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EFFICACY AND COST EFFECTIVENESS OF LEAST TOXIC APPROACHES IN A SCHOOL IPM PROGRAM IN MARYLAND

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Concerns over pesticide use and the health and safety of students and staff have resulted in a plethora of legislative actions affecting schools. These actions are intended to decrease children's pesticide exposure and are being considered in more than thirty states. Nationwide, more than thirteen states have either mandatory or voluntary "IPM in Schools" laws. With the exception of a limited number of reports for indoor pests there are very few comparative studies that examine the feasibility of implementing IPM tactics, strategies, or programs for turf, landscape, and hardscape pests in public schools. The objective of our study was to determine the efficacy and cost effectiveness of "least toxic" control tactics and strategies for managing weed, insect, and disease pests in public school demonstration sites in Maryland and New York and compare these with conventional practices. "Least toxic" pest management strategies use tactics such as cultural, biological, physical, and low risk products. After the first year of the demonstration several tactics and strategies have been evaluated including the removal of weeds from playing fields, parking lots, fence-lines, sidewalks, and planting beds mechanically and with "low risk" post-emergent herbicides derived from organic acids. In general the "least toxic" strategies have proven less effective and far more expensive than conventional ones. Least toxic approaches resulted in weed densities far above threshold levels established by the school system and required frequent re-treatment. These results raise important concerns regarding the feasibility of conducting mandated IPM programs in public schools in Maryland.