MORE CROP FOR THE DROP

A Global Search Through the National Plant Germplasm System for Drought Tolerant Soybeans

Washington, DC—March 10, 2014, For Immediate Release – Research on drought tolerant soybeans using the national plant germplasm system will be the focus of a presentation at National C-FAR’s hill research seminar on Monday, March 17, at noon in 1302 Longworth House Office Building. The featured speaker is Dr. Thomas (Tommy) E. Carter, Jr., a professor of plant science and geneticist with USDA, as part of the ARS Soybean Unit located on the North Carolina State campus in Raleigh.

“Through USDA’s national germplasm system, our research is focused on intriguing, ‘agriculturally drought tolerant’ soybean types developed over thousands of years by farmers in Asia,” says Carter.

“This presentation provides an excellent example of the value of federally funded food and agricultural research, extension and education in producing the scientific outcomes and outreach needed to meet 21st century challenges and opportunities,” says Chuck Conner, President of the National Coalition for Food and Agricultural Research (National C-FAR).

Abstract: Drought is one of the greatest limitations to successful agriculture in the world. One has only to think of the Gobi and Sahara deserts, and the vast reaches of India and the American West, to realize the global importance. In regions where rainfall is higher and agriculture is more prevalent, crop yields are far from stable. Year-to-year fluctuation of crop production in the Corn Belt of the USA, for example, is high and closely tied to seasonal rainfall. Many climate models suggest that year-to-year fluctuation in rainfall will intensify even further in the coming decades. Thus, problems with water scarcity and drought can be expected to dominate the agricultural landscape through the foreseeable future, greatly affecting the human condition. Water conservation is an important part of the solution to this problem. Another equally important component is development of new varieties of crop plants which use water more efficiently. Desert survival tactics would seem an obvious approach for crop breeders to employ in the quest for drought resistance (e.g. move cactus genes to crop plants). However, in practice, desert survival has not translated into agriculturally usable levels of drought tolerance. A case study is presented where the model of desert survival is abandoned and the focus instead is on intriguing and exotic ‘agriculturally drought tolerant’ soybean types produced in Asia. Developed by ancient farmers through 5000 or more years of farming under frequently drought-stressed growing conditions, these novel soybean types are now preserved in the USDA-ARS soybean germplasm bank. This research is unraveling the mysteries of these Asian heirloom types and applying that knowledge to modern crop production in the USA.

Seminar presentations are available at http://www.ncfar.org/Hill_Seminar_Series.asp. The seminar is open to the public and the media.

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NATIONAL C-FAR is a nonprofit, nonpartisan, consensus-based, and customer-led coalition that brings food, agriculture, nutrition, conservation, and natural resource stakeholders together with the food and agriculture research and extension community, serving as a forum and a unified voice in support of sustaining and increasing public investment at the national level in food and agricultural research, extension, and education. National C-FAR’s Hill Seminar Series, now in its sixth year, regularly presents leading-edge researchers working to provide answers to pressing issues confronting the public and Congress. The Hill Seminar Series helps demonstrate the value of public investment in food and agricultural research—investment that returns 45 percent per year on average, and $20 in economic benefit from every $1 investment in food and ag research.

Go to http://www.ncfar.org/Hill_Seminar_Series.asp for more information about the seminar series and past topics. Interviews with National C-FAR President Chuck Conner are available by request. For additional information, go to www.ncfar.org; or contact Tom Van Arsdall, Executive Director, at tom@vanarsdall.com or (703) 509-4746.