



How You Can Participate in the Plant Materials Plantings

- **Field Plantings**
 - Testing New Plants for potential plant materials release for within the three states.
- **Field Trials**
 - Field Office can request a Field Trial for using plants to perform specific need that is not widely accepted.
- **Educational Plantings**
 - Field Office can request seed or plants of a plant materials release for demonstrating.
- **Increase Plantings**
 - Commercial growers increase releases (product) for landowners to purchase.

Field Testing Plant Materials

Field Plantings-Unproven Plant Materials
Issue a Bulletin looking for potential sites.

Field Trials- Testing Cover Crops



- Examine and demonstrate
- Conservation practice that is not readily accepted over a large area.
- Does not need to be PM releases

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION FIELD TRIALS	
Study ID Code	MOPMS-T-1228-CC
Title	Cool and Warm Season Cover Crop Demonstrations and Evaluations
Project Number	Cropland 1.1 Controlling erosion on cropland with cropping and residue management systems.
Study Type	Demonstrations and Evaluations
Field Trial Status	Active
Location	Areas to find location
Field Trial Leader	Jerry Kaiser, USDA-NRCS, Plant Materials Specialist, Elsberry MO, Doug Peterson, USDA-NRCS, State Grassland Conservationist, Gallatin MO, Mark Abney, USDA-NRCS, Assistant State Soil Scientist, Columbia MO 2012 through 2014
Duration	2012 through 2014
Cooperators	Areas to find cooperators
Land Use	Cropland
Vegetative Practices	Cover Crops
Resource Concern(s)	Resource Consideration/Problem Soil Soil Health Water Water Quality
Missouri Soil Health Strategic Plan	Conservation Field Trial is documented within Missouri NRCS Soil Health Strategic Plan for Fiscal year 2012.
Description	Cool and warm season cover crops will be demonstrated and evaluated for their suitability and performance typical following crop production systems. Evaluation parameters for characterizing cover crop response will be establishment times; percent canopy cover, biomass harvest, cover crop termination success and cash crop stand establishment. Soil Health will be monitored by a procedure to be determined by soil scientists concerning a project with University of Missouri. The cover crops will be mixtures to support or update the USDA NRCS 340 Cover Crop Standard for Missouri.

Ref #6	long as possible in the spring to add additional nutrients to the soil and suppress weeds. However, the longer the cover crop is growing the more moisture it removes and could potentially affect the growth and development of the subsequent crop, especially if drought conditions exist. (Sundermeier et al, 1999)
Materials and Methods	Each field trial will be 10 acres, subdivided into 4-2.5 acre plots. This will allow three different cover crop species/mixtures per farm, and one unplanted check plot. Quantities will be limited to 10 acres per farm and 2 farms/targeted NLRAs of 107, 109, 112, 113, 115, and 131 in areas of cropland. Seed cost will be limited to \$25,000/acre for up to 10 acres at \$2500/farm in potentially 2 farms 6 NLRAs at a cost total of \$3,000. Seed mixtures will be shipped directly to the producer for drilling. Seed for the mixtures will be provided by the Elsberry Plant Materials Program. Species for consideration in the mixtures Cereal rye, or annual ryegrass, will be the base species for all cool season species mixtures. Based on landowner needs the following species will be added to the mixtures N source: hairy vetch or red clover or crimson clover N scavenger: cereal rye, or annual ryegrass, oilseed radish N scavenger: summer-sorghum-sudangrass or pearl millet Soil builder: cereal rye, or annual ryegrass, red clover or crimson clover Soil builder-summer- Sorghum-sudangrass and cow pea Subsoiler-oilseed radish, Weed suppressor: cereal rye Weed suppressor-summer-pearl millet, or sorghum sudangrass, or buckwheat. Grazing value summer-pearl millet or sorghum sudangrass Grazing value-fall- cereal rye, or annual ryegrass, forage turnip and/or red clover or crimson clover.

Producers that completed PMC Field Trials with Cover Crops
8 farm sites 6 MLRA's

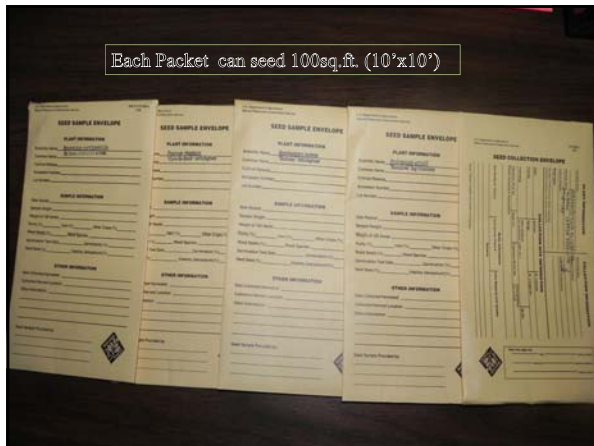
MLRA	County	Producers Name	Local Contacts
107	Saline	Seth Connors	Steve Wooden DC.
112	Jackson	David and Danny Barker	Greg Stegner RC.
109	Caldwell	Mike Kleeman	Anita Dunham DC Luke Skinner SC.
109	Worth	David Hoover-MDC	Nathan Bilke RC.
113	Ralls	Bruce Fowler	Gary Noel DC.
115B	St. Charles	Max Bade	Shawn Keller RC.
115B	Perry	Todd Lohmann	Dana Seibel RC.
131A	Cape	Lewis Ware	Monica Barnfield SC.

Field Trial Caldwell County and Perry County



Education Plantings





How To Request Plant Materials

- ECS-009-Fill in forms
<http://plantmaterials.nrcs.usda.gov/technical/references.html>
 E-mail note- jerry.kaiser@mo.usda.gov
- Call Elsberry PMC 573-898-2012
 No cost of seed or plants to landowner for testing the materials.

U.S. DEPARTMENT OF AGRICULTURE
 NATIONAL RESOURCE CONSERVATION SERVICE

NRC-009
 July 2011

PLANTING PLAN FOR FIELD, SPECIAL AND INCREASE PLANTINGS

Planting No. 06.10001 Field Office MOIA National Agronomy Center
 Cooperator John Vines Phone Number 319.726.5000

Address Plant Farm Farm, 13862 J Ave Warsaw, IA 52583 NLR# 61-1080
 State IA County Worth Section 25
 Township J5 N Range 3 S Location Map Provided Yes
 Latitude _____ Longitude _____ Soil Modified No
 Soil 200 Tama Feature After May 1990 Soil Modified No
 Slope % 2-5% Aspect N S E W Elevation Ft. M. Irrigation Available Yes No

Annual Precipitation in or mm 23

Number of Acres to be Planted/Seeded 23.0000

#	Customer/Source Name	Scientific Name of Species	Accession Number	Planting Size	Amount Requested	Requester Org.
1	Sun Harvest	American hazelnut	9083247	8x8	20	University Park
2	Midwest Premium	American plum	9083241	8x8	20	University Park
3						
4						

Site History/Previous Tree Treatments
 #12 _____
 #13 _____
 #14 _____
 #15 _____
 #16 _____
 #17 _____
 #18 _____
 #19 _____
 #20 _____

Purpose of Planting _____
 Proposed Planting Date or Period April 18 - 25, 2011
 Method of Planting to be Used _____
 Special Handling _____

Materials Needed	Rate/Price	Notes
Lime	NA	
Fertilizer	NA	
Herbicide		Roundup sprayed around trees
Mulch		None

USDA IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER

**Increase Planting-
Elsberry PMC produces releases of Foundation
Seed for growers to purchase.**





NRCS National Resource Conservation Service
 National Conservation Conservation Service
 National Conservation Conservation Service
 National Conservation Conservation Service

Missouri Bulletin: 602-430-1272 **April 9, 2013**

Subject: EPC - Enterprise Location For Elsberry Plant Materials Releases of Seed and Woody Crossovers and New 2012 Foundation Seed and Woody Crossovers

Purpose: To provide information on locating Seed and Woody Crossovers of the releases from the Elsberry Plant Materials Center (PMC) for the three-state service area.

Expiration Date: January 31, 2013

Background: The Elsberry PMC has provided foundation seed released for production to growers for the following seed and woody releases:

- Thirty-eight native grass releases
- Seven native herbaceous legume releases and two introduced legumes
- Forty native forb releases
- Six native woody and two introduced woody releases

This information can be accessed on the Elsberry PMC internet site by clicking on the links below:

<http://plant.materials.usda.gov/missmo/> at the homepage under publications, information brochures and flyers. Additional plant materials information can also be found on the Elsberry homepage website.

2012 Seed and Woody crossovers of Elsberry Releases
<http://www.plant-materials.usda.gov/pubs/missmo121017.pdf>

This temporary direct link provides a listing of current Seed and Woody Crossovers that are producing these Elsberry releases and what species the grower has in production. Included are a web link or e-mail and a phone number for contacting them.

2012 Foundation Seed Prices
<http://www.plant-materials.usda.gov/pubs/missmo121016.pdf>

This temporary direct link provides a list of established prices for foundation seed produced at the Elsberry PMC available to growers at cost through Missouri Crop Improvement Association in 2012.

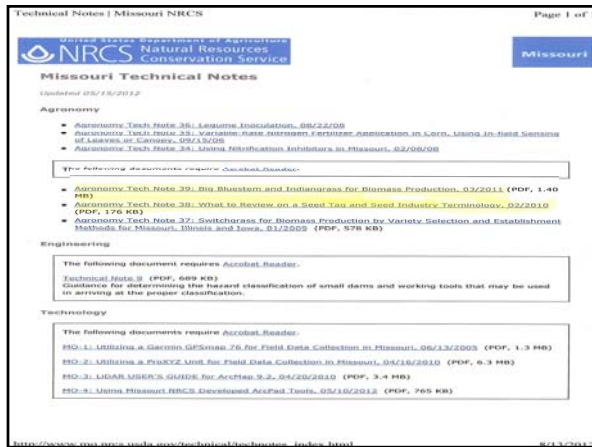
Contact: For additional information or questions, please contact Jerry Kauter, Plant Materials Specialist, jerry.kauter@miss.usda.gov, or by calling the Elsberry PMC at (573) 898-2012.

J. H. Flores
 State Conservationist
DIST. E

Helping People Help the Land
 An Equal Opportunity Provider and Employer

Technology Products for the Field

- For the web link go to:
- NRCS Missouri Home Page
 - Technical Resources
 - Technical References
 - Missouri Technical Notes
 - » Agronomy



NRCS Agronomy Technical Note -38

- Highlight
 - Seed Tags /Seed Industry Terminology
 - Find it: Missouri Technical Notes –
 - Agronomy Technical Note 38
 -
 - What is the main item you look for on a seed tag?
 - Purity and Germination to figure Pure Live Seed (PLS)
 - Did the landowner apply enough seed for the acres planted

NRCS Agronomy Tech Note -38

What is a Seed Test ?

Purity X Germination =Pure Live Seed (PLS)

What is Seed Certification?

Color of Seed Tags for Third party verification

Missouri Crop Improvement Association

Insure buyer of what is being purchased.

Different products for different practices

NRCS Agronomy Tech Note -38

Different Types of Products (Releases) for Different Standards and Practices



▪ Cultivar's/Varieties/ and Selections are uniform, stable and perform for a certain task's .



OZ- 70 Big Bluestem Selection for late maturity, good seedling vigor, high forage production, disease resistance

NRCS Agronomy Tech Note -38

Different Types of Products (Releases) for Different Standards and Practices

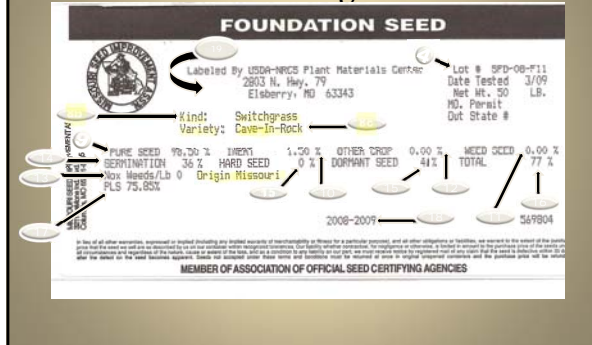


▪ Source Identified- has no selection criteria, adapted for certain needs .

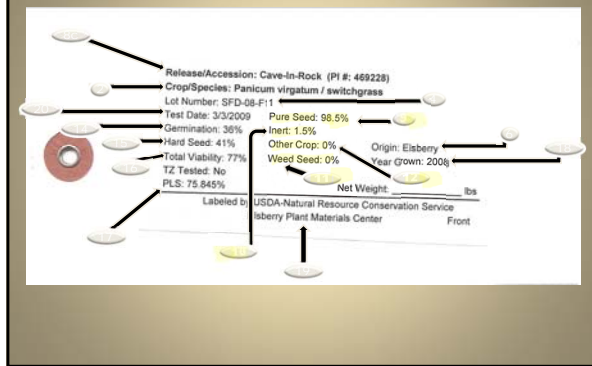


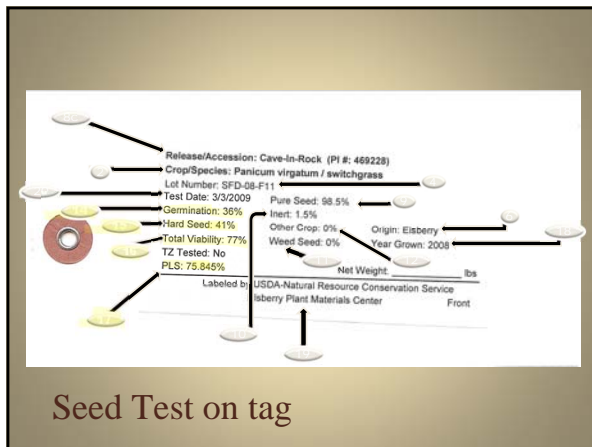
▪ Gray-headed Coneflower- ecotype collected from North Missouri

One Tag System- Certification and Seed test on same tag



Example of Seed Test on the tag





Seed Test on tag

Eshberry Plant Materials Center
 2803 N. Hwy. 79
 Eshberry, Missouri 63343
 Phone: 573-898-2112
 FAX: 573-898-5419
 Website: <http://plant-materials.nrcs.usda.gov>

USDA **NRCS** **Plants for Conservation**
 Natural Resources Conservation Service
 United States Department of Agriculture
 Spring 2012

Vol. 12 No. 1 Eshberry PMC Serving Programs for Iowa, Illinois, and Missouri

Agenda

Jerry U. Kaiser
 Plant Materials Specialist

Ronald L. Cordalmon, II
 PMC Manager

Allen Casey
 Assistant Manager
 Soil Conservationist

Nick Adams
 Biological Technician

Eshberry PMC Plans Field Day

The USDA NRCS Eshberry Plant Materials Center (PMC) invites you to attend our **Field Day on Wednesday, June 20, 2012** 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 Eshberry Center.

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

The Center has 19 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.

No schedule June 20, 2012 Tuesday to come and spend a beautiful summer day at the Eshberry Plant Materials Center. Bring your lunch, picnic tables and shaded trees provided! An agenda will be e-mailed out to field offices a month before the field day.

Please Confirm Your Attendance by calling the center at 573-898-2012; or contact: ron.cordalmon@nrcs.usda.gov, PMC, Mgr. Or jerry.kaiser@nrcs.usda.gov, PM Specialist

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

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Agromony Technical Note Big Bluestem and Indiangrass
 March 2013

Big Bluestem and Indiangrass for Biomass Production by Variety Selection and Establishment Methods for Missouri, Illinois, and Iowa

Author
 Jerry Kaiser, Plant Materials Specialist

Big bluestem (*Andropogon gerardii* Vitman) and indiangrass (*Sorghastrum nutans*) are tall, warm-season perennial grasses with short rhizomes. The species occur naturally in every state in the continental United States, except Washington, Idaho, Oregon, Nevada, and California. They also occur in adjoining provinces of Canada United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2006b Plants Database). These species are palatable for livestock. Crude protein and digestibility are high for both big bluestem and indiangrass during the summer growing season. Seed production yields have averaged 190 to 200 pounds per acre at the USDA NRCS Plant Materials Center (PMC) at Eshberry, Missouri. Big bluestem and indiangrass prefer well drained, deep soils but will tolerate dry, low pH, and low fertility soils. They are used for erosion control, livestock grazing, wildlife habitat, and native prairie restoration.

Study sites The study was to determine how these varieties of big bluestem and indiangrass performed in the three states of Missouri, Illinois and Iowa. The study was conducted in cooperation with several partners: USDA NRCS Eshberry PMC, in cooperation with the University of Missouri, Southwest Research Center, at Mount Vernon, Missouri; the University of Illinois, Agr Agricultural Research Center, at Perry, Illinois; and the University of Northern Iowa, Tallgrass Prairie Center, Cedar Falls, Iowa.

Dry matter yields and other plant characteristics were compiled at three sites. The data was collected in Missouri from 1993 to 1995, Illinois from 1992 to 1994, and Iowa from 1994 to 1996 (Eshberry PMC 1994-1998 Technical Report). The effects of seed origin (parentage) on plant performance were apparent. Eight seed selections or varieties of big bluestem and six seed varieties of indiangrass were evaluated. Southern seed sources generally had heavier biomass production. Plant density (stand index) was generally greater for southern origin seed sources. Southern varieties moved more than 200 miles southward from their origin generally performed more poorly, and yield was significantly less than the southern varieties. There were fewer days to seed maturity (phenology) for the southern selection/varieties compared to the southern selection/varieties.

Agromony Technical Note MO-37
 January 2009

Switchgrass for Biomass Production by Variety Selection and Establishment Methods for Missouri, Illinois, and Iowa

Author
 Jerry Kaiser, Plant Materials Specialist
 Steve Bruckerhoff, Plant Materials Center Manager

Switchgrass (*Panicum virgatum* L.) is a native, deep-rooted, warm-season grass with short, stout rhizomes and heavy biomass growth during late spring and early summer. It is an abundant seed producer. Clean seed yields of 225 pounds per acre have been documented at the USDA Natural Resources Conservation Service (NRCS) Plant Materials Center (PMC) at Eshberry, Missouri. The species occurs naturally in every state in the continental United States except for Oregon, Washington, and California (USDA, NRCS 2006b).

Switchgrass tolerates a wide range of soil conditions and is widely acclaimed as a conservation plant for erosion control, pasture and hay planting, wildlife habitat, and native prairie restoration. Interest in switchgrass as a renewable biofuel resource has grown in recent years.

Dry matter biomass yields and other information were compiled at three sites in Missouri from 1993 to 1995, Illinois from 1992 to 1994 and Iowa from 1994 to 1996. The effects of seed origin (parentage) on plant performance were apparent. Twelve seed sources/varieties of switchgrass were evaluated. Southern seed sources generally had heavier biomass production. Northern varieties moved more than 200 miles southward from their origin generally performed poorly. Biomass was significantly less than local or more southern origin sources.

Trial Sites
 The trial sites were studies in cooperation with several partners: the USDA NRCS PMC, Eshberry, Missouri; in cooperation with the University of Missouri, Southwest Research Center, Mt. Vernon, Missouri; the University of Illinois, Agr Agricultural Research Center, at Perry, Illinois; and the University of Northern Iowa, Tallgrass Prairie Center, Cedar Falls, Iowa.

Growing seasons at the three locations varied from an average 177 days at Cedar Falls to an average of 232 days at Mt. Vernon. Average annual precipitation ranged from 43.7 inches at the Mt. Vernon site to 33.7 inches at the Cedar Falls site. Seven different species of warm-season grasses were evaluated at each site. Switchgrass is the only species presented in this technical note.

