

Spring 2008

## Tallgrass Prairie Center Newsletter, Spring 2008

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# Tallgrass Prairie

CENTER

*Restoring a National Treasure*



Mission: The Tallgrass Prairie Center develops research, techniques, education and source identified seed for restoration and preservation of prairie vegetation in rights-of-way and other lands.

Spring 2008

## Lost Landscape Teachers Workshop

The Tallgrass Prairie Center is offering a 4 day summer workshop for area middle-school and high school teachers. "Introduction to the Tallgrass Prairie: A Lost Landscape," is scheduled for June 30 through July 3 from 8AM to 5PM each day. Area educators will acquire first-hand knowledge of the natural history of the tallgrass prairie ecosystem, including flora and fauna identification skills. They will have the unique opportunity of visiting local remnant and reconstructed prairies as part of the curriculum, including a day-long field trip to Hayden Prairie State Preserve in Howard county.

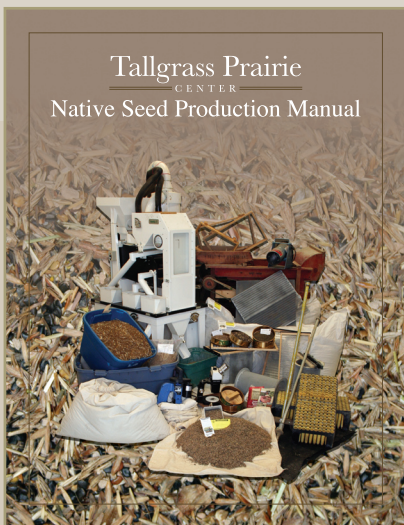
Content information will be coupled with lesson plans developed for America's Lost Landscape Curriculum Project. The project is derived from the award winning documentary film America's Lost Landscape: The Tallgrass Prairie. Educators will experience a threatened local ecosystem and participate in activities they can utilize in their classrooms. A similar workshop held last fall introduced this film-based curriculum to 28 teachers from across the state of Iowa. Daryl Smith, Director of the Center and a workshop instructor explains, "It is important that teachers and students experience and understand tallgrass prairie, which is an integral part of our cultural and biological heritage.

For more information contact Ryan Welch, Outreach Coordinator, Tallgrass Prairie Center (319) 273-3828 [rwelch@uni.edu](mailto:rwelch@uni.edu) ; or Dr. Cherin Lee, Science Education, UNI (319) 273-2499 [cherin.lee@uni.edu](mailto:cherin.lee@uni.edu) .



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## Native Seed Production Manual

Tallgrass Prairie Center's Native Seed Production Manual provides in-depth information for native seed production of 32 species of the tallgrass prairie flora of the upper Mid-west. Tables summarize propagation, harvesting, and seed cleaning protocols for 50 species. The information presented is compiled from published accounts coupled with native seed production experience at the Tallgrass Prairie Center at the University of Northern Iowa. Critical to this effort were publications from the USDA-NRCS Plant Materials Program, published research articles and technical notes, and Internet resources. Botanical nomenclature follows USDA PLANTS Database (<http://plants.usda.gov/>).



Copies are available for \$13 each (\$10 + shipping), via check or money order payable to: Tallgrass Prairie Center. A sample .pdf file is available upon request. For more information contact Greg Houseal, Tallgrass Prairie Center (319) 273-3005 [gregory.houseal@uni.edu](mailto:gregory.houseal@uni.edu)

# Frost Seeding Natives

While late winter is a good time to gather sap from maple trees, it is also a good time to seed natives. Frost seeding is typically done in late winter when temperatures are below freezing at night and above freezing during the daytime. It is believed that these freeze-thaw cycles will permit seed stratification and improve germination of many native species. However, research on non-native legumes has shown that frost seeding can improve seed germination, but an unusually dry and warm spring can result in poor establishment (Barnhart 2002). In addition, the effect on germination of non-native cool-season grasses that are frost seeded can vary and is not recommended for some species (West et al. 1997).

In light of the lack of direct research on frost seeding prairie seed, the benefit of frost seeding prairie seed may be related to the length of time the seed remains in the soil before germinating. As compared to a dormant seeding in November, frost seeding reduces the time seed remains in the soil before germination and may reduce seed mortality from pathogens and/or granivory (Hemsath 2007).

Frost seeding is a great way to begin the planting season and eliminate cabin fever!

Things to consider when frost seeding natives.

- Frost seed in February - March (in central Iowa). Seeding times can be extended later

in northern Iowa and earlier in southern Iowa.

- Increase the seeding rate 25% - 50% to compensate for seed loss (Henderson and Kern 1999, Iowa NRCS 2002).
- Apply seed onto sites free of snow cover.
- If seed is broadcast sowed, use a drag harrow and/or cultipack the site after seeding to ensure seed-to-soil contact.
- Keep the site mowed or grazed the following growing season to reduce competition of the established vegetation and/or weeds.

#### Literature Cited

- Barnhart, S. 2002. Improving pasture by frost seeding. Iowa State University Extension Bulletin. PM-856. Iowa State University Ames Iowa
- Hemsath, C. 2007. Quantifying granivory in a reconstructed prairie: affects of season, species, seed predators, sacrificial food, and the chemical deterrent capsaicin. Masters Thesis, Department of Biology, University of Northern Iowa.
- Iowa Natural Resources and Conservation Service (NRCS) 2002. Pasture and hay planting. Code 512. <<http://www.ia.nrcs.usda.gov>>. accessed 3/10/08.
- Henderson, K. and C. Kern. 1999. Integrated roadside vegetation management technical manual. Roadside Management Program University of Northern Iowa. Cedar Falls, Iowa. 50614.
- West, D. and D. Undersander. 1997. Spring frost seeding. Proceedings of the Wisconsin Forage Production and Use Symposium. Wisconsin Dells. 93-95.



Broadcast sow and rake rig demonstrated on an ATV.



Cultipacking demonstrated on a tractor

## Spring Seminar Series: A Blooming Success

The Tallgrass Prairie Center held a series of four Natural Resource and Management seminars this spring semester. Approximately ninety people attended, including students, faculty, and interested public. Topics ranged from carbon sequestration and prairie biomass, to landscape fragmentation and its effect on solitary bees and butterflies. Participants had the opportunity to get first hand information on these topics from the researchers themselves. Justin Huisman, a graduate student at UNI said, "It's one thing to read a research paper, but you get a better sense of what is being accomplished by listening to them in a setting like this". The seminar series also provides a venue for students in the new Professional Science Master's program at UNI to present their research.

We would like to thank all of the presenters who participated this spring: Dr. Cindy Cambardella from the Soil Tilth Lab in Ames; Dr. Mark Myers, UNI Biology; Michele Fuhrer and Cassy Bohnet, Professional Science Masters students, UNI; Dr. Steve Hendrix, University of Iowa; and Dr. Diane Debinski, Iowa State University. A series of three to four seminars are planned during each fall and spring semesters at the Center. If you would like more information about the seminar series or would like to be on a mailing list for seminar announcements, contact Ryan Welch, Outreach Coordinator (319) 273-3828 [rwelch@uni.edu](mailto:rwelch@uni.edu).

## Tallgrass Prairie CENTER

### NEWSLETTER

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# Recognizing Twenty Years of the Living Roadway Trust Fund

The Living Roadway Trust Fund was created by the Iowa legislature in 1989 “exclusively for the development and implementation of integrated roadside vegetation plans.” Administered by Iowa Department of Transportation, this program has made a noteworthy contribution to prairie restoration in the state of Iowa. Relative to the Tallgrass Prairie Center, LRTF has funded the position and activities of the Integrated Roadside Vegetation Management (IRVM) coordinator at UNI since the beginning of the program. LRTF provided initial funding for the Iowa Ecotype Project and has continued to provide critical support for the project over the past 15 years. And LRTF has funded a variety of other prairie-related projects and purchases at UNI over the past 20 years.

LRTF has provided substantial subsidies for prairie events in Iowa including the 1990 and 2000 North American Prairie Conferences, the last several

Iowa Prairie Conferences, and both Iowa Fire Conferences. IRVM is so dedicated to the use of native vegetation it was long ago determined that what’s good for prairie is good for IRVM.

LRTF has funded scores of schoolyard prairie plantings for outdoor classrooms. Literally hundreds of thousands of pieces of prairie educational material have been printed and distributed by LRTF. And LRTF has participated in hundreds of events put on by organizations all over the state.

The fifty-nine research projects funded by LRTF include topics such as prairie establishment, prairie management, native cover crops, prairie diversity, prairie enhancement, plant distribution, genetic variation, water infiltration, avian nesting, prairie cordgrass, crown vetch, pollinator diversity, and butterfly use of roadsides.

For county roadside managers LRTF has provided native seed, native grass drills, burn equipment, workshops and edu-

cational materials, thus creating a small army of well-trained and well-equipped prairie restorationists. Many of these people are now using the experience gained in positions with other conservation agencies and organizations.

This all amounts to high praise for LRTF and yet only scratches the surface. Anyone who discounts the significance of LRTF’s contribution was not around to see the state of prairie restoration in the 1980’s. Resources dedicated to prairie were practically non-existent. To LRTF, Iowa DOT and Steve Holland, thanks for the jumpstart and the continuing support. For more information go to: [www.Iowalivingroadway.com](http://www.Iowalivingroadway.com)



Katie Kelly, a sculpture graduate student at UNI took a unique opportunity this last year to work with native grasses grown right here at the Tallgrass Prairie Center. “Prairie grass worked well as a material in the forms I constructed.” Having graduated with a BFA in sculpture in 2006 at UNI, this April 26th

- May 10th Katie will be having her MA graduate show. Works include forms built with fiber and fabric, mixed media and print. Her “Prairie” sculptures have been seen at shows in Charles City, IA as well as the Deans Triangle on UNI’s campus. Katie is graduating this May, with future plans in education.



## Prescribed Fire in Grasslands DVD Available

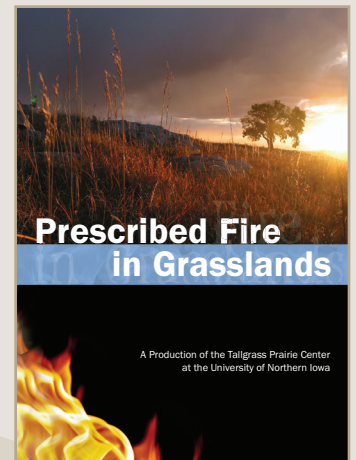
The Tallgrass Prairie Center is pleased to announce the release of a new film, *Prescribed Fire in Grasslands*. This 45 minute demonstration film illustrates basic prescribed fire techniques, the evaluation of a burn site, the writing of a burn plan and the conducting of a prescribed burn based on a written plan.

Bonus features include 22 minutes of post burn review, an overview of basic prescribed fire clothing and equipment and DVD-ROM materials for use in your personal computer. These DVD-ROM materials include a Burn Plan spreadsheet and an informational brochure from the Natural Resources Conservation Service (NRCS) in PDF form.

A DVD of *Prescribed Fire in Grasslands* may be obtained by sending your \$5.00 check or money order (made payable to the Tallgrass Prairie Center) to the following address:

**Tallgrass Prairie Center**  
University of Northern Iowa  
2412 West 27th Street  
Cedar Falls, IA 50614-0294

The production of *Prescribed Fire in Grasslands* was underwritten by the NRCS. The film was shot in wide screen, high-definition digital video and produced by New Light Media, Inc. for the Tallgrass Prairie Center.



# Seedling Identification Workshop

**When:** Thursday April 24, 2008

**Where:** Tallgrass Prairie Center, University of Northern Iowa  
(2412 W 27th St, ¼ mile West of the UNI Dome and McCloud Center)

**Time:** 9:00 AM-2:00 PM

**Cost:** \$50.00 per participant, includes: Registration and catered lunch/ "Prairie Seedlings Illustrated" Vol. 1/ "Native Seed Production Manual" Brand new not in stores/ CD-Rom of seedling images and identification characteristics/ native seedlings to take home.



Learn to Identify: Seedling characteristics of common prairie wildflowers, legumes, and grasses using living specimens and hand lens. Compare and contrast desirable native seedlings with weed seedling look-a-likes, a must for evaluating stand establishment of a new seedling. Seedling ID Quiz with prizes.

To Reserve One of 30 Slots: E-mail Ryan Welch (rwelch@uni.edu), Mail, Phone (319) 273-3828, or Fax (319) 268-0668 Registration Information **BEFORE** April 11, 2008!

## Student Employees Gain Experiences in Their Fields

Michele Fuhrer and Cassy Bohnet are each completing a degree in the new Professional Science Masters Program at UNI, designed to give professionals interested in ecosystem management a rigorous and intensive one-year academic and internship experience partnering with resource management agencies. Both have been research assistants working with Dave Williams on the Center's Prairie Power Project, a research effort focused on using diverse prairie plantings on marginal cropland as a biomass resource for electrical power generation.



**Michele Fuhrer** - B.S. Biology, Minor in business, Baker University

Graduation- Summer 2008, Ecosystem Management Professional Science Masters

*Experience at the Tallgrass Prairie Center:* I have enjoyed working with the Tallgrass Prairie Center, the TPC's staff has much expertise in practical application of conservation practices, my hope is that I can absorb just a fraction of their knowledge. Everyone at the TPC has been very helpful with the Prairie Power Project that I am working on.

*Future Plans:* Land Management and Research Demonstration Intern for the summer at Neal Smith National Wildlife Refuge. After that, find a full-time job in the natural resources field.



**Cassy Bohnet** - Biology Education B.A., UNI

Graduation- Summer 2008, Ecosystem Management Professional Science Masters

*Experience at the Tallgrass Prairie Center:* For the last two semesters I enjoyed working with Dave Williams on preparing for the five year study of using prairie biomass for energy production. Michele and I helped with the initial biomass collections, plot layout, taking winter photos, seed mix design, and mixing seed. We also held multiple education/outreach presentations at the TPC and UNI.

*Future Plans:* After a Palo Alto County Conservation internship I hope to obtain a middle school or high school biology or environmental education position.

Molly Schlumbohm and Alicia Rigdon are new undergraduate lab/field assistants at the Center. The Tallgrass Prairie Center employs from 2 to 5 undergraduate student employees year round.



**Molly Schlumbohm**

Graduation 2010

Major in Earth Science

Emphasis Interpretive Naturalist

Minor in Natural History Interpretation

*Experience at the Tallgrass Prairie Center:* "I had many new experiences here, watching growth stages of plants and correlating directly with my major."

*Future plans:* Working in ecological restoration efforts in Iowa



**Alicia Rigdon**

Graduation 2010

Major in Earth Science Education

Minor in Biology Education

*Experience at the Tallgrass Prairie Center:* "I like the people I work

with, and found great ideas for classroom teaching."

*Future plans:* Teaching in Iowa