

Study finds fungicide in runoff when applied before heavy rain

By MIKE KENNA

GRIFFIN, Ga. — Applying a pesticide just before a heavy rainfall can sometimes lead to runoff problems with certain pesticides on sandy clay soils. University of Georgia researchers report that up to 42 percent of the simulated and natural rainfall that occurred over a 25-day period left the plots as runoff. Approximately 8 percent of the total amount of herbicide applied to the fairway plots was found in the runoff water — most of that in a simulated heavy rainfall 24 hours after application.

The U.S. Golf Association sponsored Dr. Albert Smith of the University of Georgia to evaluate the potential for pesticides applied on golf course fairways to enter into surface waters, such as lakes, ponds and streams.

The small fairway plots were developed at the Agricultural Experiment Station here. Tifway Bermudagrass sod was placed onto a sandy clay soil typical of the Southeast. The plots had a slope of 5 percent and drained into individual collection units designed to measure the total water runoff and to subsample the water for detecting the presence of pesticides.

After the plots were treated with the herbicides, simulated rainfall events were used to supply enough water to produce runoff events. Treatment periods were selected that would allow for at least 48 hours without a natural rainfall event. The simulated rainfall was used 24 and 48 hours after the herbicide treatment, and natural rainfall events were monitored when they occurred for the 25-day period thereafter.

A total of seven simulated and natural rainfall events occurred during the 25-day period following the application of 2,4-D, mecoprop, and dicamba. An average of 42 percent of the rainfall water left the plots as runoff and approximately 8 percent of the applied herbicides left the treated plots in the runoff water. Most of the herbicides found in runoff water moved off the fairway plots during the first simulated rainfall event which occurred 24 hours after applications were applied. The rainfall simulation was designed to give a very high-intensity storm 2 inches per hour. The simulated rainfall events lasted for one hour.

The University of Georgia

Dr. Michael Kenna is director of Green Section research for the United States Golf Association. He works out of Stillwater, Okla.

experiment illustrates the need to apply pesticides when rain is not expected.

Several management strategies can decrease the quantity of pesticides leaving in runoff water. First, a healthy stand of turf will provide filtration and help reduce runoff.

Second, a light irrigation following the pesticide application can be used to wash the chemical from the foliage and

surface down into the thatch and soil.

Third, the use of buffer strips around surface-water features can reduce the amount of runoff. Finally, core aeration can reduce runoff by increasing the rate of water infiltration into a sandy clay soil.

These management strategies will be evaluated during the next three years by U.S. Golf Association-sponsored

research projects.

Always thoroughly read and follow the pesticide label directions when making pesticide applications. Generally, for products not requiring immediate irrigation, a six-hour period following application of the pesticide is required for maximum efficacy in pest control.

Therefore, the application could be made during a time that has a low chance of



rainfall for a 24-hour period, and a light irrigation application could be made six hours after treatment. This would help place the remaining pesticide in the thatch or grass root zone which would help prevent movement in runoff water during a high-intensity storm event.



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