2011 Program Report Card: Plants and the Environment (The Connecticut Agricultural Experiment Station)

Quality of Life Result: All Connecticut forests and beneficial, non-invasive plants are thriving, supporting a healthy environment for all residents.

Contribution to Result: Insect and plant disease diagnostic and inspection services provide surveillance for new pests and integrated pest management (IPM) research to protect crops and forests from invasive insects and plant diseases. We detect emerging insects and plant diseases, facilitate trade, support jobs in the green industry, develop new management approaches, and provide information about plant health problems to state residents and the scientific community through publications and talks.

Total Program Funding (2010): $4,648,062 *State Funding*: $3,106,483 *Federal/Industry Funding*: $1,541,579

Partners: CT Dept. of Agriculture, CT DEP, UConn Extension (Storrs), CT Green Industry Coalition, USDA, US Forest Service, homeowners and lake associations, The Nature Conservancy, CT Tree Protective Association, Federated Garden Clubs, CT Forest & Park Association, Audubon Society, CT beekeepers.

Performance Measure 1: Safeguard agriculture and forests in CT.

Number of certificates and plants or containers inspected and shipped out of state or country.

Year	# Certificates	# Inspected
2007	572	669,283
2008	649	495,684
2009	354	285,456

Story behind the baseline: The green industry, the largest component of agriculture in CT, contributes $1.022 billion to the state's economy and employs 48,000 people. Regulatory plant inspections protect jobs, support our industry and forests, and facilitate trade. Federal and state laws require that plants sold in or shipped from CT be free of insect pests and plant diseases. Our IPM research has succeeded in protecting plant health, businesses, and the environment. Using IPM, managers in 6 large nurseries were able to ship and sell 1,501,504 treated (non-infested) arborvitae & rhododendron plants (valued at $6,285,000) in the US and Canada. Our inspectors survey for invasive pests and diseases, such as the Asian longhorned beetle, Emerald ash borer, and Ramorum oak blight.

Proposed actions to turn the curve: New research and outreach efforts have been initiated to chemically protect trees against invasive beetles.

Performance Measure 2: Reduce pesticides applied to plants, improve yields with better quality products for consumers, and promote environmental stewardship with accurate diagnosis.

Number of responses to inquiries and insect and plant disease diagnostic tests conducted.

Year	# Responses to Inquiries	# Diagnostic Tests
2007-8	19,381	10,915
2008-9	19,179	10,651
2009-10	19,920	10,326

Story behind the baseline: Diagnoses of insect and plant disease problems were performed for state residents. Suggestions for control were given to the stakeholders, along with written information on each pest or disease. A wide range of different insect and plant disease problems are identified. In 2009, a fungus caused "late blight" of tomatoes and potatoes. Prompt diagnosis and treatment saved crops valued at about $4,000,000 in CT and MA. Produce from MA enters CT markets. The *Plant Pest Handbook* and other publications on our website received 378,184 page views. A new online arthropod management database is also posted on our website.

Proposed actions to turn the curve: New research has been initiated to diagnose and control bacterial diseases of peaches and nectarines and fungus infections of grapes.

Performance Measure 3: Reduce invasive aquatic plants with less cost and negative impact to the environment.

Story behind the baseline: Invasive aquatic weeds negatively impact water quality, recreation, and property values. Of the 165 lakes surveyed thus far, 62% contained 1 or more invasive plants. Our studies showed that lower amounts of an herbicide (2,4-D) successfully removed variable water milfoil in a single treatment rather than the 2 treatments used previously. New methods on the use of diquat to remove aquatic weeds are being used by a municipality.

Proposed actions to turn the curve: Studies using predatory beetles for biological control are being evaluated; 16,000 beetles were released to control Eurasian water milfoil in Candlewood Lake.

Performance Measure 4: Dissemination of new scientific findings to the public and other scientists.

Number of homeowners and scientists gaining knowledge of plants and the environment through talks and media interviews, research papers, and direct contract.

Year	# talks	# papers	# contacts
2007	710	73	38,757
2008	834	88	46,286
2009	755	90	41,017

Proposed actions to turn the curve: The CAES website will be enhanced to inform the public.