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# Plants for Conservation

Spring 2008

## STAFF

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Vol. 9 No. 1 Elsberry PMC Serving Programs for Iowa, Illinois, and Missouri

## Elsberry PMC Plans Spring Training/Tour

The USDA NRCS Elsberry Plant Materials Center (PMC) invites you to attend our Spring Field Day on Wednesday, June 11, 2008 from 10:00 a.m. to 2:30 p.m. The open house begins at 10:00 a.m. with a welcome and introduction to the Elsberry Center.

A wagon tour will provide an overview of the facilities, specialized equipment, foundation seed processing, harvesting, cleaning, and storage requirements for native seed. The tour will also view the Center's production fields that can be observed at the peak of the harvest season.

The Center has 25 active studies that directly relate to finding plant solutions to help respond to our natural resources challenges in the three states of Iowa, Illinois and Missouri that the Center serves.

So schedule June 11 to come and spend a beautiful spring day at the Elsberry Plant Materials Center. Please bring a sack lunch for our 1/2 hour break for lunch.

Call the Center at 573-898-2012 or contact [steve.bruckerhoff@mo.usda.gov](mailto:steve.bruckerhoff@mo.usda.gov) PMC, Mgr, or contact [jerry.kaiser@mo.usda.gov](mailto:jerry.kaiser@mo.usda.gov), PM Specialist, to confirm your attendance.

Drawing prizes will be awarded to some lucky winners that attend the field day.

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## Tall Grass Prairie Native Seed Production Manual Available

Jerry Kaiser, Plant Materials Specialist

This cooperative publication is the result of a productive partnership between the Tallgrass Prairie Center at University of Northern Iowa in Cedar Falls, Iowa and USDA NRCS Elsberry Plant Materials Center.

The Manual was developed to inform seed growers, land managers, and individuals interested in the production of native species. The manual contains information on propagation of native species, harvesting, seed processing, and the importance of seed source. Thirty-eight species of native grasses, legumes and forbs have individual reference sheets containing description, adaptation, establishment and management for seed production.

Copies of the 122 page manual can be purchased for \$10.00/copy plus shipping costs from the Tallgrass Prairie Center, University of Northern Iowa, 2412 W.27<sup>th</sup> St. , Cedar Falls, IA. 50614, phone number is 319-273-3005.

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## 2008 Spring Field Plantings Needed

Jerry Kaiser, Plant Materials Specialist

The Elsberry Plant Materials Program depends on field offices working with landowner participation in field plantings of new selections of grasses, forbs and woody plants. This is a working relationship with local conservation districts and NRCS field offices that are in contact with cooperators that show interest in taking advantage of field planting opportunities. This relationship allows us to field test new plant materials in a real world setting on farms and ranches in Illinois, Iowa and Missouri. Please review your 2008 NRCS state bulletins for Iowa and Missouri the number is 190-8-2 and for Illinois 190-8-3 for available plant materials in 2008. Thanks to all field offices that participated in 2007.

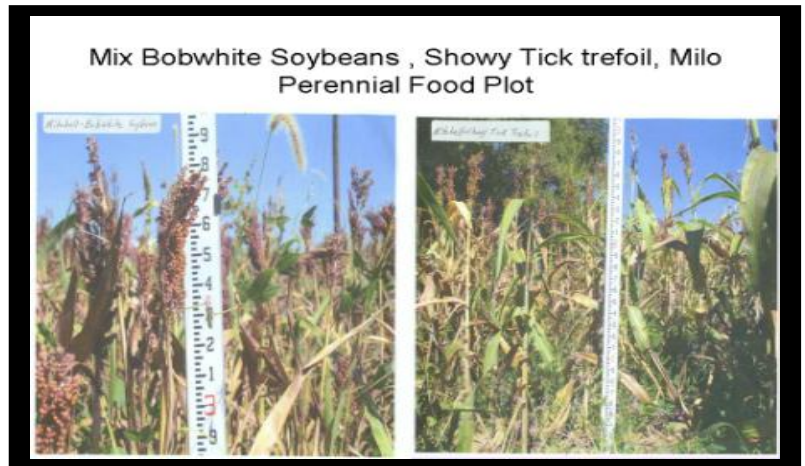
Examples of Field Plantings from 2007:



Iowa Ecotype Switchgrass Central Zone, Webster County



Cattle Grazing Cuivre River Virginia Wildrye in June, Lincoln County Missouri



Hamilton County Illinois

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## Advanced Field Testing Program to Start for Little Bluestem Selection

Steve Bruckerhoff, PMC Manager

Little Bluestem is a widely utilized species in the service area but cultivars presently being used are from Kansas and Western Oklahoma. Collections taken from Missouri, Iowa, and Illinois have been evaluated at the PMC and selections have been made for a Northern Region Source and a Southern Region Source.

Primary uses have been conservation cover and wildlife habitat but this multiple use species can also be used for landscaping and forage. The selection criteria included forage quality, forage production, seedling vigor, summer regrowth potential and late maturity.

Little Bluestem is not typically thought of as a forage species and will usually be used in mixtures with other native warm season grasses, forbs, and legumes and incorporated into a grazing system.

The Southern selection is available for field testing purposes. It will be compared with a release cultivar in a single species evaluation for grazing and wildlife field buffers.



Southern Selection Little Bluestem



## Testing Different Seed Origins of Oak Seedlings for Flood Tolerance

Ron Cordsiemon, PMC Soil Conservationist

The Elsberry PMC, in cooperation with the University of Missouri, has started a new study testing different oak seedlings from several locations for flood tolerance. The objectives of this study are to determine the effect of controlled flooding treatments, including inundation, on the survival and regrowth of planted oak seedlings in the wetland cell located at the Elsberry PMC. Also to contrast these flooding results with additional flood evaluations using planted seedlings in the Flood Tolerance Laboratory located at the Horticulture and Agroforestry Research Center (HARC) in New Franklin, Missouri. Collection of first year seedling survival, height and diameter data in the PMC planting will be made in the winter of 2007/2008. Flooding treatments will coincide with the natural flooding for calendar year 2007 of the Mississippi River based upon flood stage data from the nearest river gauging station to the Elsberry planting site. A total of 127 Missouri collections of eight different oak species are represented in this study. The study is scheduled for three years of treatments, evaluations and data collection.



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## Criteria Area Study Roadside Vegetation Establishment

Jerry Kaiser, Plant Materials Specialist

The objective of this study is to test an establishment technique for permanent vegetation on critical area sites of constructed right-of-ways to control soil erosion.

Lack of permanent vegetation on roadside excavated slopes along Missouri State Highway 60 in southern Missouri has left large areas of the right-of-way unprotected from soil erosion. There is erosion occurring on large areas of slope that range from slight to severe. The silt from this erosion is leaving deposition in the drainage systems and moving off site to areas that are within the national scenic river watershed.

Plant materials evaluation processes will be conducted by the USDA NRCS, Elsberry Plant Materials Program, the Big Spring RC&D Program, and assistance from MODOT. Evaluation of species data will be collected in Fall and Spring to analyze plant performance over the time of the study. Results will be provided to MODOT and within NRCS for technology transfer for products.



The details of the study including the design, application, and performance of the plant species will be referenced in the 2007 Annual Technical Report that will be available this Spring.

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## Standability of Biofuel Species Is tested by Mother Nature this Winter

Jerry Kaiser Plant Materials Specialist

This winter has been a good test on standability of the species at the Elsberry PMC location for the biofuel study. Ice storms to heavy snow have tested these species' resiliency to withstand and ability to come back to a somewhat upright stance after the ice and snow has melted. 2007 was the establishment year of the plots for the following species; Miscanthus being the most upright during the events, followed by switchgrass, indiagrass, and the least being big bluestem.

After the 2008 growing season we will start the harvesting sequence during the winter months to quantify dry matter yields and the best time to harvest for maximum biofuel quantity and quality.



# Update Direct Seeding Study of Woody Shrub Species

Jerry Kaiser, Plant Materials Specialist

The objective of this study is to test an establishment technique for woody species using seed rather than seedlings.

The species include American plum, *Prunus americana*; Roughleaf dogwood, *Cornus drummondii*; Fragrant sumac, *Rhus aromatica*; Chokecherry, *Prunus virginiana*; Arrowwood, *Viburnum dentatum*; and American hazelnut, *Corylus americana*. The six woody species were direct seeded in the random split plots with three replications on September 6, 2006. A prepared seedbed (disk) into soybean residue was seeded by using a cyclone seeder, except for the American hazelnut and American plum seed that were evenly spread by hand. All plots were lightly rolled to cover the seed for fall.

The seeding time in September was used for a warm (fall) stratification period to follow with cold (winter) stratification. This enhances germination of the species which began in the spring of 2007.

The species were each seeded at a 1# bulk rate/per plot of 50' X 30' for 1,500 sq. ft.; the size of a Covey Headquarters for quail habitat.

Management: (1) Control - No Management, (2) Mowing above canopy of developing seedlings, and (3) Herbicide - a Post application for grass control.

By Fall 2007 best species performance was American Plum.

## SUMMARY OF AMERICAN PLUM RESULTS AFTER FIRST YEAR OF THE PLANTINGS:

Average plants/sq. ft. and average heights for all three replications.

*Control Plots - (No treatments)*

American Plum - 1 plant/23 sq. ft. or 4 plants/100 sq. ft.

Average height 12.5 inches, tallest 24 inches.

*Mowed Plots - Conducted two mowing treatments during the growing season to 1 foot in height.*

American Plum - 1 plant/62.5 sq. ft. or approx. 2 plants/100 sq. ft.

Average height 10 inches, tallest 24 inches.

### Best Results in the sprayed plot for grass control.

*Sprayed Plots - 1 application treatment of Poast Plus (sethoxydim) rate of 24 oz./acre.*

American Plum - 1 plant/10 sq. ft. or 10 plants/100 sq. ft.

Equals 150 seedlings for the 1500 sq. ft. Covey HQ; this should be desirable cover this year.

Average heights 15 inches; tallest, 40 inches



20" American Plum Seedling by Middle of Summer.

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## Website Reference Locations

- Click on the web link to access Elsberry PMC Homepage  
<http://plant-materials.nrcs.usda.gov/mopmc/>
- Click on the Updated Growers List if you are looking for native grasses, legumes, forbs or woody plant materials.  
<http://plant-materials.nrcs.usda.gov/mopmc/pubs/mopmcvendors2008.pdf>
- Click on the 2006 Annual Technical Report for current study updates from the Elsberry PMC\*  
<http://www.plant-materials.nrcs.usda.gov/pubs/mopmctr7267.pdf>
- Use the bookmarks on the left side to review a study of interest.

\* Why is the 2006 Annual Technical Report (ATR) the most current in 2008?

We collect the data during that growing season year; after the growing season the data is analyzed, compiled and documented to be in the Annual Technical Report that is available the following year. Look for the 2007 ATR coming soon to the website.