

Native Plants Increasing Demand and Production Capacities in Delaware – 2011 Report Summary

The wide-scale replacement of native plant communities with the typical American lawn has created an “ecological disaster” that reduces biodiversity, contributes to global warming through carbon emissions, pollutes aquatic resources, consumes fossil fuels, and encourages the use of pesticides and herbicides. Additionally, a number of plants introduced by the nursery and landscape industry as well as by the USDA for erosion control, wildlife value, forage, etc. have proven to be invasive outside their natural habitat. Non-native species now represent 25% of Delaware’s flora. Recent studies have shown that the use of native plants by green industry professionals has increased as has market demand for native plants. In fact, the demand for native plants exceeds the supply. The market for native plants sold could increase if more wholesale nurseries expanded the volume and diversity of commercially available native plants. To further increase the potential of this market, growers suggest that better and more information sources be provided for the general public.

The objective of this project is to increase the demand, production and use of native plants in Delaware landscapes.

The goal of this project is threefold:

- Increase consumer demand for native plants by developing a fourth publication in the popular Plants for a Livable Delaware series that will address ecosystem services provided by native plant landscaping.
- Increase production of native plants by evaluating production adaptability, growth rate, required inputs, harvest-ability and market success of selected native plants currently not widely available in the nursery industry in Delaware.
- Increase the use of native plants through demonstrated landscape success of the selected species.

Activities Performed

Nursery evaluations were conducted four times throughout the 2011 growing season (April/May, June, August, October/November). Data collection has concluded.

Forest View Nursery (field nursery) continues to care for Sterling’s *Chamaecyparis thyoides*, *Taxodium distichum*, and *Taxodium ascendens* stock plants. Sterling Nursery took cuttings from these plants as needed. To prevent or limit weed pressure, Princep & Surflan were applied in March, and Surflan & Princep along with Honcho was applied in September. *Diospyros virginiana* and *Chamaecyparis thyoides* proved to be vigorous growers *Vaccinium corymbosum* and *Cornus alternifolia* have been the most difficult to establish.

The Sterling Nursery cutback the *Lindera benzoin* stock plants to 12 inches over the winter. In March 2011, they applied Devrinal & Pennant (preemerg/herb) to all Lindera. Overall, Lindera is thriving. However, those sprayed in 2010 are shorter in habit. Although predominantly propagated by seed, 200 cuttings were taken from Lindera stock plants on 6/27/11. Plants failed to root. Forty cuttings of *Chamaecyparis thyoides* were taken on 4/30/10. The twenty-six remaining were field planted in early spring of this year. Additional cuttings were taken from

these prior to planting. During the 2011 growing season, Sterling Nursery also took 100 cuttings of both *Taxodium ascendens* and *Taxodium distichum*, and 30 cuttings of *Vaccinium corymbosum*.

University of Delaware Botanic Gardens (container nursery) fertilized plant material on a weekly basis from May through September. Personnel applied a mixture of Peter's 21-5-20 + Sprint 330 (iron) & Osmocote 20-4-8. Plants grew at a rate that now requires many to be staked and transplanted into larger pots. Top performing plants for the UDBG are *Viburnum prunifolium*, *Carya glabra*, *Chionanthus virginicus*, and *Chamaecyparis thyoides*. Plants garnering the lowest overall ratings were the *Vaccinium corymbosum* and *Cornus alternifolia*.

The landscape evaluations were conducted five times during the growing season at the four sites in Delaware—New Castle County Extension Office, Smyrna Outreach and Research Center, Univ. of Delaware's Research and Education Center, and the UDBG. Data collection has concluded. Top performers in the landscape trials include *Chamaecyparis thyoides*, *Carya glabra*, *Diospyros virginiana*, and *Viburnum prunifolium*. Plants that struggled in all landscapes were *Vaccinium corymbosum*, and *Cornus alternifolia*. *Asimina triloba* and the *Taxodium* are proving to be extremely resilient plants. Both have fallen victim to animal browse or vandalism and have grown back from the base at an astounding rate.

Future Project Plans

Agencies or organizations that have received copies of the *Livable Ecosystems* publication will be surveyed about their method of distribution, feedback from recipients and increase in demand for native plants. Green industry members will be surveyed to determine their willingness to include these (and other) native species in their inventory.