

What Is the Likelihood of Runoff from Turfgrass?



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The growing public concern for the use of fertilizers and pesticides and their perceived potential for runoff into storm sewers, streams, ponds, lakes and ultimately into ground water supplies have provoked scientists to investigate the potential of pesticide runoff from turfgrass.

Well-maintained or highly manicured turf typically requires arbitrary inputs such as fertilizers, fungicides, herbicides, insecticides, and other related turfgrass products. Unfortunately, the perception that a certain portion of the public has is relatively negative; it is thought that highly manicured turf areas such as athletic fields, home lawns, golf courses, and etc. are merely "toxic waste sites." Public surveys have revealed that many people perceive pesticides to be harmful to humans, especially children, animals, and the environment. Moreover, they also believe that fertilizers and pesticides are readily washed or leached-away and runoff into public water supplies, ultimately contaminating the environment and drinking water supplies.

This perception, however, is not supported by science; it is primarily based on human emotion. For this reason, several non-biased, university research investigations were conducted to determine the potential for runoff of fertilizers and pesticides on turfgrass (pervious surface).

Recently, research at the University of Wisconsin-Madison revealed that dramatically more runoff occurs from impervious (concrete or paved) surfaces compared to pervious (turf) surfaces

(Figures 1 and 2, 1999-2000 and 2000-01, respectively). Additionally, when there were runoff events, most pesticide residue occurred immediately after (i.e., within 24 hours) the first irrigation or rainfall event on the impervious surfaces. Only negligible traces of pesticide residue was detected on the turfgrass surfaces. And, rarely was any pesticide residue detected on the impervious surfaces 14 days after pesticide treatment application.

The results of this research support related studies that suggest

quality or healthy turfgrass functions as a filter or buffer to inputs such as fertilizers and pesticides. As a result, it is unlikely that fertilizer and pesticide applications made to quality turf will runoff causing ground water contamination or environmental concerns. However, when fertilizer and pesticide applications are necessary or warranted, it is crucial to avoid treatment applications to impervious surfaces as well as turfgrass surfaces when the soil is frozen, to minimize potential for runoff. ♀

Figure 1. Runoff (water) from Concrete and Turf 1999-2000

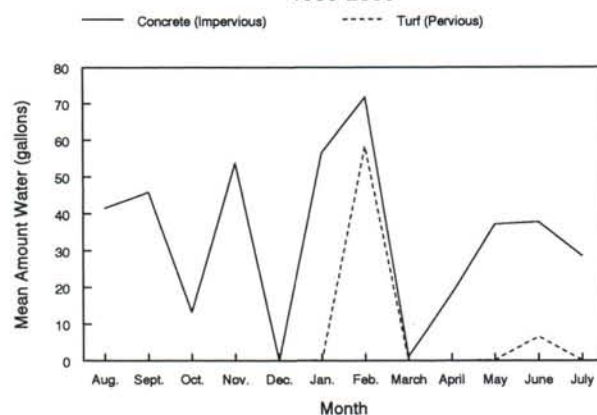


Figure 2. Runoff (Water) from Concrete and Turf 2000-2001

