Pesticide Runoff Model for Turfgrass: Development, Testing and Application

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Objectives:

1. *Adapt a previously developed pesticide runoff model to turfgrass conditions and test the accuracy of model predictions by comparisons with data from field experiments.*
2. *Use the model to estimate pesticide runoff probabilities (return periods) for a range of chemicals and locations in the eastern United States.*

The curve number approach for runoff prediction, as incorporated in the PESTRUN model, was tested using published plot runoff data from six states. The data set included 69 runoff events (30 exceeding 10 mm), three soil hydrologic groups and four turfgrass varieties. Runoff curve numbers were determined for different turf conditions.
When data from all events are combined, the statistical comparisons indicate a high level of model performance for all events and for the 30 largest. The curve number model, as incorporated in PESTRUN explains 77% of the variation in observed runoff at the sites. We conclude that the PESTRUN model is a reasonable approach for estimating runoff from turf.