



**Ornamental Horticulture Team
Logic Model 2**

Name of Program: Sustainable Turf and Landscapes

CSREES Goals: 4. Greater harmony between agriculture and the environment
5. Enhance economic opportunity and quality of life for Americans

Staff Members (and Number of Days Planned):

John Roberts (?), Catherine Neal (25), Stan Swier (15), Cheryl Smith (15), Geoffrey Njue (13), Tom Buob (10), Sadie Puglisi (26) , Margaret Hagen (?), Nada Haddad (5)

Situation Statement:

Ornamental horticulture and turf contributes to the economy and environmental quality of the state, where quality of life is of utmost importance to residents and tourists. Horticulture keeps 21,000 acres in agriculture, over 14,000 of which is open space, helping to preserve the state's rural character. The "green industry" includes at least 935 businesses in New Hampshire that generate \$438 million or more annually in sales and services, according to a recent New England survey. Over half the firms identified landscape and tree services as an important part of their business. 70% of the horticulture firms reported increasing income over the past five years, by an average of 35%! Over 80% of the income comes from sales and services within the state, making horticulture an integral and important part of the state's economy.

In addition, turfgrass provides recreational areas and playing fields which serve as functional community centers and enhance community pride. Golf course turf also provides significant economic income in the state.

External Factors:

Communities want top-quality turf and landscape areas, but public sentiment tends to be against pesticide use and in some cases requires organic practices.

Organic or IPM practices are more difficult to implement and require a higher level of knowledge and skill.

Protection of water quality from fertilizers and pesticides applied to landscape and turf areas is a concern.

Labor for this industry is in short supply and expensive. Many untrained workers care for landscape and turf.

Assumptions:

All members of the ornamental horticulture team will contribute to the implementation and evaluation of this program.

Voluntary adoption of IPM and other environmentally friendly production practices is the best strategy for the industry to avoid negative public perception.

Adoption of environmentally friendly production practices will result in high quality landscape and turf areas while minimizing toxic pesticide use and nutrient runoff.

Barriers:

Limited number of researchers and extension specialists working on landscape and turf in New England.

Limited number of county educators who want to do programming for this audience.
The target audience is very mobile, has a high turnover, and is therefore hard to identify and reach with educational programming.

Objectives (SMART): 2005-06

At least 100 Landscape and turf managers will adopt or improve management practices that result in

1. improving or maintaining good quality turf and landscaped areas in communities
2. an affordable level of maintenance appropriate to the site function
3. prevention of potential detrimental effects of pesticides and nutrients on nontarget organisms, water quality, and human exposure.

Outcomes/Impacts

Impact (Long-term)

- Ineffective pesticide applications will be reduced and better pest control will be achieved
- Quality of turf and landscape plants will be improved, resulting in less replacement and increased functionality
- Fewer accidents and illnesses will occur for workers and sports players
- Potential impacts on nontarget organisms and water quality will be minimized.

All of the above impacts together lead towards economically and environmentally sustainable landscapes and playing fields that contribute to a healthy community that citizens take pride in.

Action Outcomes:

- Landscapers will select and plant species/cultivars appropriate for the site.
- Landscapers will identify invasive plants and select appropriate alternatives.
- Managers and employees will adopt better cultural practices that impact plant health and quality. (for example, tree and shrub pruning practices; aeration and mowing height for turf)
- Managers and employees will adopt regular scouting and monitoring of crops for pest problems, including proper identification of pests and beneficials
- Managers and employees will select the most appropriate and effective pest management techniques, including least-toxic pesticides
- Employees will apply pesticides, when needed, correctly and safely.
- Employees will improve maintenance and calibration of spray equipment.
- Employees will adopt use of proper safety equipment and practices.
- Managers and employees will adopt nutrient management BMP's

Learning Outcomes:

- Landscapers will learn to select and plant species/cultivars appropriate for the site.
- Landscapers will learn to identify and avoid/remove invasive plants and select appropriate alternatives.

- Managers and employees will increase their knowledge and skills re. cultural practices that impact plant health and quality.
- Managers and employees will increase their knowledge of how to correctly identify weed, insect and disease problems.
- Managers and employees will understand the biology of pests and plants and how to select effective techniques to manage specific pest problems.
- Managers and employees will learn to select the least toxic, effective pesticides available
- Managers and employees will learn how to safely and correctly apply pesticides when appropriate.
- Managers and employees will increase their knowledge of and learn how to monitor and scout for pest problems (timing, thresholds, record-keeping).
- Managers and employees will increase their knowledge of biological control options to manage pests.
- Managers and employees will learn to identify beneficial insects and conserve them when present.
- Employees will learn to calibrate and maintain spray equipment.
- Employees will learn to use safety equipment and practices to reduce exposure to pesticides.
- Growers will learn how to base fertilizer management decisions on soil testing, UNHCE recommendations, and compliance with state BMPs.

Activities: Applied research and demonstration work
 Field days and/or twilight meetings
 Seminars and workshops
 Presentations at local, regional, and national meetings and conferences
 Updating/writing publications (newsletter, fact sheets, articles in trade and refereed journals)
 Maintaining and expanding information on UNHCE web site
 Direct contacts (specialists and educators working directly with clientele via phone, email, and site visits)
 In-service training for staff
 Ornamentals Team meetings

Participants: Landscape designers and contractors; managers and employees of landscape firms
 Parks and recreation personnel; towns and municipalities
 Golf course superintendents
 Turf and landscape managers for schools, cemeteries, and commercial properties

Inputs: UNHCE specialists and educators
 Industry cooperators
 Publications (fact sheets, etc.)
 Analytical Services lab
 Plant Diagnostic lab
 Reference materials

Facilities (UNH Hort Farm; meeting rooms)
External and internal funding

Evaluation Plan – post-program surveys and observational data based on clientele contacts will be used to determine what changes are made.

Action Plan – attached