The Homestead A-Syst Task Force was created through Legislative Resolution 544-2006 of June 30, 2006 in order to provide information and guidelines to the residents of Suffolk County on the correct use of fertilizers, pesticides and irrigation in lawn care.

The purpose of this outreach is the protection of our ecosystem by preventing excessive nitrogen and pesticide loading in groundwater and storm water run-off. The area of lawn being fertilized by Suffolk County homeowners is equivalent to the combined areas of the towns of Huntington and Smithtown. Therefore, improperly applied fertilizer and pesticides can cause harm to the environment. If lawns are mowed too short, watered improperly and products are misapplied, the potential for nitrate and pesticide runoff and leaching into surface water, groundwater and bays increases. Our goal therefore, is to educate homeowners on how to properly apply fertilizers and pesticides, maintain a healthy lawn and garden, while minimizing the potential for runoff and leaching into our groundwater and waterways.

The challenges to achieving this goal are to provide both:

1. A succinct, clear public education message, and
2. An effective means of delivering that message to the greatest number of people.

THE MESSAGE

There is consensus in the Task Force that in order to lessen the environmental impacts of lawn care, consumers must be better informed and educated.

The first goal of a public education program is to explain to homeowners that by making some simple changes in their lawn care maintenance practices, they can significantly reduce weed and disease pressures. Preferred maintenance practices include mowing the grass at a higher setting (approx. 3 inches) and mowing more often, keeping mower blades sharp, leaving clippings on the lawn (mulching mowers are best but not required), and watering more deeply (approx. 1 inch per week, when it has not rained) but less frequently. The choice of grass type can also make a significant difference. Although some people find bluegrasses to be more aesthetically pleasing, other grasses are generally recognized as more drought and disease resistant and may be better suited for your site. Determining which grass type to choose is a personal choice and should be determined by the conditions at the site, and how the lawn will be used.

Before applying nutrients to the lawn, one should begin with having the soil tested. Homeowners may bring soil samples to Cornell Cooperative Extension or a number of garden centers for testing. Armed with the information provided by the soil test results, the homeowner will know what the soil requires in order to maintain a healthy lawn. The next step is to determine the lawn size in square feet. A simple method of doing this is to walk with a normal stride along the length of the lawn, and multiply that number by the width, or the short side of the lawn. An adult stride is approximately three feet long. If for example, a lawn is 7 paces by 5 paces (which means the lawn is 21 feet long times 15 feet wide), it is approximately 315 square feet. Knowing the size of your lawn — not the size of your total property, which includes the house and driveway, etc.— is key to following instructions and applying the proper amount of lawn care products. The Task Force

believes that many homeowners over-apply products such as fertilizer. Homeowners should be able to make proper applications once they know the size of their lawn area in square feet, they have read the recommendations that come with the soil test results, and they read the instructions provided on the label on the fertilizer bag. The Task Force has also adopted a basic suggestion that can be helpful in avoiding over-application of fertilizers, which is to apply no more than 1 lb of nitrogen per 1,000 square feet of turf for each application, and recommends no more than 2 or 3 applications per year during the growing season.

The Task Force also discussed the difference between fast-release fertilizers that contain a significant percentage of water-soluble nitrogen, and slow-release fertilizers that are coated or organic. The advantage of water-soluble nitrogen is that it is fast acting and the consumer can see results in just days. However, the disadvantage is that water-soluble nitrogen is more likely to become runoff that enters surface water bodies and ground water. *If grass were treated more like a crop, with proper amounts of fertilizer and water, homeowners would minimize or avoid having to use additional herbicides or fungicides.*

While agreeing with the importance of educating do-it-yourselfers about soil testing and proper application rates, the Task Force also emphasizes that homeowners who hire landscapers to work on their lawns, trees and shrubs need to know how to verify a contractor's legitimacy as a critical starting point in consumer education. Before hiring a landscaper, the homeowner should check that the person and his company comply with applicable laws. Since many Suffolk County homeowners hire services to help with the maintenance of their lawns, the importance of recognizing and hiring legitimate applicators is paramount. Consumers should be aware that all landscapers must register with the Suffolk County Office of Consumer Affairs. Any landscaper who applies pesticides must also be certified by New York State. This law protects consumers by requiring that all certified applicators are trained, experienced, have passed a test, and take regular continuing education classes. The public should also look for a sticker on the truck, indicating that the operator is permitted to apply pesticides. Once contracted with a landscaper, the homeowner should maintain a hands-on decision-making role in the application of fertilizers and pesticides.

THE MEANS

The members of the Task Force agree that this important message must be presented in a variety of formats in order to be effective. Our first audiences may be seen as "captive": Suffolk County employees and Suffolk County Water Authority customers. These county residents could be reached by inserting a message within a paycheck envelope or a water bill. The content of the insert needs to be attention catching and informative: with a bulleted format that clearly enunciates the steps needed to reduce fertilizer, pesticide and water use.

The following is the message to be communicated in an insert:

Develop Realistic Goals for Your Lawn

I. Test your soil.
   Samples may be brought to Cornell Cooperative Extension or local garden centers.
II. Select the right seed or grass type for your location
III. Mowing:
   i. Mow high; cut grass to three inches
   ii. Cut often.
   iii. Leave grass clippings on lawn
   iv. Keep mower blades sharp

IV. Feed the grass
   i. Know the size of your lawn
   ii. Apply no more than 1 lb. of nitrogen per 1000 sq. ft. of lawn per application
   iii. Apply fertilizer 2 or 3 times per year between EARLY MAY and HALLOWEEN- 6 to 8 weeks between each application

V. Water less often and more deeply - 1" once a week
VI. Use a licensed pesticide applicator and certified landscaper
VII. Only apply pesticides when necessary. A healthy lawn usually doesn't require any

The following are informative websites for consumers, some of which can have links from the County web site: www.SuffolkCountyny.gov

http:www.grassroootsinfo.org/grasstips.html
http://envirocancer.cornell.edu/BCEResearch/Turf.cfm
http://www.epa.gov/pesticides/controlling/garden..htm
http://neighborhood-network.org
http://www.nslga.org
http://www.cce.cornell.edu/suffolk
http://www.gardening.cornell.edu/lawn
http://www.scwa.com/environment/fertilizer.cfm
http://www.turfgrasssod.org
http://www.lifb.com

These web sites will be printed on the back of the insert as well as appearing as links from the Suffolk County web site.

Furthermore, in addition to distributing the lawn maintenance card to county employees and an insert in SCWA bills, the Task Force will also seek to disseminate this information by the following means:

1. Develop insert into a poster that can be displayed at garden centers.
2. Include recommendations in professional journals.
3. Hold a press conference at the conclusion of the Task Force's report to the Legislature
4. Recommend that garden center employees attend training
5. Enlist volunteers to speak at civic organizations, schools, libraries

As required by the Resolution 544-2006, the Task Force held three public hearings. The first was held in Hauppauge on March 9, 2007. Because this hearing was not well attended, a greater effort was made to reach out to groups and organizations so that announcements for the future public hearings could be distributed through their mailing lists. As a result of this effort and interest in draft legislation proposed by County Executive Levy regarding a recommendation of one pound of nitrogen per one thousand square feet of lawn per year, the second and third public hearings were much better attended. The minutes from all public hearings are available on the Suffolk County's Legislature's website: http://www.co.suffolk.ny.us/legis/.

The second public hearing was held in the Riverhead County Center on March 22, 2007. Most of the speakers addressed concerns they had with the recommendation to limit the amount of nitrogen that could be applied to turf, a consideration in the County Executive's draft proposal. Most of the speakers were landscapers or arborists.

The third public hearing was held on April 5, 2007 in Hauppauge. This meeting was also very well attended, with fourteen speakers with a varied representation. Representatives from Scott's Miracle-Gro Company, Lebanon Seaboard Corporation, UAP Distributors, as well as more grassroots, environmental health organizations, such as Brentwood/Bayshore Breast Cancer Coalition, CHEC-LI, and Neighborhood Network spoke, as well as landscapers. In addition to the fertilizer proposal from the County Executive, other topics that were mentioned included the training of retail employees, development of an MOU with corporations such as Scotts, and ensuring that the marketing messages reflect best management practices.

The public hearings generated a plethora of ideas and aided in coalescing the Task Force's recommendations. The hearings also served as a sounding board for the County Executive's proposal on limiting nitrogen fertilizers.

The Task Force appreciates the opportunity to review the County Executive's proposed legislation regarding nitrogen and pesticide reduction. We have carefully deliberated its various proposals; heard hours of testimony; amassed and pored through volumes of correspondence and have consulted with industry specialists. Understanding that nitrogen pollution in our waterways is a serious problem, albeit, not entirely from landscape sources, we conclude the following:

- We agree that no fertilizer should ever be applied to frozen ground.
- We encourage the use of slow release fertilizers on lawns and gardens.
- We support Suffolk County creating color coded signs at retail establishments denoting" slow release" and raising the general public's awareness of possible harm linked to improper use of certain products.
- We also concur that informational signage ought to be posted at retail sales locations to make the consumer aware of each product's proper usage.
- Finally, we favor educational efforts to raise awareness on properly maintaining lawns and gardens.

However, we diverge from the County Executive on his ideas for implementing this proposal.

- We firmly disagree with any broad based ban/law regarding general fertilizer usage. These are extremely important tools in keeping a lawn healthy. Without such products, grasses and plants are more susceptible to disease and destruction. They should be applied responsibly.
- We recommend that fertilizer be applied adhering strictly to label instructions, three times a season, at a rate of no more than one pound of nitrogen for every one thousand square feet per application in order to maintain healthy grounds.

The Homestead A-Syst Task Force, in order to reach the widest audience, condensed its message into an eight by three bulleted insert with a listing of web based resources on the reverse, although the information that we gathered was complex and the resources we found were many and disparate. This is a result of the expertise provided by the members of the Homestead A-Syst Task Force, the members of the public who attended the public hearings held in both Hauppauge and Riverhead and the correspondence received. The Task Force is comprised of Department of Health Services professionals, the Suffolk County Water Authority, industry representatives and environmental advocates, while the public hearings were attended by professionals in the landscape and garden industry, advocates and agro scientists.

The legislation suggested by the County Executive's office drew a great many industry representatives to the public hearings, primarily because of its limitation of nitrogen to one pound per one thousand square feet of lawn per year. The opposition to this restriction at both the public hearing and in letters from lawn professionals as well as the scientific community stated the message that, although some lawns might be able to

survive on this sparse diet, most cannot. Significantly, in a letter written in response to the proposed legislation, Dr. Martin Petrovic explained, " …. There can be significant environmental risk associated with under fertilized lawns. … My research group concluded that surface and groundwater quality was negatively impacted when thin turf was present compared to a dense, weed-free lawn. We found the amount of nitrate and ammonium levels in surface (runoff) and ground (leachate) water samples to be much higher on the thin turf." This conclusion was echoed at the April 5, 2007 public hearing by many members of the industry who agreed that one pound per one thousand square feet of turf per application is a good rule of thumb, but a healthy lawn usually requires several applications per year. Charles Bergamo of LESCO, Inc. stated "Healthy turf acts as a filter for pollutants and converts carbon dioxide to oxygen. It also filters nitrogen from rain water before it enters the water cycle."

The limitation of nitrogen application should be coupled with information regarding slow release formulas, which will aid in maintaining the nutrients in the lawn longer rather than running off into the water system. There was agreement that the signage recommended in the County Executive's bill has positive elements, including information on slow release formula as well as the makeup of the fertilizer and when to apply it.

There seemed to be universal agreement that we need to limit the use of pesticides whenever possible. Maintaining a healthy lawn and garden is one critical component in the effort to reduce pesticide use, but public education is, again, key. It must be made clear to the consumer that when he or she picks up a bag of a product such as Turf Builder, it will probably contain chemicals that the lawn does not need. When the Task Force queried a Scotts representative, Megan Moses, on this very issue at the April 5 Public Hearing, Ms Moses responded that they also provide a fertilizer-only product and a substantial hotline and information system for customers. Clearly, the customer would be better informed if the retailer were to have the training and thereby the ability to provide information to the consumer. Many of the public hearing participants and correspondents suggested training of retailers and industry professionals as an important component of any outreach program in the use of fertilizers, and particularly pesticides. There are many training programs available for both professionals and homeowners. Cornell Cooperative Extension's program is probably best known, but there are programs for retailers and applicators that are conducted within the industry, such as RISE and The Scott's STI programs, and there are organically directed programs provided by Grassroots and Neighborhood Network (programs listed in Appendix VI). For those consumers who want to educate themselves on simply knowing how to read the labels on these chemicals, Beth Feteni of The Neighborhood Network provided resources on toxicity categories and how to look up MSDS (material safety data sheet. Appendix III) We recommend that the County look at the Indiana law that mandates training for any retailer who carries products with EPA labels and urge New York State to introduce similar legislation. It is also important that the DEC comply with the New York State mandate to provide pesticide training in Spanish. The DEC has had five years to implement this program, but was not provided the funds to move it forward. It is incumbent upon us to demand that the DEC move forward with this. Appendix IV contains a number of laws introduced in both the Assembly and the Senate to restrict

pesticide and nitrogen loading. The Task Force reviewed these proposed laws and encourages the State legislature to further explore the possibility of passage.

Professional Training for Garden Center Employees in Suffolk County

Cornell Cooperative Extension has always responded to the horticulture industry with much needed and practical educational programs. There have been some timely topics offered to garden center employees in various symposia and conferences sponsored by Cornell Cooperative Extension. The Long Island Agricultural Forum, Horticulture Conference and Conference on Managing Landscapes Organically have been organized on a yearly basis for decades to meet the needs of the horticulture industry.

In the early 90's some garden center managers requested Cornell Cooperative Extension provide additional extended and in-depth training in horticulture for their employees. In responding to the request, a 50-hour training program got off the ground for garden center employees in late winter with the assumption that most employees come with very little knowledge in horticulture.

The regional training programs were well attended in 1992 and 1993 with 39 and 80 participants respectively from garden centers all over Long Island including Staten Island and Queens. Topics covered during the classroom training included: Basic Botany, Soils, Fertilizers, Entomology, Plant Pathology, Pruning, Vegetable Gardening, Landscape Maintenance, Herbaceous Perennials and Annuals, Bulbs, Turfgrasses and Interior Plants. Other topics covered in the training included Integrated Pest Management, Water Conservation Garden and Plant Problem Diagnosing Techniques. Instructors came from Cornell Horticulture Research & Extension Center, Cornell Cooperative Extension on Long Island as well as local horticulture industry.

Participants viewed the training program as useful for their current job duties. Eighty percent of the students felt that they gained practical knowledge and acquired useful skills. Handouts passed around during the classes were helpful and the Cornell Cooperative Extension Horticulture Fact Sheets that anyone can download from the CCE – Suffolk County Website are an invaluable reference for their retail stores. About 95% of the class passed the finals and received a Certificate in 1993.

The training program gave students a broad knowledge based in all areas relevant to their business. Employers paid for the cost of the entire training program. A few stores gave recognition of their staff's training in their store advertisement in the newspaper. Some stores have photos of employees who completed training posted in front of their garden centers for customers to recognize.

To garden center managers, a well thought out training program can enhance employees' knowledge appropriate for their jobs. The proficiency at the workplace will boost the staff's morale. Quality services provided to customers can enhance credibility for their horticulture business.

Many states have established certification programs for certain fields – such as arborists, landscapers, golf course superintendents and professional nurserymen. Some certification programs are available to garden center personnel and retail nurserymen through their state associations of nurserymen.

Cornell Cooperative Extension of Suffolk County had instituted the Long Island Horticulture Training School to continue its on-going training for garden centers in the late 90's. However the attendance has dramatically decreased since the big stores dropped out from the program and started their own in-house training. The 40-hour training program only drew 21 participants from Suffolk County in 2007.

At the third public hearing held on April 15, 2007, training retail employees was mentioned. Representatives form Scotts Miracle-Gro Company, Lebanon Seaboard Corporation, Lebanon Turf products and UAP Professional Products all agreed with the idea and have expressed their willingness to work together with Cornell Cooperative Extension for the upcoming training program for employees of the horticulture industry in 2008.

Cornell Cooperative Extension of Suffolk County will resume its training through the Long Island Horticulture Training School in February and March of 2008. Scotts Training Institute has been working with Cornell Cooperative Extension for the upcoming training program.

The recommendations of the Homestead A-Syst Task Force are:

1. That we provide our lawn maintenance card to all Suffolk County employees in an AEM, SCWA customers in their bills, handouts for lawn care fairs and conferences and libraries and schools.
2. That we assist the County Executive and the Commissioner of DEE in developing a law that will achieve our common goals in a realistic and scientifically based manner
3. That we convene a consortium modeled after Chesapeake Bay to create a private/public MOU to protect our water. The task force reached out to Michael White, Director of the Regional Planning Board to chair.
4. That training be provided for retail store employees.

The Task Force is providing several appendices that include the minutes of the two public hearings, correspondence, resource materials and related legislation.