



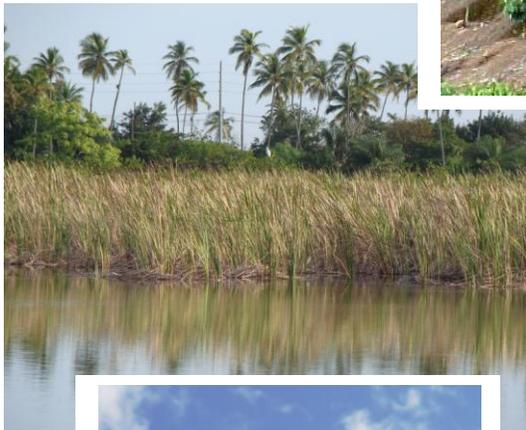
United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Caribbean Area (Puerto Rico & US Virgin Islands) Plant Materials Program Long Range Plan

2009 - 2013

Revised December 2010



NRCS Mission: *Helping People Help the Land*

Mission of Plant Materials Program

“Develop and deliver plant science technology to meet the Nation’s natural resources conservation needs.”

Vision Statement: Productive Lands – Healthy Environment

The NRCS Plant Materials Program shall be recognized as the Nation’s leading technical source of plant solutions and plant technology to meet natural resource conservation needs. The Program shall support NRCS programs to create productive lands within a healthy environment, and shall remain flexible to address emerging issues such as threatened and endangered species, invasive species, biomass/biofuel, carbon sequestration, and other conservation needs. The Program shall also create a work environment of excellence which attracts a diverse, enthusiastic, and productive workforce that will be highly trained.



Healthy pasturelands protecting steeplands.

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Sea shore habitat protection for wildlife and marine environments.



Managing plant residues.

Introduction

The Plant Materials Program incorporates the overarching strategies of the NRCS National Strategic Plan. These include:

- **Cooperative Conservation** to seek and promote cooperative efforts to achieve natural resource goals;

- **Planning on the Watershed Approach** to provide information and assistance to encourage and enable locally led, watershed-scale efforts; and

- **Taking a Market-based Approach** to facilitate growth of market-based opportunities that encourage the private sector to invest in conservation on private lands.

The Plant Materials Program will meet these strategies and customer needs for cost-effective vegetative solutions to soil and water conservation problems. The principal customers of the Program are NRCS field offices, which directly serve landowners and managers. Secondary customers include commercial seed and plant producers and other federal and state agencies that assist with the development of and utilize the technology developed by the Program.

Plants and plant technologies are important resources that enable the implementation of USDA conservation programs. No single tool, other than changes in land management, offers more versatility or is more cost effective for long-term environmental protection and improvement than plants. No agency is better positioned to deliver needed plants and plant materials technology nationwide than the NRCS.

Finding cost-effective solutions to soil and water conservation problems requires an integrated, multidisciplinary approach, involving all line and staff levels, as well as other government, academic, and private groups. Principal NRCS leadership roles are carried out by state conservationists, state resource conservationists, national technology



Farming systems in the humid interior of PR.

support center plant materials specialists, state plant materials specialists, and plant materials center (PMC) team leaders. NRCS field office staff also play a critical role by assisting with plant collections, evaluations, and commercial seed and plant production. Together, these efforts result in a seamless delivery of the final product to the customer.

Effective operation of PMCs requires integration with other NRCS technical disciplines. This Strategic Plan outlines the goals and objectives for the NRCS Plant Materials Program and provides quantifiable performance measures.



The fundamental structure of the Plant Materials Program is sound. The Program meets its national conservation mandate in its potential usefulness, location of

Butterflies in search of water.

PMC's, and their physical and technical capabilities.

This Plan has been formulated using input from a wide variety of internal and external partners and customers, and includes information gleaned from a survey of field offices and non-federal partners. The Plan also mirrors the NRCS National Strategic Plan and incorporates its mission.

Background

The Plant Materials Program maintains a network of 27 Plant Materials Centers strategically located throughout the United States. The Program was created in 1935 as the Soil Conservation Service (SCS) Division of Nurseries. It later became the SCS Plant Materials Program, and is known today as the NRCS Plant Materials Program. The Program's mission has always been to find plant solutions to solve conservation problems.

The Program conducts its plant evaluation and selection activities under the guiding philosophy of Dr. Franklin J. Crider, first head of the Plant Materials Section: "In most cases nature has evolved a plant for almost every growing condition." Finding these uniquely evolved plants to meet specific conservation needs has been, and continues to be, the focus of the Plant Materials Program.

To date, Plant Materials Centers around the Nation have selected over 600 releases of grasses, legumes, forbs, shrubs, and trees. More than 400 of these releases are currently in commercial production. These plants have an annual market value of over \$100,000,000. More importantly, these plants literally protect millions of acres from erosion across our Nation.

The Caribbean Area, Plant Materials Program is responsible for identifying and in some instances releasing vegetation to conserve and enhance the following resources: Soil, Water, Air, Plants, Animals, Energy, and Climate Change issues. The information can be found in the Caribbean Area Field Office Technical Guides (FOTG's) in our web: <http://www.pr.nrcs.usda.gov>

Structure and Operation of the Plant Materials Program

Plant Materials Centers (PMC's) work with associated Plant Materials Specialists based in ecologically distinct service areas. Together, these centers and specialists seek out and test plant technologies that:

- Conserve and protect farmland, forest land, and grazing land resources.
- Restore and sustain healthy natural ecosystems.
- Conserve and enhance critical wildlife habitat.
- Mitigate diverse environmental and natural resource concerns.
- Provide economic and socially acceptable solutions.
- Support a safer human environment.

The Program's efforts and resources are focused on resource concerns for which existing plants or technologies do not exist or need to be modified for resolution.

PMC's evaluate plants for specific conservation traits, select top performing accessions, and make these materials available to commercial growers who provide plant releases to the public. PMC's also develop innovative techniques for land managers to use to manage a variety of conservation plants. Plant Materials Specialists are involved in this plant selection and technology development process, and transfer information about new plant releases as well as provide on-the-ground assistance with conservation plantings.

Living fence in improved pastureland serves as an ecological corridor.



The authority to operate the Plant Materials Program is provided through the following laws and regulations:

(a) Soil Conservation Act of 1935 (Public Law 74-46, 49 Stat. 163; 16 USC 590 [a-f]) which provided the basic authority for the Soil Conservation Service (now the Natural Resources Conservation Service) Plant Materials Program.

(b) Soil and Water Resources Conservation Act of 1977 (Public Law 95-192; 16 USC 40) which ensures that the Department of Agriculture possesses information, technical expertise, and a delivery system for providing assistance to land users to address resource conservation issues.

(c) NRCS Policy on the Operation of Plant Materials Centers (1984) (7 CFR 613) which clarifies the role, activity, and function of NRCS Plant Materials Centers to support NRCS conservation activities.

Strategic Goals



Conserving wetlands integrity in PR and USVI.

Foundation Goals - include goals for the land uses and resource concerns that have always been the primary focus of our activities.

- High Quality, Productive Soils
- Clean and Abundant Water
- Healthy Plant and Animal Communities

Venture Goals - include goals which address resource issues that are

growing in importance as a result of current trends.

- Clean Air
- An Adequate Energy Supply and Conservation
- Climate Change
- Working Farm and Ranch Lands



Epiphytes in the rain forest.

Caribbean Area Resource Concerns

The Caribbean Area (islands of Puerto Rico, St. Croix, St. John and St. Thomas), have been subject to severe anthropogenic disturbances for centuries. The islands topography, year round farming and urban development in addition to strong winds and torrential rains during hurricanes season boost and accelerate soil erosion, water quality impairment, habitat fragmentation and decline, thus negatively affecting soil health, native fauna and flora, air and water pollution and increasing energy inputs in farming operations.

Caribbean Area Plant Materials Program Goals and Objectives

Strategic Goal 1 – Identify and evaluate plants and develop technology for their successful establishment and maintenance to solve natural resource conservation problems, which include protecting soils, improving air and water quality, and enhancing wildlife resources.

Objective 1.1 - Conserve and enhance soil resources with plant science technology.

Performance Activities

- Encourage production of conservation plants.
- Continue developing technologies for existing plants.

- Select species with capabilities to conserve and/or enhance soil resource.

Targeted Plant Science and Management Studies

- Ground cover and cover crops such as: *Vigna unguiculata*., *Crotalaria juncea*, *Canavalia* spp., *Cynodon* sp., *Mucuna pruriens*, *Phaseolus* spp.

Objective 1.2 - Improve water quality and quantity with plant science technology.

Performance Activities

- Collaborate with other agencies and institutions such as; Universities and USDA-ARS to select plants and develop technology to improve nutrient uptake.
- Integrate native salt tolerant species in FOTG's in order to



Field demonstration of cover crops.

improve their adoption for water quality improvement in farming, coastal and urban settings.

Targeted Plant Science and Management Studies

- Conservation buffers such as: *Chrysopogon zizanioides*, *Batis maritima*, *Sporobolus pyramidatus*, *Uniola virgata*, *Spartina patens*, other native species.

Objective 1.3 - Improve air quality with plant science technology.

Performance Activities

- Identify and develop plant technologies to mitigate air quality issues such as; airborne pollutants, and reduce the greenhouse gases and other effects of climate change.
- Encourage the adoption of plants with high carbon sequestration and high production of organic matter on agricultural farms, forests and urban settings.

Targeted Plant Science and Management Studies

- Windbreak technology with species such as: *Pennisetum* spp., *Erythrina* spp., *Saccharum* spp., *Polyalthia* spp.

Objective 1.4 - Enhance fish and wildlife resources with plant science technology.

Performance Activities

- Identify and encourage the adoption and development of technology for plants with fodder and shelter qualities specially for native species.



Endemic puertorican Boa, Epicrates inornatus.

Targeted Plant Science and Management Studies

- Conservation buffers with species such as: *Acrostichum* spp., *Axonopus* spp., *Bacopa monnieri*, *Batis maritima*, *Pennisetum* spp., *Chloris* spp.

Strategic Goal 2 – Provide plant materials and plant technology that are economically feasible for meeting resource concerns.

Objective 2.1 - Maintain and improve the productivity of agricultural lands and watersheds through plants and plant management technology.

Performance Activities

- Collaboratively work with other agencies and institutions to identify and develop plants and technology to improve FOTG's to be applied on farming operations through conservation programs.

Targeted Plant Science and Management Studies

- Plant species such as; *Cynodon* spp., *Megathyrus maximus*, *Pennisetum* spp., *Axonopus* spp., *Arachis* spp., *Chrysopogon zizanioides*.

Objective 2.2 - Increase the alternative uses and specialized uses of conservation plant materials to meet emerging needs.

Performance Activities

- Collaborate with external agencies and institutions to develop Bioenergy technology using plant materials.
- Identify and promote the use of native plants for soil bioengineering.
- Identify and encourage the use of plants especially natives, to reduce the dissemination of invasive plants and maintain healthy native ecosystems.
- Identify and encourage the use of legumes to reduce energy inputs such as nitrogen fertilizer, and increase carbon sequestration and soil health.
- Identify and promote the use of plants to conserve and/or enhance coral reefs environments.

Targeted Plant Science and Management Studies

- Biofuels: Plant species such as: *Saccharum* spp., *Jatropha* spp.

Strategic Goal 3 – Provide equal access for all Americans to the Plant Materials Program.

Objective 3.1- Deliver products and services fairly and equitably.

Performance Activities

- Develop outreach activities such as on farm demonstrations and field days, to ensure products and services are provided fairly and equitably.
- Develop materials such as leaflets, news articles, manuals and presentations in English and Spanish.
- Explore partnership opportunities with underserved groups and individuals.

Objective 3.2 - Promote the products of the Plant Materials Program through effective communication and program delivery.

Performance Activities

- Incorporate Plant Materials information in Caribbean Area web site.
- Collaborate with state and local news and agencies in promoting the use of conservation plants.
- Provide training to NRCS employees and partners.

Objective 3.3 - Increase the use of plant materials to address issues of human health, safety, culture, and aesthetics.

Performance Activities

- Promote the use of local plants with cultural values for conservation purposes.
- Promote the use of pollinators.
- Collaborate with partners to identify and encourage the adoption of conservation plants.



A healthy environment.



Sessuvium portulacastrum for conservation buffers in saltflats.

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