Participation

The symposium is open to MSU faculty, staff, and students as well as members of the Lansing community and researchers from neighboring institutions. There is no registration fee or requirement for preregistration.

Poster Session

A poster session will be held at 12:00noon in the Plant and Soil Science Conservatory. Program participants who wish to present a research poster(4’ x4’) are invited to do so. Graduate students and faculty in the PBGB program are particularly encouraged to participate.

Sponsorship

The PBGB program wishes to acknowledge support for the symposium from Dow AgriSciences and MSU AgBioResearch

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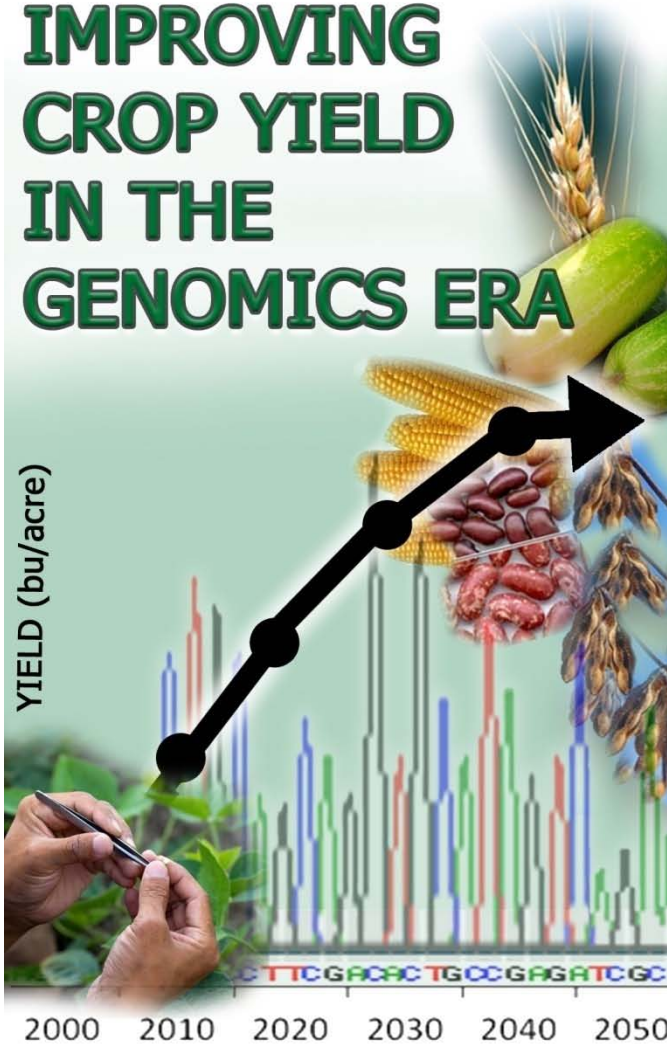
Symposium website:
http://www.hrt.msu.edu/pbgp/symposium.html

Interdepartmental Graduate Program in Plant Breeding, Genetics and Biotechnology

Symposium 2011

IMPROVING CROP YIELD IN THE GENOMICS ERA



Friday, December 16, 2011
9:00 a.m. - 4:00 p.m.
A149 Plant and Soil Sciences Bldg

Rex Bernardo
University of Minnesota

Dr. Rex Bernardo is a Professor and the Endowed Chair of the Maize Breeding and Genetics program at the University of Minnesota. His research focuses on exploiting and discovering new technologies for maize breeding, breeding maize for novel uses and elucidating the nature of genetic variation for quantitative traits. He recently published the 2nd edition of 'Breeding for Quantitative Traits in Plants' that investigates the application of quantitative genetics to plant breeding. He has conducted separate maize breeding programs for organic and conventional production systems based on quantitative genetic parameters. Dr. Bernardo and his collaborators also study the prospects for genomewide selection for quantitative traits in maize, and to assess the response due to genomewide selection compared with marker-assisted recurrent selection (MARS) in order to determine the extent to which phenotyping can be minimized and genotyping maximized in genomewide selection. Research to determine the relative importance of parental selection, number of breeding populations, and size of each population, and finding optimum combinations between number and size of breeding populations in maize is ongoing.
Email: berna022@umn.edu.

Donn Cummings
Monsanto Global Breeder Sourcing Lead

Dr. Donn P. Cummings is a corn breeder, a native of Indiana, and a Monsanto Scientific Fellow. He currently enjoys supporting Monsanto's goal's in developing and attracting plant breeders and scientists for careers improving many crops and vegetables to provide better seeds for farmers. He earned PhD degree in Plant Breeding and Genetics from the University of Minnesota. He currently works out of the Corn Research Center, Lebanon IN near Indianapolis. Following a productive 30 year career in various corn breeding roles and developing several commercial hybrids for Dekalb, he assumed his present career path of Global Breeder Sourcing Lead In July 2007. In this role, he manages university partnerships in the area of graduate student education in plant breeding and related sciences. He assists with development of a talent pool in plant sciences for various careers at Monsanto, especially in areas of importance to the future of plant breeding. He is President on the Board of Directors of the National Council of Commercial Plant Breeders (NCCPB) for the American Seed Trade Association (ASTA). He serves a liaison role between these organizations and linking them to Monsanto.
Email: donn.cummings@monsanto.com

Symposium Schedule

9:00 a.m. **Opening Remarks**
Steve Pueppke
Director, AgBioResearch
Michigan State University

9:15 **Rex Bernardo**
Genomewide selection for yield: Prediction accuracy and response to selection for maize grain yield and agronomic traits

10:15 **Coffee Break**
A246 PSSB

10:45 **Donn Cummings**
Feeding the 5,000 Million

12:00 p.m. **Poster Session**
Conservatory

12:15 **Lunch with Students, Speakers and Hosts**
Conservatory

1:30 **Randall Nelson**
The role of exotic germplasm in breeding for increased seed yield of soybean

2:30 **Todd Wehner**
Development of high yielding cucumber

3:30 **Discussion - Wrap up**

4:00 **Reception –Posters**
Conservatory

Randall Nelson
USDA-ARS, University of Illinois

Dr. Randall Nelson is the research leader and supervisory research geneticist for the USDA-ARS, a position he has held since 1978. He is also the curator of the USDA Soybean Germplasm Collection and Professor of plant genetics at the University of Illinois. He holds degrees from South Dakota State, Iowa State University, and the University of Illinois. His primary research focus has been to improve soybean yield through the utilization of genetic diversity in wild soybean and perennial *Glycine* species. Twenty-one high yielding, germplasm lines derived from 29 exotic germplasm lines have been released from his program. Many of these lines have been used by both public and private breeders as parental lines. Other research efforts include identifying soybean germplasm with tolerance to abiotic and biotic stresses, and the identification and modification of soybean seed composition.
Email: rlnelson@illinois.edu

Todd Wehner
North Carolina State University

Dr. Todd C. Wehner is a Professor in the Department of Horticulture Science, North Carolina State University. Dr. Wehner received his Bachelor's degree in Botany at the University of California-Berkeley, and finished his M.S. in Agronomy and Ph.D. in Plant Breeding and Plant Genetics at University of Wisconsin-Madison. Dr. Wehner's research is focused on breeding of cucurbits which include seeded and seedless watermelon, pickling and slicing cucumber, specialty melons and luffa sponge gourds, and his research also looked at the quantitative genetics, selection methods, plant architecture, polyploidy and genetics resistance for disease, insect and cold of cucurbits. His breeding efforts resulted to the development and release of several cultivars and breeding lines. He has also been involved in international cucurbit breeding activities as well as in the collection and preservation of cucurbit germplasm in South Africa, China and Sri Lanka.
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