. Examining a long list of functional, recreational and aesthetic turf benefits, Drs. James Beard and Robert Green's lengthy treatise concludes: "The complexity and comprehensives of these [turf's] environmental benefits that improve our quality of life are just now being quantitatively documented through research."

Environmental benefits of turfgrass documented in the article include: soil erosion

control and dust stabilization; ground-water recharge and surface-water quality; organic chemical decomposition; soil improvement and restoration; heat dissipation-temperature moderation; noise abatement and glare reduction; decreases of noxious pests; reduced allergy-related pollens and human disease exposure; security for vital installations; and lower fire hazard.

The researchers also report scientific support for recreational and aesthetic benefits that include improved mental health, social harmony and improved productivity.

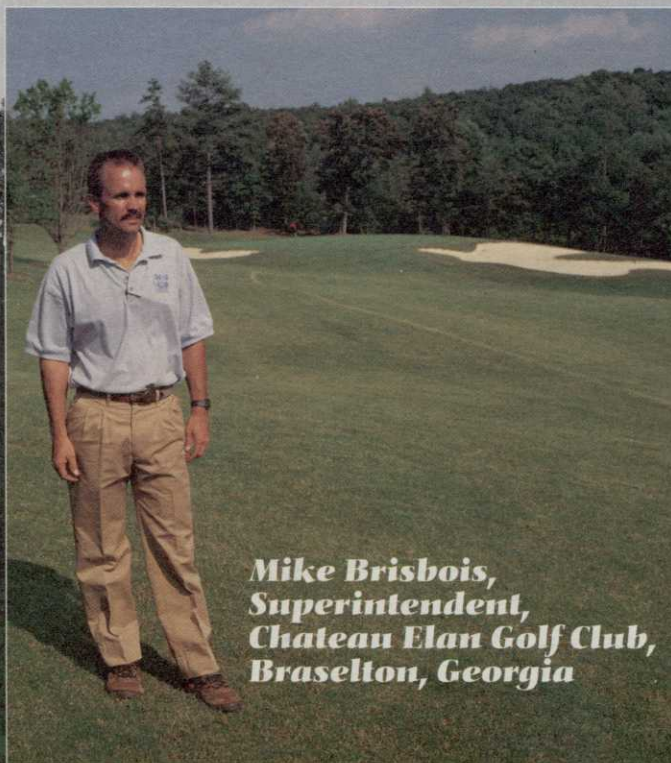
Addressing the concern of turf's water use,

the researchers reported: "There is no valid scientific basis for water conservation strategies or legislation requiring extensive use of trees and shrubs in lieu of turfgrasses. The main cause for excessive landscape water use in most situations is the human factor."

They strongly recommend educating the public that "the darkest-green turf, which many people strive for, is in fact not the healthiest turf. A medium-green turf with a moderate growth rate will have the deepest root system with less thatch, reduced disease and insect problems, and increased tolerance to environmental stresses such as heat, drought, cold and wear."

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**Mike Brisbois,
Superintendent,
Chateau Elan Golf Club,
Braselton, Georgia**

In addition to crabgrass and crowfoot, most annual broadleaf weeds are controlled such as knotweed, spotted spurge, and clovers. RegalStar® preemergent herbicide is the premium product preferred by superintendents who demand superior weed control and the highest quality turf possible.



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