

Oklahoma Plant Materials Long Range Plan June 2006

I. Introduction

The mission of the Plant Materials Program (PMP) is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. The purpose of the PMP is to:

1. Assemble, test, and release plant materials for conservation use
2. Determine techniques for successful use and management of conservation species
3. Facilitate the commercial increase of conservation species
4. Provide for the timely development and transfer of effective state-of-the-art applied science technology to solve conservation problems.
5. Promote the use of plant science technology to meet the goal and objectives of the Natural Resources Conservation of Service (NRCS) strategic plan.

The state plant materials long-range plan (LRP) identifies and prioritizes customer, resource, and program needs.

II. Long-range plan development

The Oklahoma Plant Materials LRP has been developed by the Oklahoma State Plant Materials Committee in accordance with the National Plant Materials Manual. This plan is intended to be used as a guide for directing plant materials activities within the state. Emphasis was placed on the high priority conservation needs for Oklahoma. It recognizes the need to expand the use of proven materials for rapidly expanding resource conservation uses. This plan will be used along with the respective plans of the other states within the service area to develop the Booneville, Arkansas; Knox City, Texas; and Manhattan, Kansas, Plant Materials Center's LRP.

III. Resource Information

Section II, Field Office Technical Guide, will be used to determine plant hardiness zone, annual precipitation, average length of growing season, or other needed resource information about the state that is important to the needed plant materials.

- **Dominant hazards limiting land capability in Oklahoma include:**
 - Erosion - 60 percent of acreage
 - Excessive Water - 10 percent of acreage
 - Undesirable Soil Condition - 22 percent of acreage
 - Adverse Climate - 3 percent of acreage

- **Environmental Parameters**

<u>Plant Hardiness Zone</u>	<u>Average Annual Minimum Temperature (F)</u>
6a	-5 to -10
6b	0 to -5
7a	5 to 0
7b	10 to 5

- **Principal Major Land Resource Areas and Precipitation**

<u>MLRA</u>		<u>Precipitation</u>
70A	Canadian Plains and Valleys	14 – 16
76	Bluestem Hills	34 – 36
77A	Southern High Plains, Northern	14 – 22
77B	Southern High Plains, Northwestern	14 – 16
77E	Southern High Plains, Breaks	22 – 26
78B	Central Rolling Red Plains, Western	22 – 26
78C	Central Rolling Red Plains, Eastern	22 – 30
80A	Central Rolling Red Prairies	26 – 38
82B	Wichita Mountains	26 – 30
84A	Cross Timbers	30 – 40
84B	West Cross Timbers	34 – 40
85	Grand Prairie	34 – 40
87B	Texas Claypan, Northern	42 – 46
112	Cherokee Prairies	36 – 44
116A	Ozark Highlands	40 – 46
116B	Springfield Plain	40 – 46
117	Boston Mountains	40 – 46
118A	Arkansas Valley & Ridges, Eastern	42 – 44
118B	Arkansas Valley & Ridges, Western	38 – 44
119	Ouachita Mountains	42 – 56
133B	Western Coastal Plain	38 – 52
135B	Cretaceous Western Coastal Plain	42 – 55

A detailed description of the MLRAs, land-use, and climatic data can be found on the electronic Field Office Technical Guide (eFOTG), located on the Oklahoma NRCS web-page.

IV. NRCS objectives, needs, and recommended actions

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

- 1a. **NRCS Objective: Evaluate plant materials for nutrient and pest management to reduce agricultural non-point source pollution of air and water.**

- **Land Use:** All land uses.
- **Primary resource concern/problem:** Degradation of air and water quality through contaminants. Plant materials and techniques are needed for removing pollutants.
- **Recommended action:** Evaluate plant materials, establishment techniques and management practices, to identify adapted plants for nutrient and pest management thus reducing agricultural non-point source pollution of air and water.
- **Opportunities:**
 - Develop guidance for borders and buffers that have wildlife benefits.
 - Develop Technical note for water quality (based on Arkansas Technical Note referring to 590 specification).
 - Evaluate plant materials that will work as nutrient filters.
 - Evaluate plant nutrient uptake and bonding.
 - Develop plant architecture data (stem size, density, nutrient uptake, bonding potential, odor control, etc).
 - Develop technical notes or supportive documentation for buffer management. Need is for planting tables and plant selections.

1b. NRCS Objective: Conserve and enhance soil resources with plant science technology.

- **Land-use:** Mined Land, Disturbed Areas, Highways and Critical Areas
- **Primary resource concern/problem:** Excessive soil erosion and degradation of water quality from non-point source water contaminants from mine land and other disturbed sites.
- **Recommended Action:** The need exists for plant materials and establishment techniques to vegetate current and abandoned mined lands, and other disturbed areas.
- **Opportunities:**
 - Provide technical assistance to Oklahoma Department of Transportation (ODOT), in updating highway right-of-way seeding specifications and recommendations.
 - Work with ODOT to develop a highway revegetation demonstration site.
 - Work with County Commissioners to address soil erosion issues.
 - Develop or identify plants with quick establishment characteristics.
 - Improved plant species for disturbed sites (dams), primarily species that grow under droughty and shallow soil conditions.

Strategic Goal 2 – Provide plant materials and plant technology that is economically feasible for solving conservation problems.

2a. NRCS Objective: Improve diversity on native and introduced pastures, wildlifeland, and wetlands.

- **Land-use:** Pastureland, Hayland, Wildlifeland, Grazed Range
- **Primary resource concern/problem:** Lack of diversity in cool and warm season perennial grasses that provide quality forage, wildlife benefits, wetland species and erosion control.
- **Recommended Action:** The need exists for well adapted cool and warm season perennial grasses, establishment techniques, and management procedures to provide for increased forage production, improved forage quality, wildlife benefits and erosion control.
- **Opportunities:**
 - Establish field studies that include novel endophyte infected fescue to gain technical information.
 - Evaluate techniques for establishing legumes into existing stands of grass.
 - Evaluate management techniques to increase diversity of grass stands.
 - Document maintenance methods of grass stands (clumps, unwanted species)
 - Study cool season perennial grasses for adaptability into grazing systems.
 - Develop evaluation procedure to review potential invasive plants

2b. NRCS Objective: Evaluate plant materials for saline, alkaline, sodic and other mineralized soils thus reducing excessive soil erosion and non-point source pollution of water.

- **Land-use:** Grazed Range, Pastureland, Cropland, Other Land (oil well sites)
- **Primary resource concern/problem:** Excessive soil erosion and water quality degradation from non-point source contaminants from saline, alkaline, sodic and other mineralized soils.
- **Recommended Action:** The need exists for plant materials, and establishment techniques to vegetate saline, alkaline, and other mineralized soils.

- **Opportunities:**
 - Evaluation of plant adaptation (sodic, gyp)
 - Develop and evaluate plant materials for follow-up seeding after suppression of salt-cedar.

2c. NRCS Objective: Evaluate plant materials for use in stabilizing eroding streambanks and shorelines thus reducing soil erosion and improving water quality.

- **Land-use:** Cropland, Pastureland, Forestland, Grazed Range, Wildlife land
- **Primary resource concern/problem:** Streambank and shoreline degradation due to soil erosion and poor vegetative cover.
- **Recommended Action:** The need exists for plant materials and establishment procedures that will stabilize eroding streambanks and shorelines.
- **Opportunities:**
 - Provide guidance for riparian area maintenance.
 - Develop shade tolerant grasses and other groundcovers with extensive root systems.
 - Woody species development (establishment methods, adventitious deep rooted, dense root systems).

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

3a. Promote the products of the plant materials program through effective marketing and program delivery.

- **Primary resource concern/problem:** Many NRCS employees and non-NRCS partners have limited exposure to the plant materials program. Their understanding of the program and services is limited. The lack of understanding hinders the effectiveness of the program in meeting employee, resource, and program needs.
- **Recommended Action:** Develop an outreach effort to provide awareness training of the plant materials program to NRCS employees and non-NRCS partners. (i.e. State Government, Conservation Districts, Tribes, etc.)

- **Opportunities:**

- Distribute plant materials information through the Public Affairs Specialist for distribution in the state.
- Plant materials information meetings will be available to NRCS offices and partners.

V. Summary

The Oklahoma Plant Materials Committee is critical for the integration of plant materials activities into field office operations and the needs of field offices into the plant materials program. The Oklahoma, State Resource Conservationist, will maintain a committee roster and serve as chair for the state plant materials committee. Committee will meet annually to review state plant materials issues and the Oklahoma, Plant Materials Long-Range plan.

Recommended By:

Approved By:

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