

Spraying measures can quiet concerns

BY R. BARRY ROGERS

Every year, more limitations are placed on pesticide usage and application by legislators reacting to the fears of a concerned public. The question is not whether the fears are justifiable; they exist and must be dealt with.

As an Oregon politician said, "Perception is political reality," and, as every lawyer knows, it can also be a legal reality. It is essential that steps be taken to make pesticide usage more environmentally friendly.

The concerned public is deluged with information on the toxicity of pesticides and fertilizers. LD50 numbers are quoted and, though

they mean very little to most people, they initiate an underlying fear that pesticides and chemicals are extremely dangerous and must be avoided.

Yet when pesticides are compared to foods and their natural contaminants, they are not the most toxic substances we ingest.

An open-boom sprayer, with a trail of drift floating behind it, initiates these fears in the minds of the public. They see toxic pesticide in the air they breathe.

Drift creates fear, similar to dogs' teeth. When a dog bares its teeth it creates fear, whereas with its mouth closed it is considered friendly.

Pesticide application needs a safer, more friendly image.

When the public sees spray, they assume that it is a pesticide, that toxic stuff on television, especially when the driver is wearing what looks like a World War II gas mask they associate with chemical warfare.

This brings human death to mind, not the necessary elimination of weeds or bugs to make a quality golf course.

When they see a sprayer on the course they wonder why they are being exposed to a similar danger. Soon the operator finds himself before a government board, being told to resolve the problem.

Caught in the middle, he has little

room to maneuver. If he reduces the pesticide or fertilizer usage, he will soon be before the course's board, because the course is not up to standard.

Biological control methods, still in their infancy, need to be developed more before they can replace chemicals.

The superintendent's only choices are the means of application. The first is to apply pesticide and fertilizer in the irrigation system, which will work for most fertilizers but few pesticides.

Secondly, he can spray in the very early morning while it is still dark and no one is on the course.

This approach works for some, but not the courses with homes bordering them. There, noise and lights result in complaints.

Spraying early also raises labor costs and risks, plus heavy dews add to the drying time, thereby increasing the time for re-entry.

Shrouded sprayer

The advent of the shrouded sprayer gives the superintendent a new tool to work with.

A shroud placed over the spray boom encloses the spray inside, containing drift and increasing safety. A curtain seals the shroud to the turf surface, stopping the wind from blowing underneath and picking up drift.

This results in positive drift control that significantly increases safety and protects the operator, public and environment from pesticide exposure.

Contained beneath the shroud, the spray does not initiate fear in the minds of people nearby. There is no trail or drift to excite or alarm them.

Shrouded booms are not new. In 1950 the British Institute of Agricultural Engineering tested a simple shrouded sprayer and found that drift from it approached that from an open boom in winds of around 12 mph.

Recent research in a wind tunnel identified a low-pressure area behind a simple shroud.

This low-pressure zone creates an eddy that lifts up drops from the sprayed area and flips them into an air stream racing over the top of the shroud.

A similar eddy lifts dust behind a station wagon.

To eliminate the drift-causing eddy, an airfoil was installed on top of the shroud to redirect the air stream racing over the top into the low-pressure area.

Subsequent drift studies with shroud/airfoil sprayers have shown that off-target spray deposits were kept to less than 0.5 percent even as the wind speed was increased.

The drift control of the shroud/airfoil/curtain combination make it practical to spray in the wind, thereby reducing the uncertainty of day-to-day management on the course while increasing safety.

Timely application

Timely application will also increase pesticide reliability.

Studies in agriculture with mist-sized drops and ultra low carrier volumes indicate that carrier volumes can be reduced to as low as 2 gal/ac with most herbicides, as long as drop size is reduced to maintain coverage.

Ultra low-volume application increases most pesticides' reliability, plus without the wind limitation it can be applied at the optimum time.

Research is required to transfer this information to turf. Low carrier volumes reduce the cost of application and resulting compaction from heavy sprayers while being environmentally friendly.

This provides financial motivation for environmental protection.

But do not forget the World War II-looking gas mask.

Several companies market safety

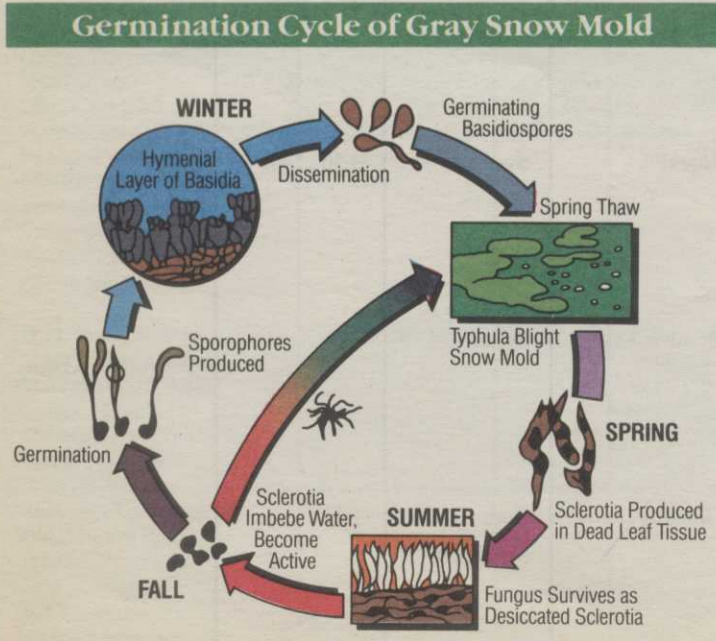
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1 GRAY SNOW MOLD
Also known as Typhula Blight, Gray Snow Mold attacks most northern turfgrasses. The disease usually develops under a snow cover and is seen as the snow melts. Fungus development is favored by high soil moisture and temperatures between 32 and 40 F. Usually visible at the first spring thaw, it appears as circular dead areas up to 6 inches in diameter, but can grow to 2 feet or more and eventually kill large irregular areas of turf. Typhula Blight not only attacks foliage, but infects deep into the crown area, completely destroying the plant.

2 PYTHIUM
Pythium attacks all cool season turfgrasses and Bermudagrass, especially grass seedlings, which will die (damping off), resulting in irregular dead patches in the turf. Normally, it is a high temperature, high humidity and wet weather disease. Mower movement will spread fungus from diseased areas to healthy areas, thereby quickly spreading the disease. Late stages of pythium can spread very quickly and can kill large, irregular sections of turf in 24 to 48 hours.

3 BROWN PATCH
The most common turf disease, Brown Patch, can destroy a stand of bent-grass within a few days. Prevalent during extended periods of high temperature and humidity, the disease is also encouraged by poorly drained soil, lack of air circulation and excessive nitrogen. At first it appears as a circular area of light brown grass, ranging from a few inches to several feet long. The circular areas grow and turn brown.

4 SCLEROTIUM BLIGHT
Also called Southern Blight, Sclerotium Blight attacks annual bluegrass, Kentucky bluegrass, ryegrass and bent-grass in all sections of the country. The fungus begins to spread from the soil and surrounding debris to the grass during hot, humid weather. In its early stages, the disease looks like a frog-eye, having small, circular dead areas with tufts or apparently non-diseased grass. The circles may grow up to three feet in diameter.



HOW YOU CAN GET CONTROL

Keeping your turf looking good all year long is a tough job. The turf invaders such as Brown Patch, Sclerotium Blight, Pythium and Gray Snow Mold can easily destroy all your hard work. Any of these four most common turf diseases are reasons enough to find help, and with one product, **TERRANE B SP**, you get fast, effective control.

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Spraying

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helmets that resemble motorcycle helmets. The helmets blow filtered air over the head and face of the operator.

They are much more comfortable to wear, plus they eliminate the skin/mask interface where pesticides can be trapped and absorbed into the operator's skin.

Perception is also reduced because the helmet appears to be a driving-related safety device and is not perceived as a threat.

A tractor or truck cab pressurized with filtered air will also create less anxiety, as well as improve operator protection and comfort.

Next, the applicator must dress his people in either blue, green or brown. Other colors — especially white, yellow and red — connote danger.

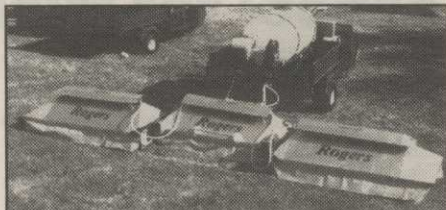
Finally, excess noise and odor also raise public anxiety. Everything possible should be done to eliminate the anxiety initiators.

Kapalua Golf Course in Hawaii uses 15- and 20-foot shrouded boom sprayers.

It is located on the windy north shore of Maui. Superintendent Short Honma needed to remove the wind limitation.

Honma said, "The (sprayers) have increased operational efficiency and reduced jogger and residential complaints."

Being able to spray in the wind lets Honma schedule spraying at the most optimum time, plus he reduced water use from 100 gallons/acre to 25 gallons/acre, which means less filling, less compaction and more time spraying. He also found he could get equal control with half as much of some pesticides, thus reducing



A type of shrouded boom.

the environmental impact.

To mitigate the pesticide issue it is not enough to simply apply pesticides safely and comply with regulations.

There are two components to this issue: safety and the public's perception of that safety.

For the most part, it is the public's perception that is initiating demands for added regulations. Most organizations abide by the regulations.

Public perception must be considered in everything that is done on the course to ensure that it does not create fear.

Drift, noise, odor, and gas masks initiate public anxiety and contribute to the perception of danger just like dogs' teeth.

Application and usage of pesticides must be shown as positive, with emphasis on improvement of course quality and the environment.

Follow all the safety regulations and only use pesticides when they are required to maintain course quality.

If spraying is undertaken, the superintendent should tell club members why and that it is in their interest.

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Survey: 97% of courses have licensed applicators

A nationwide survey of golf courses employing members of the Golf Course Superintendents Association of America shows that 97 percent have at least one licensed pesticide applicator.

Conducting the survey to gauge compliance with federal and state regulations, the GCSAA said the results "provide strong evidence of our members' commitment to safety and sound ecological practices."

Government relations manager Tom Akins said: "GCSAA strongly supports the position that only properly trained and educated personnel should be allowed to purchase and apply any restricted-use chemicals. Even though most golf courses don't apply any restricted-use materials, we are pleased that the survey shows that an overwhelming majority of our membership has taken this extra step."

Of the 1,157 superintendents who responded to the survey, 1,061, or about 92 percent, are licensed pesticide applicators. Another five percent who are not licensed themselves have a licensed person on their staff.

The Federal Insecticide, Fungicide and Rodenticide Act mandates certification for pesticide application. Each state must implement its own certification guidelines and programs, which must comply with FIFRA.

"The importance of training and certification to individual communities really ties in to the concept of 'Think globally — act locally,' " Akins said. "The survey showed that individual superintendents take seriously their commitment to the environment and are working hard in communities throughout the United States to make sure that their operations are as safe as possible."

Hale Irwin Golf Services doubles space

Hale Irwin Golf Services, Inc., an international golf course design, development and management company, doubled its headquarters size (to 3,000 square feet) in a move to Manchester/270 Office Center (Building I) in St. Louis, Mo. The new offices overlook the atrium lobby of the luxury office building by Kelley Properties, Inc.

The firm's new address is 12444 Powerscourt Drive, Suite 284. Its phone number is 965-8787.

Founded in 1986 by Irwin, a PGA Tour professional and golf course designer, the company designs private, resort and public courses as well as golf communities worldwide. It also provides management and operational support to existing golf courses.

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