Manmade pesticides now less toxic than natural

By MARK LESLIE

COLUMBUS, Ohio — Saying the market no longer has a pesticide with an active ingredient more toxic than the coffee they drank that morning, Dr. Joseph Vargas asked an audience here to be conduits of informed environmental response.

Delivering the keynote address at the Ohio Turfgrass Foundation Conference and Show Dec. 11, the Michigan State University professor pointed out that the same "medicines" used for athlete's foot, yeast infection, strep throat and the like are used as "pesticides" on turfgrass.

"You can use these on the most tender parts of your body," he said, and yet people spread fear about them being used on the ground.

"How do you present this information?" he asked. "When someone asks, 'Is this dangerous?' ask them if they use antibiotics... Then tell them you use the same chemistry to control dollar spot as you do for athlete's foot."

Vargas said progress is being made educating "lower-level" employees of the federal Environmental Protection Agency (EPA) about the environmental friendliness of golf courses.

Inviting EPA officials to attend and address superintendents' conferences has helped, as have the U.S. Golf Association-funded studies of golf and pollution and the EPA's own national ground-water study, he said.

The USGA has spent more than $5 million for university studies to discover if golf courses are polluting the environment.

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— Dr. Joseph Vargas

Among the findings were that fertilizers and pesticides applied to mature turf present little danger of ground-water pollution; thatch is important to holding nutrients and pesticides in the soil; sandy soil is more susceptible to leaching; 2-4,D and CPP are the chemicals most susceptible to leaching; and light irrigation should be done after chemical applications.

The EPA ground-water study concluded that the greatest number of pesticides in contaminated wells were found in the Midwest.

The number-one pesticide found was atrazine, used by farmers. "I don't know of too many superintendents in the Midwest who use atrazine — not if they want to keep their jobs."

Pounding on the theme of perception versus reality, Vargas pointed to the chemicals used for both plant and human health:

- triazole-based fungicides used for athlete's foot and yeast infection as well as turf diseases;
- antibiotics for human as well as turfgrass bacterial diseases;
- carbaryl, an insecticide used to fight cutworms as well as in flea spray for dogs and cats; and
- lindane, a miticide used for head and body lice.

Saying that plants protect themselves from pests by producing natural pesticides, Vargas said a University of California at Berkeley study found that 99.9 percent of the pesticides consumed by humans are naturally produced.

"Which would you prefer" he asked, "a tomato plant with a fungicide applied to the outside that can be washed off, or a tomato with fungicide inside it, and you have no choice but to eat it? But that's not where the debate is."

Very few naturally occurring pesticides have been tested for carcinogenocity, he said, adding that the Berkeley study of 42 plants found that 20 were carcinogenic: apples, bananas, tomatoes, oranges and other foods.

Indeed, black pepper has the strongest naturally occurring pesticide known: peperine.

Yet, dose makes the poison, he said. And he quoted a study that found that an application of 1 pound of pesticide per acre is equivalent to 1 teaspoon of sugar spread over 40,000 5-inch cereal bowls.

Technology today is able to measure the presence of a material in parts per trillion which, he said, is equal to 1 inch in 15 million miles. "And yet," Vargas said, somebody says, 'But how will it affect the children?' "

Claiming fear-mongering among environmentalists, he cited the issue of CFCs and the ozone layer. "If CFCs are destroying the ozone layer ... and most manmade CFCs are produced in the Northern Hemisphere, how come the hole in the ozone layer is at the South Pole?" he asked.

"The answer is the active volcanoes in the Antarctic."