

5th International Weed Science Congress – Vancouver, BC, Canada: Its Relevance to Natural Areas

by Jeffrey T. Hutchinson, University of Florida-IFAS

“Local problems, global challenges” was the theme of the Fifth International Weed Science Congress in Vancouver, BC, Canada June 23-27, 2008. While the meeting focused primarily on weeds in agriculture, there were some very informative talks on global weeds, herbicide resistance and biofuels that were pertinent to natural areas.

Of most interest to me were the “Spotlight on Global Weeds” sessions that focused on invasive plants of natural areas. One prevailing theme was the need to limit introductions, and increase monitoring and containment of non-native plants into new areas. It was prevalent throughout the sessions that invasive plant scientists in other areas of the world are experiencing the same problems we experience in Florida and elsewhere in the U.S. Scientists from various nations presented talks or posters on invasive plants such as *Solanum elaeagnifolium* (Morocco), *Parthenium* spp. and *Prosopis juliflora* (India), *Ambrosia artemisiifolia* (Switzerland), *Spathodea campanulata* (Italy), *Ulex europaeus* (Chile), *Solidago canadensis* (China), *Polygonum cuspidatum* and *Buddleja davidii* (U.S.A.). Several speakers emphasized the need to list certain potential or known invasive non-native plants as prohibited prior to introduction into a new area, or to stop the sale of these plants by commercial nurseries.

Dr. Ian Heap (WeedSmart LLC, Corvallis, Oregon) discussed herbicide resistant weeds as a world-wide problem with economic consequences in agriculture. Dr. Heap stated that ALS inhibitor and ACCase inhibitor-resistant weeds are the most widespread globally. Currently, there are 316 herbicide resistant weed biotypes throughout the world. Dr. Heap suggested that companies need to develop new herbicides with different modes of action in the near future or the economic consequences may be dire for agriculture. For natural area managers in Florida, the results presented by Dr. Heap may have impacts in the future as ALS inhibitors such as metsulfuron methyl and imazapyr are currently being used in Florida's natural areas. Other ALS herbicides being tested on natural area weeds in Florida include imazapic, imazamox and quinclorac.

Dr. Chris Somerville (University of California, Berkeley) discussed the potential of cellulose biofuels. Dr. Somerville stated that crops used for biofuels will need to produce ca. 10 tons of biomass / acre. The most promising biofuel species include sugarcane (*Saccharum* spp.), elephant grass (*Pennisetum purpureum*, a FLEPPC Category 1 species) switchgrass (*Panicum*

virgatum) and giant miscanthus (*Miscanthus x giganteus*). He suggested that the demand for fuel production will exceed supply and that corn and sugar will be replaced by cellulosic biomass. He stated that the eastern U.S. will be the hub for biofuel production in the U.S. due to greater rainfall than the western U.S.

Of most interest to me was the talk by Dr. Marcel Rejmanek (University of California, Davis) entitled “Are there any general patterns of plant invasions?” Dr. Rejmanek stated that the flora of many islands would not exist if not for occasional long-distance dispersal events of plant seeds or vegetative parts that establish. But the rate of human-assisted plant invasions is several orders of magnitude higher than at any other time in history. He suggested that in spite of the exponentially

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growing number of publications, there are still many gaps in our understanding of invasive plants. Dr. Rejmanek suggested that plant invasions are often just symptoms of human-created changes in our environment rather than causes of those changes. Again the general theme suggested by speakers who work with weeds of natural areas was the need for screening and limiting new plant introductions.

On Wednesday, there were four separate excursions into the countryside of Vancouver to visit various agricultural sites, a research forest, and the University of British Columbia Botanical Gardens. All excursions included a stop at a local winery.

Overall the 5th International Weed Science Congress was very informative and most enjoyable. My only minor complaint is that there were too many concurrent sessions and I missed some excellent speakers. Vancouver is a wonderful city with an active lifestyle and temperatures during the congress were around 70-75 F during the day and 50-55 F at night, a nice relief from the heat and humidity of Florida.

Abstracts from the 5th International Weed Science Congress will be available online at: <http://iws.ucdavis.edu/5intlweedcong.htm>

Jeffrey T. Hutchinson, University of Florida, Center for Aquatic and Invasive Plants, jthutch@ufl.edu