

Environmental Fate

Mobility and local conditions influence leaching potential

by Don Wauchope, Reprinted with permission from the Long Island GCSA newsletter

No one chemical characteristic indicates an ag chemical could be a hazard to groundwater. For each combination of an ag chemical and on each site, the potential for hazard can vary greatly.

Ag chemicals can reach groundwater when rainwater percolates through the soil and carries a chemical with it. Three things must happen before a chemical can move in the soil: rainfall occurs at the right time to provide the transport; the ag chemical must be mobile in the soil/and groundwater must be present.

There is no control over rainfall or the location of an aquifer. But two properties of an ag chemical can be used to determine its relative potential to be mobile: the ag chemical's tendency to absorb onto the soil particles; and its persistence or resistance to breakdown in the

soil. Strong absorption keeps the ag chemical at the soil surface so it's not carried downward by rainfall. A short persistence means the pesticide will degrade before it can travel far, even if it's not strongly absorbed.

Know your site

These factors only measure mobility potential and must be combined with knowledge of the local use situation. To estimate site-specific risks, ag chemical properties which measure mobility potential must be combined with such factors as the kind of soil, slope, depth to groundwater, potential for runoff, and expected uses of the ground and surface water.

Solubility, or the amount of material which can dissolve in water, has been often used as a measure of mobility. This is not a good idea. Although there is a tendency for more soluble ag

chemicals to be more mobile, it's only a general trend which is meaningless when specific chemicals are compared, even chemicals which differ as much as a factor of ten in solubility. There are big exceptions to the trend: there are extremely soluble chemicals that are totally immobile in the soil and there are very insoluble ones which are relatively mobile.

Formulation type can also determine how easily a pesticide gets below the soil surface and can have an effect on runoff tendency.

Dealers who want to assist their customers in making decisions on pest control choices that are safer for groundwater should use both soil and chemical information to begin asking questions. Local extension agents and soil conservation agents can offer assistance, as can local USDA-ARS

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The State of Posting Laws

Maryland has recently joined the ranks of states requiring that signs be posted when pesticides are applied.

Currently, nine other states require posting: Colorado, Florida, Illinois, Iowa, New Hampshire, New Jersey, Ohio, and Vermont.

Posting rules and regulations vary, but fortunately, those for golf courses are relatively straightforward. Generally, you are required to post at the first and tenth tees.

The sign itself must:

- ✓ state any pesticides that have been applied within the past 24 hours
- ✓ indicate the areas that have been sprayed
- ✓ provide a contact person so that people can inquire about the pesticide applied on a particular day.

GCSAA to Appeal Adverse Ruling

In a May 13 memorandum to the membership, GCSAA President Stephen Cadenelli announced that a Topeka, Kan. federal court jury awarded \$1.46 million to James McLoughlin, GCSAA executive director from 1980-83, in a breach of contract and libel suit against the association. However, the jury also found that current Executive Director John Schilling and former employee James Prusa were not guilty of any acts of wrongdoing.

Says Cadenelli, "GCSAA does not agree with the verdict and will file post-trial motions and vigorously pursue an appeal to the United States Court of Appeals for the 10th Circuit to reverse the award.

"The award and subsequent appeals processes will have no effect on GCSAA's business operations or membership services."

NEW MEMBERS

Lewis D. Bader
Towson Golf & CC; Class B
Pat Holt
Hunt Valley GC; Class A
Gregg Ian Rosenthal
Nutters Crossing GC; Class B
David Rudinski
Woodmont CC; Class D
Steven C. Sweiderk
Caves Valley GC; Class B
Jeffrey C. Wolfe
Queenstown Harbour GL; Class D

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scientists and state water specialists. Ag chemical use decisions must be based on all considerations unique to each area.

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