Research Project: SP608B4K
Date: December, 2009

RESEARCH SUMMARY

DEVELOPMENT OF NATIVE SEED FOR SHA PROJECTS

REPORT NO. 1: SELECTING APPROPRIATE SPECIES AND WILD COLLECTING THEIR SEED

Problem

The highly disturbed soils that SHA must revegetate are diverse, tough environments for plant life. The chances that some of the seed purchased will be well adapted to a particular stabilization site are optimized if native seed, seed originated from a genetically diverse local collection, is used. The use of native seed also helps preserve Maryland's natural heritage and supports local agriculture. The challenge for SHA is that the only seed currently available in quantities large enough to meet the demand or at affordable prices (a few dollars per pound) are currently unattractive, aggressive, alien species.

Objective

The long term objective of this project is to make locally native seed more affordable and readily available to SHA for roadside soil stabilization and meadow restoration projects.

Description

As a first step toward achieving the objective, the intent of this project was to develop a quantitative, non-arbitrary process for reviewing species being considered for use in roadside projects. To help develop this process, a panel of experts from local nonprofits, government agencies, and academia formed a Species Advisory Panel (SAP) .

Chesapeake Naitves, Inc. (CNI), the Principal Investigator for this study, presented the SAP with a list of 30 native species that are commonly observed in Maryland meadows. Over the course of examining the species, the SAP developed a list of 14 Attributes that should be assessed for any species being considered for roadside use.

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From the initial list of 30 species, the SAP selected a short list of 10 that should be further investigated for both roadside slope stabilization and large-scale, affordable, agricultural production potential. This project brought three of the 10 species to the production phase: gray goldenrod (a short, drought-tolerant flower), beaked panicgrass (a three-foot tall, warm season grass), and Virginia wildrye (a three-foot tall, cool season grass). Seed of each species was wild collected using methods that maximize the capture of genetic diversity, and then used to study germination behavior and to produce plugs for breeder blocks and productions plots. The National Plant Materials Center (NPMC), one of the SAP members, worked with the research team to establish breeder blocks and production plots at private farms and at their facility in Beltsville, MD.

Results

As a result of this project SHA now has an Attributes Review Process that can be used to determine whether or not a plant is suitable for use in soil stabilization or meadow restoration projects in Maryland. Using an Attributes review process to evaluate a species is a unique result of this project. The final report provides guidance and examples for using the Attributes.

The final report recommends that SHA continue working with the SAP and the Attributes process on the review of the other species identified for further investigation, and that SHA continue working with the NPMC to add new locally native stock to the breeder blocks. Seed from breeder blocks can be certified as source-identified and made available to Maryland farmers for large-scale seed production.

Report Information

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