The Role of the USDA-NRCS Plant Materials Program in Ecosystem Restoration

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Introduction

The success of large-scale restoration depends on many variables, some of which are out of our control. One important variable which is within our control is the use of tested and proven seed sources. The USDA-Natural Resources Conservation Service (NRCS) Plant Materials Program was initially established in 1935 as the Soil Conservation Service Division of Nurseries to grow and distribute plants for the stabilization of severely eroding lands.

USDA-NRCS Plant Materials Centers

The NRCS operates 25 Plant Materials Centers (PMCs), each based in ecologically distinct areas, to evaluate plants and vegetative technologies to support USDA conservation programs and practices.

PMCs find vegetative solutions to:
- reduce soil erosion
- increase cropland soil health and productivity
- improve water quality
- Produce forage and biomass
- Improve air quality
- Improve wildlife habitat (including pollinator habitat)
- Restore wetlands
- Protect streambank and riparian areas
- Stabilize coastal areas

Mission of the Plant Materials Program

The USDA-NRCS, through its strategically located Plant Materials Centers, delivers needed plants and plant technology throughout the United States to address resource concerns.

Plant Release Process

The Plant Materials Program uses an extensive plant evaluation process to release seed and plants to address specific resource concerns. The process includes:
- Identifying specific plant species with attributes to address a specific concern
- Assembling germplasm specific to individual areas
- Collecting plant data including:
  - Adaptability
  - Uniformity
  - Vigor
  - Plant height and width
  - Germination
  - Seed production
  - Harvestability
- Select superior lines to meet the resource concern
- Release the material to be recommended in NRCS conservation plantings
- Supply seed and plant material to commercial seed producer

Conservation Plant Releases

Currently, the Plant Materials Program has developed over 600 conservation plant releases of grasses, forbs, legumes, shrubs, and trees. These plants provide protection for millions of acres across the nation.

‘Alamo’ Switchgrass (Panicum virgatum)
Native, perennial warm season bunchgrass selected for adaptation and forage production, used for range seedings, pasture and hay land, erosion control, shoreline stabilization, revegetation wind strips and wildlife habitat in north central Texas

Technology Development

The Plant Materials Program develops technology and information for the effective use, establishment, and maintenance of plants for a wide variety of natural resource conservation uses

Conservation Training and Education

- Ecosystem Restoration
- Wildlife Habitat Improvement
- Soil Health
- Pollinator Habitat
- Seedbed Preparation
- Planter Calibration
- Equipment ID and Function

Study and Characterize Plant Attributes

Collect and provide vital plant data to support decision making tools and conservation practices such as:
- Water Erosion Prediction Project (WEPP)
- Wind Erosion Prediction System (WEPS)
- Conservation cover, forage and biomass, field borders, vegetative barriers

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