

# INTEGRATED PEST MANAGEMENT IN SUBURBANIZING WATERSHEDS: WORKSHOPS FOR CHANGING COMMUNITIES

## Submitted to:

The Green-Blue Grants Program of the Northeastern IPM Center

## Submitted by:

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## Introduction

Land use is changing rapidly in many Delaware watersheds. Rural communities where agricultural production of grain crops, vegetables, hay, and animals once predominated are slowly being fragmented by suburban development. While decades of research and extension programming have been conducted to minimize the impacts of production agriculture on water quality, preventing pesticide and nutrient losses from suburban neighborhoods has received less attention. As the percentage of developed land gradually increases in many of Delaware's most important watersheds, concerns are growing about the impact of new, mixed land uses (suburbia and agriculture) on our streams, ponds, rivers and aquifers. *Our overall goal in this project is to develop educational workshops for the residents and community associations in the many new suburban developments in Delaware that are facing the same pest and water quality management challenges that our farmers have dealt with for many years.*

We propose to conduct these workshops in two settings where the University of Delaware College of Agriculture and Natural Resources is currently working on water quality challenges in mixed-used watersheds. The first setting is our own UD campus, where we have a 350 acre dairy farm located in the midst of a moderate sized town (Newark, DE) that is surrounded by numerous suburban developments. Small streams drain through our farm to the White Clay Creek, a Wild and Scenic River. Also found on our campus are the UD Botanic Gardens, a collection of 13 different gardens that offer the opportunity to demonstrate IPM practices to local citizens using a diverse range of ornamental plantings.

The second setting is St. Andrew's School, located near Middletown, DE, which has 2,200 acres of land (1,700 acres of crop land, 500 acres of forests, riparian corridors, the lawns and athletics fields commonly found in suburbia) and two very large and ecologically important ponds. For many years, the watershed where St. Andrew's is located was one of the most productive agricultural areas in the Mid-Atlantic region. However, in the past decade, farmland conversion to suburban developments has proceeded at a very rapid pace and the streams and ponds on St. Andrew's, as well as other surface waters in the area, are now being impacted by both agriculture and suburbia. Our college is currently working with St. Andrew's School in a 3-year USDA Conservation Innovation Grant addressing the water quality challenges faced when an agricultural watershed begins to change rapidly into suburban land uses.

We feel these two situations offer ideal opportunities for educational workshops on how integrated pest management practices can be used to protect water quality from all land uses in a watershed. As outlined below, we will develop and conduct IPM/water quality workshops at these two settings that can then be used in extension programs throughout the state.

## Project Objectives and Tasks

Our overall goal in this project is to conduct two major workshops in 2007-2008, one to be held at the University of Delaware Botanic Gardens (Newark, DE) and the other at St. Andrew's School (Middletown, DE). These workshops will include the following educational activities:

- < Demonstrations and “mini-lectures” by UD-CANR Extension specialists and faculty on the use of integrated pest management practices to control pests and protect water quality. We will also address the issue of invasive plants and insects, provide guidance on turf management methods that protect water quality, and review alternatives to lawns in suburban landscapes.
- < Master Gardener displays and interactive programs on plant management and protection in suburban neighborhoods, with an emphasis on water quality and ecology. Our Master Gardeners are very effective, well-trained educators who can also provide follow-up support to residents that attend these two workshops. The Master Gardeners will present two levels of programming at each workshop - one intended for adult residents and the other for youth.
- < Development and distribution of an IPM brochure specifically intended for residents of Delaware's suburban neighborhoods. The brochure will focus on managing pests and plantings in suburban settings in a manner that protects water quality.
- < Update our Home and Landscape Horticulture website to supplement the IPM brochure, provide more details on pests and IPM techniques, and allow for continual updating as advances in IPM strategies become available.

Budget

We request \$2500 to cover the costs of these two workshops. Funds will be used to purchase materials for the workshops (IPM displays, native plants, soil test kits, etc.), develop and distribute IPM publications, for advertising, and for travel. Most of the materials developed for these two workshops will be available for use in future extension programs.

Item	Cost
IPM displays (posters, products, etc)	\$200.00
Native plants	500.00
Soil samples @\$7.50 (University of Delaware)	450.00
IPM brochures, advertisement, questionnaires	750.00
Equipment	300.00
Travel	300.00
<b>Total</b>	<b>\$2,500.00</b>

Evaluation

Participants will receive a questionnaire at the end of each workshop. This questionnaire will help us to determine the participants' level of understanding of new IPM concepts learned, and also what concepts they intend to implement in their own landscapes.