

# Year 2005 Progress Report of Activities

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Elsberry, Missouri Plant Materials Center

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## Who We Are

The Elsberry Plant Materials Center (PMC) is a program within the Natural Resources Conservation Service (NRCS), a branch of the United States Department of Agriculture. The Elsberry PMC is one of 27 plant materials centers located throughout the United States. Areas served include Missouri, Iowa, and Illinois. The Center is located approximately 60 miles north and west of St. Louis, Missouri on Highway 79.

## What We Do

It is our mission to develop and transfer effective state-of-the-art plant sciences technology to meet customer and resource needs. NRCS Plant Materials activities are consistent with the objectives of the U.S. Department of Agriculture and NRCS Strategic Plans, namely to provide timely and effective vegetative solutions for resource needs. Superior adapted plants are developed, tested and released to commercial growers along with production and management technology. Emphasis is on using native plants.

## PMC Updates Video

The Elsberry PMC updated the "Elsberry PMC - Better Plants for Conservation" video in the summer of 2005. The video is used on tours and field days to explain the goals and day-to-day operations of the Plant Materials Center. The original PMC video was produced in 1988 and updated in 1995.

## Four Major Objectives Addressed:

1. **Reduce Excessive Soil Erosion and Improve Water Quality through Biodiversity of Plant Species for Wildlife, Wetlands, and Restoration**
2. **Increase Forage Quality and Quantity through Low Input Sustainable Agriculture**
3. **Improve Water Quality by Controlling Run-Off, Utilizing Nutrients, and Stabilizing Shorelines**
4. **Meet Additional Conservation Needs of Missouri, Iowa, and Illinois**

## Major Objective #1: Reduce Excessive Soil Erosion and Improve Water Quality – Evaluation, Selection, and Release of *Amorpha fruticosa*, False Indigo Bush

In 2005, the Elsberry PMC released three selected class releases of false indigo bush, *Amorpha fruticosa*. There was a release from each of the three states that the center services; Iowa, Illinois and Missouri. The releases of ('Iowa Covey', 'Illinois Covey', and 'Missouri Covey') false indigo bush were selected for a local source, fast growing, and high seed producing plant.

False indigo bush is a medium size shrub that can get up to 10 feet tall. It is a perennial legume that reproduces from seed. The branches are firm and woody and the twigs are green and hairy. The leaves have 13 to 25 leaflets each. The leaflets are 1 to 2 inches long, resinous, dotted and hairy. The flowers

are terminal on the branches in erect racemes. The fruit is about 1/4 inch long, brown, curved, with resinous dots. It is native to the eastern United States, but some western states have considered false indigo bush to be invasive; such as Washington, Colorado and Texas.



**False Indigo Bush, *Amorpha fruticosa***  
**Flowering plant from an evaluation block**

False indigo grows well along stream banks and river corridors that will provide food and cover for wildlife. In many situations it can be used in “covey headquarter” mixes. Covey headquarters are clumps of dense shrubby cover with a canopy of at least 3 feet in height. These plantings are usually small, approximately 1500 sq. ft. in size. Covey headquarters are mainly comprised of small shrubs and legumes that quail rely on daily.

False indigo bush is an excellent choice when used as an erosion control along shorelines, stream banks, and wetlands with fluctuating water. Riparian buffers and bank stabilization projects can benefit from false indigo, because it does extremely well in soils that are continuously damp or do not dry out.

The plantings at the Elsberry Plant Materials Center have all been propagated vegetatively from collections started in the greenhouse. Refer to Elsberry PMC plant fact sheet for information concerning seeding rates for false indigo bush.

## **Major Objective #2: Increase Forage Quality and Improve Water Quality through Low Input Sustainable Agriculture – Forage Quality Study Testing of Warm Season Grasses**

Grazing systems have become more intensified to increase efficiency of land used for pasture. There are several options in the selection of forages to maximize usage throughout the year. Typically the part of the growing season that can have shortages of quality forage is the hot, driest part of the summer called the summer slump.

The summer slump, generally parts or all of July and August, is a good time to utilize warm season species for forage. Native prairie species like big bluestem and Indiangrass are warm season species that can be used for this period but are often overlooked. The PMC is testing primary growth and regrowth of native and introduced warm season species to encourage the use of native warm season grasses in intensive grazing systems.



Ten species of warm season grasses are currently being tested for crude protein, ADF, and NDF and also estimated for amount of production.

## Major Objective # 3: Improve Water Quality by Controlling Run-Off and Utilizing Nutrients

### Testing the herbicide Outrider for injury of woody species

Trees and shrubs are used in several applications in conservation programs. Weed control is always an issue during establishment and also what to do if planned weed control is not adequate and secondary or rescue methods must be used.

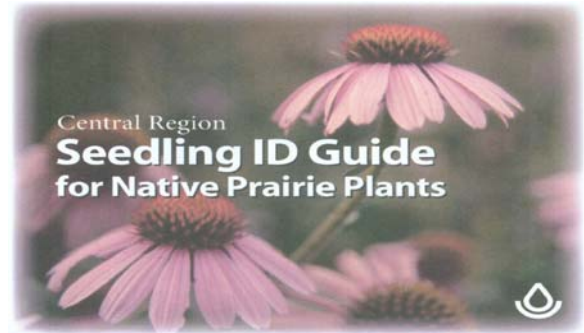
Johnsongrass and canarygrass are two herbaceous pests that are hard to control, especially on wet soils. The Monsanto herbicide Outrider is labeled for the control of Johnsongrass but is not labeled for use on woody plants. The PMC worked with a Monsanto chemical representative to test the effects of over the top chemical application to selected woody species.



The test included seventeen species of trees and shrubs, both upland and bottomland species. There was little to no damage on any of the trees. Outrider has a noncrop label and look for a label update in the near future.

Outrider was also evaluated for the control of reed canarygrass and was not effective in control, only suppression. Further testing with a tank mix with other chemicals is planned.

## Major Objective # 4: Meet Additional Conservation Needs of Missouri, Iowa, and Illinois – Seedling ID Guide for Native Prairie Plants



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Photography by: Don Kurz

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A goal of the Elsberry Plant Materials Program is to promote the use of native species. Plant species identification by NRCS field personnel and landowners is very challenging in the early stages of development. To aid identification the new pocket guide provides photos from seed, seedling, juvenile to flowering, and a distinguishing characteristic of that species. Brief text adds to the identification with comments on habitats, establishment, and use.

The development of this project has been a partnership between NRCS/MDC (Missouri Dept. of Conservation) and a contracting professional photographer to complete photos for 40 species of the PMC's preference.

Ten thousand copies have been purchased and distributed to NRCS field offices in ten Central Region States that ordered the guide.



The “Central Region Seedling ID Guide for Native Prairie Plants” can also be viewed on the following websites:

<http://plant-materials.nrcs.usda.gov>

then go to “Plant ID Tools and Guides” on the right side of this homepage.

The MDC Grow Native website is

<http://mdc.mo.gov/grownative/plantID/>

A second printing is being done to make the guide available for cost at the MDC Nature Shop by calling 1-877-521-4115. This second printing should be available to the public for purchase by May 2006.

Jerry Kaiser Plant Materials Specialist

### Training Session a Success at PMC

The PMC staff and Plant Materials Specialist conducted hands on training exercises for field office personnel. The training targeted native plant identification and the planting of native grasses, legumes and forbs. Field office employees were given an opportunity to calibrate drills and other seeders. They also learned how to calibrate chemical sprayers and determine the amount of chemical needed to do a particular job from the IPM Specialist. Several of the employees had limited experience with this type of equipment, so the training was appreciated by all participants.



June 2005 – Field Office Workshop

## 2005 PMC Publications

- 1) Showy Tick Trefoil, *Desmodium canadense* L., (Plant Guide);
- 2) False Indigo Bush, *Amorpha fruticosa* (Fact Sheet);
- 3) Elsberry 2004 Annual Technical Report;
- 4) Evaluation, Selection and Release of Big Bluestem (Abstract);
- 5) 2004 Progress Report of Activities;
- 6) Missouri Germplasm Rough Blazing Star (Brochure)

## Presentations

- 1) PM Program and PMC Activities for Conservation Needs;
- 2) Warm Season Grasses from Development to Field Use;
- 3) Evaluation, Selection, and Release of Big Bluestem;
- 4) Plant Materials Program National Poster

## Elsberry PMC Annual Field Day

The PMC Field Day was held June 8, 2005. Fifty-five individuals from Illinois and Missouri attended. These individuals represented NRCS employees, Missouri Department of Conservation, SWCD, and the public. The field day introduced the group to the use of plant materials for the conservation planning process.

The tour portion of this session involved viewing and discussion of many studies the PMC is conducting along with the specialized seed harvesters and seed separators.

To learn more about these and other Elsberry PMC activities visit our website:

<http://www.Plant-Materials.nrcs.usda.gov>

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