



# THE PRICE OF ENVIRONMENTAL STEWARDSHIP: *Another Perspective*

By Don Spier

The management role of the golf course superintendent in Wisconsin and every other state is changing drastically. Ten years ago, his primary responsibilities were people management, budget management and turfgrass management.

These aspects of the business are still important. However, the challenge of environmental stewardship is probably the most important concern facing today's golf course superintendent. Because of the public's increasing awareness of pesticide usage, a greater percentage of his time and budget is spent addressing environmental issues.

The same is true for companies like the one I work for — Ciba-Geigy. The price tag for EPA regulation is considerable. In the last decade, for example, total research costs for new pesticides have risen nearly five-fold. Listed below are some examples of things which increase the costs of new products and ultimately find their way into golf course budgets:

1. Registering a new product with the EPA takes four to five years for data generation and two to three years for processing that information. The result is a total cost of approximately \$28,000,000.

2. New testing requirements of the EPA measure the impact of develop-

mental compounds on aquatic environments, non-target plants, bird populations and residue levels in groundwater. Each test can take two years to conduct at a cost ranging from \$500,000 to \$2,000,000.

3. The demand for increased quality control in data has increased the price for testing in contract labs. In 1988, the cost for testing a compound's impact on bees was \$2,000. The cost of the same test in 1989 was \$12,000.

4. Research costs have increased by the following amounts since 1980:

Dissipation & groundwater	.32 times
Ecological toxicology	8 times
Metabolism & fate	7 times
Toxicology	3 times
Residue	1.5 times

Efforts to reduce worker and environmental exposure have been formidable. Packaging and formulation application costs have increased 35% since 1988; these are targeted at reducing exposure to turf products. Packaging innovations include soluble bags, biodegradable packages and closed delivery systems.

Formulation changes that improve worker and environmental safety include lower use rates, capsules, gel packs, clays and polymers that reduce leaching.

Our companies have made substantial plant facility investments, too. At

Ciba-Geigy, total costs to make chemical manufacturing facilities safer to workers and to the environment have risen 800% since 1984. Costs are projected to double in 1991.

We all need to deliver a positive message to the public and that, too, costs money. Proposed legislation like the Big Green Proposition could mean the loss of many jobs and billions of dollars in revenue. My company and others like it spend money to build the public's and the government's awareness of the need to balance the benefits and risks associated with turf and ornamental chemical use.

Golf courses and the industries that serve them are in a partnership to protect and preserve the environment. We ask for your understanding of the inevitable costs associated with doing that.

**Editor's Note:** Don Spier has worked for Ciba-Geigy for a little over a year. Previous to that he spent 10 years with Turf Products Ltd. in the Chicago area. That employment was preceded by three years as the golf course superintendent at Kishwaukee Country Club in DeKalb, Illinois.

Don is a 1975 graduate of the University of Illinois where he earned a degree in ornamental horticulture. Don, his wife Beverly and daughter Erin live in Sycamore, Illinois.

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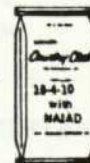
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