Maximizing Wiregrass (*Aristida Stricta*) Reproduction for Restoration Purposes: Effect of Growing Season Month of Burn on Seed Production

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Maximizing viable wiregrass (*Aristida stricta*) seed yields is an important goal of land managers attempting to restore wiregrass populations across large landscapes as quickly as possible. Seed for restoration plantings is primarily harvested from relatively pristine donor sites, managed with growing season burns. It has been known for decades that wiregrass flowers more abundantly after growing season fires; but the effect of timing of burn within the growing season on seed production has not been examined thoroughly, particularly across different climactic zones. Furthermore, there is some speculation that low viability of collected seed may be a function of the time of collection, which has typically been carried out from mid-November to mid-December.

To evaluate the effect of time of burn and time of collection, two sites with abundant wiregrass in xeric sandhill longleaf pine forests were selected for study. One was located in the north Florida panhandle (Econfina Creek Water Management Area) and one in central Florida (Annutteliga Hammock). At each site, six 5x5 meter plots were burned during each different month of the growing season (May, June, July, and August) and six plots were left unburned as a control. Each burn plot was subdivided into nine subplots, and every two weeks from mid-September through December, seed stalks were destructively harvested from a single wiregrass plant. Stalks were placed in paper bags and taken to the laboratory where their seeds were manually stripped and counted. Seeds were then sent out for x-ray testing to determine their stage of development. If there were more than 10% filled seeds, this test was followed by tetrazolium viability and germination testing. Seed traps were also placed in the center of each burn plot beginning in September and the seed rain was counted every two weeks.

Preliminary data show that burning wiregrass during the months of May and June resulted in the greatest amount of seed produced (average number of seed stalks per plant: May=24, June=17, July=12, August=4). Seed trap counts show that peak seed rain occurred during the first two weeks in November. A complete data analysis is currently underway, but these early results indicate that burning during the early growing season months and collecting seed right before November may be optimal for maximizing the production and collection of viable wiregrass seed to be used for restoration. To learn more about Emily’s research contact Kimberly Bohn at kkbohn@ufl.edu.
Wildland fire risk and social vulnerability in the Southeastern United States: An exploratory spatial data analysis approach


(Sparkle Malone is a recent graduate of the CFEOR Adaptive Forest Management Fellowship Program).

The southeastern U.S. is one of the more wildland fire prone areas of the country and also contains some of the poorest or most socially vulnerable rural communities. Our project addresses wildland fire risk in this part of the U.S. and its intersection with social vulnerability. We examine spatial association between high wildland fire prone areas which also rank high in social vulnerability (“hot spots”) for Alabama, Arkansas, Florida, Georgia, Mississippi, and South Carolina. We also look at the proximity of hot spots to wildland fire mitigation programs. We hypothesize that hot spots are less likely than high wildland fire risk/low social vulnerability communities to engage with mitigation programs (e.g., Community Wildfire Protection Plans or Firewise Communities). To assess our hypothesis, we examined mean distances between: 1) hot spots and mitigation programs and 2) high wildland fire risk/low social vulnerability communities and mitigation programs. Overall, results show longer mean distances from hot spots to mitigation programs, compared to distances for high wildland fire risk/low social vulnerability communities. This finding provides support for our hypothesis and suggests that poorer communities in the southeast with high wildland fire risk may be at a greater disadvantage than more affluent, high fire risk communities in these states.

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**CFEOR Highlights**

**CFEOR Hosts Tour of the Green Circle Bio Energy Plant in Cottondale, FL.**

Green Circle has built the world’s largest wood pellet plant in North Florida which started production in May 2008 with an annual capacity of 560,000 tons. The pellets are supplied to the power generating industry for co-firing in coal based power plants. After a brief introduction about Green Circle tour participants walked through the pellet making process from the wood yard to loading the rail cars. Presenters included Bill Cleckley, Director, Division of Land Management and Acquisition and CFEOR Chair and Bill Waller, Green Circle Bio-Energy Plant Raw Material Manager. The tour held on Jan 20, 2011 had 24 attendees representing private and public land managers and a nonprofit group.

**CFEOR Wins Awards of Excellence from the Southern Region Natural Resource Extension.**

We are pleased to announce CFEOR was awarded two 2010 Southern Region Natural Resource Extension Awards for Excellence in the categories of extension newsletter and extension publication. The CFEOR Updates newsletter received a silver award and the CFEOR handbook on groundcover restoration won a gold award-exemplary! These awards were presented by the Southern Extension Forest Resources Specialists to recognize those with outstanding achievements and activities in a particular area of Extension work over a three-year period prior to nomination. To join our list serve and receive the free bi-weekly newsletter or to download the free CFEOR handbook on groundcover restoration go to [www.sfrc.ufl.edu/CFEOR](http://www.sfrc.ufl.edu/CFEOR).
Upcoming Events

- **Forest Stewardship Workshop: Longleaf Pine Forest Restoration & Management, February 24, 2011**;
  8:30 am-3:00 pm ET at the Austin Cary Memorial Forest, Gainesville, FL. The program will provide the current state of knowledge and practice for regenerating and managing longleaf pine forests. **Attendees will also receive a free copy of the CFEOR handbook on groundcover restoration in the Southeastern US!** Cost is $10 per person, lunch and materials included. Please register on-line at [http://fsp-workshop022411.eventbrite.com/](http://fsp-workshop022411.eventbrite.com/) or contact Chris Demers at (352) 846-2375.

- **16th Biennial Southern Silvicultural Research Conference (BSSRC), February, 14-17, 2011** in Charleston, SC. The event will consist of a poster session, four concurrent sessions, and optional field tours. To learn more and register go to [www.ces.ncsu.edu/nreos/forest/feop/BSSRC/](http://www.ces.ncsu.edu/nreos/forest/feop/BSSRC/).

- **2011 North American Tree Conference and Trade Show, February 19-22, 2011** in Savanna, GA. Two full days of educational tracks for utility, commercial and municipal arborists. To learn more and register go to [www.isasouthern.org/annualconference.htm](http://www.isasouthern.org/annualconference.htm).

- **Forest Stewardship Workshop: Longleaf Pine Forest Restoration & Management, March 3, 2011** from 8:30 am-3:00 pm ET at the Blackwater River State Forest. Cost is $10 per person, lunch and materials included. Please register on-line at [http://fsp-workshop030311.eventbrite.com/](http://fsp-workshop030311.eventbrite.com/) or contact Chris Demers at (352) 846-2375.

- **Natural Areas Training Academy: Vegetation Monitoring in a Management Context, March 7-12, 2011** at Archbold Biological Conference Center, Lake Placid, FL. This workshop is a practical step-by-step guide to establish and manage monitoring protocols for plant community work. For more information and on-line registration please visit the Natural Areas Training Academy web site at: [http://nata.snre.ufl.edu/](http://nata.snre.ufl.edu/).

- **Tour of Mallory Swamp and Steinhatchee Springs Tracts, Mayo, FL. March 30, 2011** Presenting techniques and results of large-scale hydrologic and natural community restoration in headwater wetland and riverine-dominated systems. Hosted by Suwannee River Water Management District. To learn more go to [www.sfrc.ufl.edu/CFEOR](http://www.sfrc.ufl.edu/CFEOR).

CFEOR Mission:
To develop and disseminate knowledge needed to conserve and manage Florida’s forest as a healthy, working ecosystem that provides social, ecological and economic benefits on a sustainable basis.