Changing Homeowner's Lawn Care Behavior

To Reduce Nutrient Losses in New England's Urbanizing Watersheds

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Situation

Like many regions of the US, New England is experiencing high rates of conversion of formerly agricultural and forested lands to residential development. Land stewardship and land uses are changing and increasing the potential for nonpoint source pollution, including excess nutrients, to enter local surface and ground waters. This project combines social science and environmental science to investigate "who" has the most influence over residential lawn care practices of do-it-yourselfers and "what" should be done to minimize excess nutrient runoff from lawns. It then builds educational outreach based on those investigations. Project time period is September 2006 through August 2009.

Objectives

Research

Plant Science
- Establish regionally appropriate fertilizer and alternative lawn nutrient recommendations.
- Evaluate new soil and tissue tests for response to N fertilizer.

Behavioral Science
- Explore primary drivers of lawn care practices and investigate barriers and benefits to adoption of water-quality friendly ones.
- Examine relative measures of trust and contact for various lawn care information sources and determine effectiveness of trained opinion-shapers to influence practices.

Education

- Students learn about the confluence of social and environmental science including regionally appropriate nutrient application, cutting edge social science research methods and analytical techniques, and strategies for effective outreach.

Extension

- Opinion shapers increase knowledge about nutrient effects and recommendations and learn to use soil based N test.
- Neighborhood participants increase knowledge of recommended nutrient application or non-application. Also increase willingness, commitment, and adoption of new practices.

Anticipated Results

Plant Science Research:

The project will define a critical level of soil amino sugar-N and/or active carbon that can be used to partition lawns into two classes – those with low probability of response to N fertilizer and those with higher probability of response to N fertilizer. Lawns in the former class are deemed to be more of a threat to water quality if fertilized than if not. Data will help to develop a better method to guide N fertilization for turf.

Behavioral Science Research:

In-depth interviews of lawn care opinion-shapers will produce qualitative data for use in the design questionnaire and the Extension activities. The results will illustrate social regularities identified in the research.

A questionnaire delivered to a random sample of 300 residents in five communities from five different states will produce quantitative data that will be statistically analyzed. The results will identify important information about sources of lawn care information, beliefs about practices, and barriers and benefits to more water-quality friendly practices that can be used in the design and delivery of Extension programs.

Progress to Date

- Advisory team has been assembled and met in November 2006 to get acquainted, learn roles, share info about related projects, review audience selection criteria, discuss project PR and requirements, and prepare for next steps.
- Plant science team are preparing for spring sample collection and analysis.
- Social science team conducted additional literature review to refine approach.
- Social science faculty trained graduate student in correct interview technique.
- Social science team developed and submitted interview questions for opinion shapers to advisory team for review. Final questions being compiled and contact information for opinion shapers being assembled.
- Professional sampling service located and secured for services to assist with sampling protocol for follow up surveys to homeowners.