Internodes

Mark Your Calendar

- "*Ecological Dimensions of Biofuels*," the Ecological Society of America, March 10, 2008, Washington, DC. http://esa.org/biofuels
- Invasive Plant Management Symposium, "*Prevention Strategies for Invasive Species*," March 18, 2007, U.S. National Arboretum, Washington, DC. http://www.usna.usda.gov/Education/events
- Field Techniques for Invasive Plant Management Course, April 7–11, 2008, National Conservation Training Center, Shepherdstown, WV. https://doilearn.doi.gov (Course Code: WLD2139)
- "People-Powered Projects: The National Cooperative Weed Management Area (CWMA) Conference," April 15–17, 2008, Reno, NV. Representatives from all 50 states will focus on CWMA funding and logistics, working with volunteers, EDRR, awareness and outreach, and state and national initiatives. http://www.weedcenter.org/CWMAconf/cwma_conf.htm .
- Florida Vegetation Management Association Conference, April 16–18, 2008, Daytona Beach, FL. www.fvma.info
- 23rd Annual Florida Exotic Pest Plant Council (FLEPPC) Symposium, Jacksonville, FL. April 21–24, 2008. www.fleppc.org
- University of Florida/IFAS Aquatic Weed Control Short Course, May 5–8, 2008. Coral Springs, Florida. conference.ifas.ufl.edu/aw
- 28th Annual Conference of the Florida Native Plant Society, May 15–18, 2008, Palmetto, FL. www.fnps.org
- 10th Annual Southeast Exotic Pest Plant Council Symposium, hosted by the Mississippi Exotic Pest Plant Council, "Managing Invasive Plants in Disturbed Landscapes," Biloxi, MS. May 20–22, 2008. www.se-eppc.org
- The International Union of Forest Research Organizations (IUFRO) Work Group will hold a meeting at the National Conservation Training Center May 26–30, 2008, Shepherdstown, WV. "*All Alien Invasive Species and International Trade*" will focus on assessing and interrupting pathways for movement of alien invasive species. http://www.fs.fed.us/ne/morgantown/4557/iufro_wv/index.htm.
- 4th Biennial Weeds Across Borders Conference, May 27–30, 2008, Banff, Alberta, Canada. Details at the Alberta Invasive Plants Council web site: http://www.invasiveplants.ab.ca/
- The National Conference on Urban Ecosystems, May 28–30, 2008, Orlando, FL. http://www.americanforests.org/conference/
- 48th Annual Meeting, Aquatic Plant Management Society, Charleston, SC. July 13–16, 2008. www.apms.org
- 35th Natural Areas Conference, "Tuning In to a Changing Climate and Biological Invasion," in partnership with the National Association of Exotic Pest Plant Councils (NA-EPPC). October 14–17, 2008, Nashville, TN. www.naturalarea.org

Web Sites

Volunteers and Invasive Plants – Learning and Lending a Hand

The U.S. Fish and Wildlife Service and the Center for Invasive Plant Management announce a new website aimed at engaging volunteers and the public in invasive plant issues and management. Designed for National Wildlife Refuge volunteers and Friends groups, the website provides science-based, introductory information that is suitable for anyone interested in learning about invasive plants. Includes five self-study modules, competitive grant information, additional web-based resources, and training in how to map invasive plant infestations using hand-held computers and GPS devices. www.fws.gov/invasives/volunteersTrainingModule

The USGS has developed a new fact sheet on Asian bittersweet (*Celastrus orbiculatus*) that provides a very useful key for distinguishing it from American bittersweet (*Celastrus scandens*). They have a companion paper coming out soon in the Journal of the Torrey Botanical Club. http://www.glsc.usgs.gov/_files/factsheets/2007-2%20Identifying%20Bittersweet.pdf

Have you seen the new Candidate Conservation web page? Working in partnership with public and private landowners, the Candidate Conservation Program assesses species, and develops and facilitates the use of voluntary conservation tools for species potentially at risk and their habitat. The goal is to identify and conserve these species ***before*** they require protection by the Endangered Species Act. See http://www.fws.gov/endangered/candidates/index.html

If there's a question about pesticides, very likely the U.S. National Pesticide Information Center (NPIC) can provide an answer, even if the question is in any of more than 170 languages. A new feature of NPIC, an ongoing cooperative program between the U.S. Environmental Protection Agency and Oregon State University, is around-the-clock, over-the-phone interpretation service provided by a specialized contractor. The Center was established to provide free "objective, science-based information about pesticides and pesticide-related topics to enable people to make informed decisions about pesticides and their use." NPIC staff fields questions ranging from the technical (toxicology and active ingredient factsheets) to the more general, such as pesticide safety (including the signs and symptoms of pesticide intoxication), pesticide labels, food and pesticides, pesticide risks, and pets, wildlife and pesticides. The NPIC website leads to a variety of categories, gateways, and other key sources of pesticide-related information. http://npic.orst.edu/index.html

Other News

In September 2006, Arizona's first reported population of kudzu was discovered in Huachuca City, Cochise County. Treatments consisted of Milestone VM applied at a rate of 7 oz. per acre, with retreatments in March and June 2007. Visual estimates in August 2007 indicated >97% biomass reduction. Even though the infestation appears to be controlled, treatments are planned for 2008 to complete eradication and will continue until new shoots cease to emerge.

UPDATE: In December 2007, the red palm mite (***Raioella indica***) was found in Palm Beach County, Florida. The mite has been present on Caribbean islands since at least 2003. The red palm mite is native to Old World tropical and subtropical regions and is known to attack 32 species of palms as well as banana, heliconia, and ginger. Native palms in Florida are at risk.

Some of the invasive plants currently under consideration for biofuel production are jatropha, (***Jatropha*** spp.), reed canary grass (***Phalaris arundinacea***), giant reed (***Arundo donax***), and Chinese tallow tree (***Sapium sebiferum***). Jodie Holt, University of California-Riverside recently coauthored the Weed Science Society of America white paper, "Biofuels and Invasive Plant Species," which outlines the risks associated with cultivating invasive plants for biofuel crops. The impact of invasive plants on the nation's agriculture, water quality, wildlife and recreation already costs the U.S. an estimated $34.7 billion

annually, according to a recent Cornell University report. Says Holt, "Seeds can easily be dispersed by the wind, humans or animals at various points of crop production, such as during planting, harvesting and transport." See the Weed Science Society of America white paper at www.wssa.net under the Invasive Plants tab.

Formerly known only from North Carolina, feathered mosquitofern (***Azolla pinnata***) was found in a canal near Jupiter, FL in June 2007. Feathered mosquitofern is a federally-listed noxious weed and is native to Asia, Africa, and Australia. More recently, a type of watergrass (***Luziola subintegra***, or Bodle grass) was found in Lake Okeechobee. Unusual among grasses, this plant bears separate male and female panicles. Contact Mike Bodle at mbodle@swfmd.gov

Florida Statute 720.3075(c)(4) states that "Homeowners' association documents, including declarations of covenants, articles of incorporation or bylaws, entered after October 1, 2001, may not prohibit any property owner from implementing Xeriscape or Florida-friendly landscape, as defined in s.373.185(1), on his or her land."

Federated Farmers (of New Zealand) is calling for a tax on tourists to meet the climbing cost of control efforts on unwanted species brought into New Zealand, such as the invasive algae didymo (***Didymosphenia geminata***). The bill for didymo alone has reached $12 million in just three years. According to Federated Farmers President Charlie Pedersen, "It is usually unthinking tourists who bring such pests into the country and it is not unreasonable they should pay."

In more didymo news, the invasive alga was recently found in Vermont, New York, New Hampshire and Pennsylvania, bringing to 19 the number of states in the US with didymo infestations (the southern-most being Arkansas and North Carolina). This alga is the only freshwater diatom to exhibit large scale invasive behavior. Its large blooms form thick mats of cottony material on stream and river bottoms that suffocate aquatic plants, obliterate fish habitat, and harm populations of aquatic insects. The microscopic algae cling unseen to waders, boots, boats, lures, hooks, sinkers, fishing line and other fishing gear, and remain viable for several weeks under even slightly moist conditions. Absorbent items, such as the felt-soled waders and wading boots commonly used by stream anglers, are especially suspected of causing the spread. Anglers, kayakers and canoeists, boaters and jet skiers can all unknowingly spread didymo. There are currently no known methods for controlling or eradicating didymo once it infests a water body. To learn more about this species, Google *Didymosphenia geminata*

From the other side –

Four Western governors hope to beat cheatgrass

Last year, wildfires fueled by non-native cheatgrass (*Bromus tectorum*) in Idaho, Nevada, and Utah burned thousands of square miles, including giant fires on the Idaho-Nevada border that torched an area as large as Rhode Island. Four western governors want a pilot project that will prevent cheatgrass from gaining a greater foothold. Their program includes planting other grasses in the charred landscape but officials say there aren't enough grass seeds to go around. Some federal lands where seeds are collected also have burned. In the last decade, surveys by U.S. Forest Service scientists show that 2.5 million pounds of grass seed were needed annually for restoration projects—but that only 765,000 pounds were available. That leaves more ground vulnerable to fast spreading cheatgrass.

from Oregon – Reporters, photojournalists, editors and interns conducted interviews, compiled information, recorded damage, and wrote stories about different invasive species for the Statesman Journal in Salem, OR. The series' Web site, www.InvasiveSpeciesofOregon.com, has a monthly focus on different types of invasive species and their impacts, that began in September

From Missoulian.com News Online (Montana) A year after the 2006 Fourth of July fire on Mount Jumbo, a long green line of cheatgrass, one of the most flammable invasive weeds in the West, is visible where fire retardant was dropped. The photo was taken on April 13th, 2007. The fire burned approximately 320 acres and fire retardant was dropped on about 12 acres of Mount Jumbo, where noxious weeds have become widespread over the past 20 years. According to preliminary results of a two-year study by Levi Besaw, a Salish Kootenai College student and Giles Thelan, a research specialist at the University of Montana's plant ecology laboratory, the retardant's fertilizer-like nutrients significantly increased the growth of cheatgrass and tumbleweed mustard, both exotic annual species, at the expense of native perennial grasses on the mountainside. The invaders benefit from the jolt of nitrogen and phosphorous in the retardant slurry, which native and exotic perennials largely ignore because they are accustomed to nutrient-poor soils. Cheatgrass and tumbleweed mustard didn't spread where the fire burned alone, but they exploded in areas that were burned and hit with retardant, the study found. Photo by Jed Little, Senior GIS Specialist, Missoula County Weed District. From ***Researchers analyze retardant use***, by John Cramer of the Missoulian, www.missoulian.com

and runs through June. New information being added includes a comprehensive invasive species database, monthly companion educational materials for teachers and parents, and other online extras such as videos and photo galleries.

Publications

The 9th edition of the *Herbicide Handbook* may be purchased from the Weed Science Society of America for $95.00 at www.wssa.net. Includes trade names and manufacturers, and herbicides from all over the world.

Interactive Encyclopedia of North American Weeds, *V. 3.0*. DVD-ROM includes 447 weed species with descriptions and maps, interactive ID key, interactive educational lessons, quizzes and games on plant ID principles, illustrated glossary of 565 botanical terms, and more. $59.95. More information and a demo are available at http://www.thundersnow.com/weedid.htm

Invasive Plant Science and Management a new Weed Science Society of America peer-reviewed journal, will focus on fundamental and applied research on invasive plant biology, ecology, management, and restoration of invaded non-crop areas, as well as on educational, sociopolitical, and technological aspects of invasive plant management. Visit http://www.wssa.net/WSSA/Pubs/IPSM.htm

Preventing establishment: an inventory of introduced plants in Puerto Villamil, Isabela Island, Galapagos, by A. Guezou, P. Pozo, and C. Buddenhagen. PLoS ONE, October 2007, 2(10):e1042. "On the basis of the invasiveness study, we recommend five species for eradication (*Abutilon dianthum, Datura inoxis, D. metel, Senna alata and Solanum capsicoides*), one species for hybridization studies (*Opuntia ficus-indica*) and three species for control (*Furcraea hexapetala, Leucaena leucocephala* and *Paspalum vaginatum*)." http://www.plosone.org/doi/pone.0001042.

If you are not familiar with this sedge, its spread and distribution (Coastal Plain – GA & FL to TX), you may want to read this paper –*The Recent Spread of* Cyperus entrerianus *in the Southeastern United States and its Invasive Potential in Bottomland Hardwood Forests*, by D.J. Rosen, R. Carter, and C. Bryson. 2006. Southeastern Naturalist 5(2):333-344.

Globalization and Invasive Species Issues in Hawaii: Role-Playing Some Local Perspectives, by A.M. Fox and L.L. Loope. J. Natural Resources & Life Sciences Education 36:147-157. 2007. A tool to help teach "…how local business and conservation interests can influence, and be influenced by, changes in global trade and transportation."

Biofuel Feedstocks: The Risk of Future Invasions, by J.M. DiTomaso, J.N. Barney and A.M. Fox. 2007. CAST CommentaryQTA2007-1 November. "Biofuel crops are being selected, bred, and engineered to exhibit desirable agronomic traits, many of which also typify much of the nonnative flora invading native ecosystems."

Potential impacts of climate change on the distribution of North American trees, by D.W. McKenney, J.H. Pedlar, K. Lawrence, K. Campbell, and M.F. Hutchinson. BioScience (Dec. 2007) 57(11):939-948. "In this article, we report on the potential impacts of climate change on the climatic ranges of 130 species of North American trees…"

The Beginning of a New Invasive Plant: A History of the Ornamental Callery Pear in the United States, by T.M. Culley and N.A. Hardiman. BioScience, December 2007 / Vol. 57(11):956-964. "An introduced species that is in the early stages of spread in the United States is *Pyrus calleryana* Dcne. (Rosales: Rosaceae), an ornamental tree frequently planted in urban residential and commercial areas. Wild populations of *P. calleryana* can now be found throughout the United States in disturbed sites with high light, including transportation corridors, park boundaries, and restored wetland prairies. The latitudinal range of wild individuals in the United States corresponds to the range of the species in China. In this article we (a) review the horticultural history of *P. calleryana* to understand how it has affected the species' present distribution, (b) examine the biological traits promoting its invasiveness, and (c) document the current invasive status of the Callery pear."

Optimal detection and control strategies for invasive species management, by S.V. Mehta, R.G. Haight, F.R. Homans, S. Polasky, R.C. Venette. Ecological Economics 61(2007): 237-245. "This paper presents a model… incorporating a detection stage in which the agency managers choose search effort prior to the post-detection control stage."