

National Association of Plant Breeders Newsletter

April 2014

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Thoughts for 2014:

It's spring again. Well, for some of us it is anyway. The old adage "If you don't like the weather, wait 5 minutes because it will change" seems to apply to our winter. By this point, the memory of a cold winter is fading for many in the plant breeding community with the thoughts of warm summer days filling our heads. With that, many are moving into field season while the winter crops will be wrapping up and preparing for planting this fall. What will 2014 hold for plant breeders and researchers? The answer is, only time will tell. Like many in the community, I grew up around farming which makes me all too familiar with the joy spring rain showers can bring and the devastation a summer drought can make. These days heavy spring rains and prolonged summer drought equates to job security for those addressing abiotic stresses. With that, let's all wish a belated Happy Birthday to Dr. Borlaug who would have turned 100 this year. He has and continues to inspire many in the plant breeding community. I would like to remind everyone that the 2014 NAPB meeting will be held in Minneapolis, MN on August 5-7. Further information about the meeting can be found later in the newsletter. With that, I will leave you with a few thoughts from the late Dr. Borlaug and a link to his 1970 Nobel Lecture.

Sincerely,
Gregory Berger, Ph.D.
Secretary, Communications Committee

“There are no miracles in agricultural production.” – Norman Borlaug

“I am but one member of a vast team made up of many organizations, officials, thousands of scientists, and millions of farmers - mostly small and humble - who for many years have been fighting a quiet, oftentimes losing war on the food production front.” – Norman Borlaug

http://www.nobelprize.org/nobel_prizes/peace/laureates/1970/borlaug-lecture.html

Events and Opportunities

Plant Breeding for Drought Tolerance:

Colorado State University will offer a three-credit, graduate-level, field-oriented course in Plant Breeding for Drought Tolerance, June 2-13, 2014. Additional information on the course content, format, cost, and registration is available at

http://www.droughtadaptation.org/summer_course.html. For questions, please contact the Program Assistant, Kierra Jewell (Kierra.Jewell@ColoState.edu). Applications will be accepted through March 15, 2014 or until the class is full (20 students).

Graduate student fellowships available:

Two Ph.D. and one M.S.-level USDA National Needs Graduate Fellowships are available at Colorado State University beginning in summer or fall of 2014. The Ph.D. fellowships carry a stipend of \$24,000/year for three years and the M.S. Fellow will receive a stipend of \$22,000/year for two years. Tuition expenses will be covered by the program. Please note that only US citizens and permanent residents are eligible for these fellowships. More information on this program and application process is available at

<http://www.droughtadaptation.org/fellowships.html>

FY 2014 Agricultural and Food Research AFRI: Initiative Competitive Grants Program:

http://www.nifa.usda.gov/funding/rfas/pdfs/14_afri_foundation.pdf

African Association of Plant Breeders (AAPB):

Plant breeding colleagues in Africa continue efforts to establish a plant breeding association patterned after NAPB. Ann Mari Thro, athro@nifa.usda.gov, is leading an effort to identify NAPB members willing to assist with the organization on several levels. The first item of interest is the development of the organization’s constitution. Ann noted, “there is no job description, so it would be up to you, to be as active as you wish or simply ‘come along side’ to encourage.” The main contact for the fledgling organization is Dr. John Derera at the University of KwaZulu Natal in South Africa (dereraj@ukzn.ac.za). Ann Maria is available for further questions and discussions

ASA-CSSA-SSSA Annual Meeting:

The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America will be holding the 2014 International Annual Meetings in Long Beach, CA on November 2 – 5, 2014. Important dates and information about the meetings can be found at: <https://www.acsmeetings.org/>

American Society for Horticultural Science:

The American Society for Horticultural Science (ASHS) will be held July 28-31, 2014 in Orlando, FL. Important dates and information about the meetings can be found at: <http://www.ashs.org/?page=GeneralConference>

Plant Breeding Success Stories

Tomato – Dr. David Francis, The Ohio State University

Next generation sequencing has led to a better understanding of sequence variation and trait associations for multiple crop species. Dr. David Francis and his research team at The Ohio State University have been specifically focused on translating data obtained from next generation sequencing into application by linking genetic variation from the expressed portion of the tomato (*Lycopersicon esculentum* Mill.) genome from six varieties to important agricultural traits. Data obtained from their efforts were used to develop a rapid genotyping tool that allows tomato researchers to screen for over 7,600 genetic differences. The genotyping tool is now available to both academic researchers and private companies for screening their breeding populations. So far the tool has allowed researchers to identify variation in cultivated tomatoes, patterns of selection among tomato varieties and important linkages between sequence variations and traits including bacterial spot resistance and nutritional quality in fruit.

Rice – Dr. Pam Roland, University of California-Davis

While often resistance or tolerance to drought is at the forefront of people's minds when discussing breeding for abiotic stresses, in rice (*Oryza sativa* L.), submergence tolerance is of major importance in some of the poorest areas of the world. In these areas, the rice crop is grown in lowland plots which are rainfed and prone to unpredictable seasonal flooding. Although rice can withstand submergence, when the plant is fully submerged for more than three days, oxygen and carbon dioxide supplies are reduced which interferes with both photosynthesis and respiration. Dr. Dave Mackill and Dr. Pam Roland were funded to isolate the Submergence tolerance 1 (Sub1) QTL in 1995. Building upon the initial identification, Dr. Pam Roland and her research team at University of California-Davis discovered a complex locus of three genes which encode putative transcription regulators of the AP2 class. Furthermore, their work demonstrated that the overexpression of Sub1a confers submergence tolerance. Through collaborative efforts with the International Rice Research Institute (IRRI), the Sub1a gene has been introduced into



agronomically important varieties via marker-assisted selection. It was estimated that nearly 3 million farmers would plant rice containing the Sub1a gene in 2013.

Join NAPB TODAY!

Would you like to join and support the National Association of Plant Breeders? To join, please go to <http://www.plantbreeding.org/napb/index.htm>, scroll down to “How to join/ Information for new member” and follow the links. Remember that you DO NOT have to be a member of any other professional organization to join NAPB. The tri-societies, ASA-CSSA-SSSA, are handling our membership database and email list server under contract to NAPB.

Nominate Breeders/Scientists/Students for NAPB Awards

Everyone is encouraged to consider colleagues and students for nomination for NAPB awards; details below.

Announcing the:
4th Annual Meeting of the National Association of Plant Breeders, and the
8th Annual Meeting of the Plant Breeding Coordinating Committee

“Breeding for Water Stress”

Minneapolis, MN August 5-8, 2014

Early Bird discount May 30, 2014

PlantBreeding.org

Abstract submission deadline June 2, 2014
Nominations for 2014 Plant Breeding awards deadline
June 16, 2014

Meeting Registration Opening in April!

- Registration: \$450 full members; \$150 students

Hotel reservations: Minneapolis Airport Marriott

NAPB Rate is \$121 per night; Room block expires June 23, 2014.

- **To book your room**
 - **Web:** [Book your group rate: NAPB Conference 2014 >>](#)
 - **Phone:** Phone 800-228-9290 or 952-854-7441 ask for “NAPB Annual Conference”
- **Hotel Information**
 - **Web** -<http://www.marriott.com/hotels/travel/mspm-mn-minneapolis-airport-marriott/>
 - The Minneapolis-St. Paul International Airport (MSP) is a short distance from the hotel and will be the best option for those traveling by air
 - **Free shuttle** to/from the airport
 - **Call 952-854-7441 Ext 4122 for pickup**
 - If you are driving, the hotel address is
 - 2020 American Boulevard, East Bloomington Minnesota 55425
 - They offer **complimentary on-site parking**
 - **Free guestroom internet access** for NAPB meeting attendees
 - **Conference rates** available August 5-8, 2014 if you plan to extend your stay (call hotel directly)

2014 NAPB/PBCC Joint Program

- Tuesday, August 5th
Opening reception
- Wednesday morning, August 6th
Business Meetings
- Wednesday afternoon,
2013 NAPB Awardee talks
Breeding for Water Stress
Student poster introductions
Poster session 1
- Thursday morning, August 7th
Tour - Syngenta Stanton, MN station
- Thursday afternoon
Graduate student talks
Poster session 2
Controlling Genotype x Environment Interactions
Phenotyping and Physiological Responses of Water Stress
- Thursday evening
Reception/Dinner
NAPB/PBCC Awards
Plenary Speaker
- Friday morning, August 8th
University of Minnesota Field Day
- Friday afternoon
Closing session
Workshops
Graduate student workshop - Industry Breeders' Perspectives
Tools to Model and Optimize Breeding Programs

Confirmed Speakers:

- Dr. William Beavis, Iowa State University, Ames, IA
Dr. Patrick Byrne, Colorado State University, Fort Collins, CO
Dr. Maria Deguera, University of California, Davis, CA
Dr. Jane Dever, Texas A & M, College Station, TX
Dr. Nancy Ehlke, University of Minnesota, Minneapolis, MN
Dr. Ron Ferris, Syngenta Seeds, Stanton, MN
Dr. Chad Geater, Syngenta Seeds, Slater IA
Dr. Jerry Hatfield, Iowa State University, Ames, IA
Dr. Elliot Heffner, Pioneer Hi-Bred, Des Moines, IA
Dr. Johnie Jenkins, 2013 Lifetime awardee, USDA/ARS, MS
Dr. David Mackill, Mars Incorporated, Davis, CA
Dr. Rita Mumm, University of Illinois, Urbana, IL
Dr. Seth Murray, 2013 Early Career awardee, Texas A & M, College Station, TX
Dr. Ian Ray, New Mexico State University, Los Cruces, NM
Dr. Diane Rowland, University of Florida, Gainesville, FL
Dr. Mark Sorrells, Cornell University, Ithaca, NY

★ Sponsorship Opportunities

Please contact Allen Van Deynze, avandeynze@ucdavis.edu

National Association of Plant Breeders 2014 Awards

The National Association of Plant Breeders (NAPB) is pleased to announce that nominations are now being accepted for three professional awards and six "student" awards. Awardees will be recognized at the NAPB Annual Meeting on August 5-8 in Minneapolis, MN. Annual Meeting information can be found at <http://www.plantbreeding.org/napb/Meetings/Meetings.html>

EARLY CAREER AWARD - Recognizes a young public or private sector scientist who is active in the plant breeding field. Applicants should exhibit the ability to establish strong research foundations (experimental techniques, novel ideas, publications, etc.), to interact with multidisciplinary teams, and to participate in professional societies relevant to their discipline. The nominee must have obtained their Ph.D. after December 31, 2004.

LIFETIME ACHIEVEMENT AWARD - Recognizes an individual who has given distinguished longterm service to the plant breeding discipline in areas such as breeding/genetics research and publication, education (graduate or undergraduate training), extension outreach, and regional, national, and/or international leadership.

PLANT BREEDING IMPACT AWARD - Recognizes an individual who has made significant advancements in the field of plant breeding, specifically in the area of applied variety and/or technology development. Public or private plant breeders whose improved germplasm or technological contributions have had a measurable impact on crop production are eligible to receive this award.

Nomination procedures and entry forms containing more detail are included with this announcement and may be found on our website <http://www.plantbreeding.org/napb/Awards/Awards.html>. These awards are not based on the nature of employment (public, private, etc.) and the nominee does not have to be a member of the NAPB.

Award recipients will be recognized at the NAPB annual meeting the year of the award, where they will receive a plaque and cash award (if applicable). Furthermore, the awardees will be announced on the NAPB web site. In addition, awardees will be provided a reimbursed trip to the next year's NAPB annual meeting, where they will be expected to give a presentation.

Nominations are currently being accepted and the final deadline is **June 2, 2014 (5:00 pm Pacific time)**. Awards nominations that were previously submitted and were not awarded must be resubmitted annually for continued consideration (and the nominee must still be eligible for the Early Career Award), but letters of support can be used for up to three years. For inquiries or questions please contact the Awards Panel Chair, Phil Simon, 608-262-1248, psimon@wisc.edu

CURRENT & RECENT GRADUATE STUDENT AWARDS

INVITED ORAL PRESENTATIONS (3) -- based on accepted poster abstracts of qualified

applicants. Three 15-minute slots for oral presentations will be awarded to three advanced graduate students or recent graduates whose research is judged to be most meritorious, based on their poster abstracts. Details, qualifications and rules will be provided in the abstract submission instructions. *Winners will be contacted before the meeting.*

GRADUATE STUDENT POSTER AWARDS (3) – Three posters (1st, 2nd and 3rd places) will receive monetary awards (\$300, \$200 and \$100). To be eligible, the graduate student must be "first author" and the "presenting author" and thus in attendance. The posters should report on the student's graduate breeding/genetics research. Criteria for quality will include content and delivery. Details, qualifications and rules will be provided in the abstract submission instructions and meeting program.



Make a Vacation out of it! Explore Minnesota:

- ✓ **World Famous Mall of America – great shopping, restaurants & attractions**
Conveniently within walking distance or take the free hotel shuttle
 - <http://www.mallofamerica.com/>
- ✓ **Go canoeing, rent a bike or go for a walk around the Chain of Lakes in Uptown. Fun shopping and restaurants - 9 miles**
 - http://www.minneapolisparks.org/grandrounds/dist_cl.htm
 - <http://www.minneapolisparks.org/default.asp?PageID=4&parkid=235>
 - http://en.wikipedia.org/wiki/Uptown,_Minneapolis
- ✓ **Catch the Twins play the Padres at Target Stadium – 10 miles**

- http://minnesota.twins.mlb.com/schedule/index.jsp?c_id=min#y=2014&m=8&calendar=DEFAULT
- ✓ **Walker Art Center & Sculpture Garden- 10 miles**
 - <http://www.walkerart.org/>
- ✓ **Valley Fair Amusement Park- 15 miles**
 - <https://www.valleyfair.com/>
- ✓ **Minnesota Zoo - 11 miles**
 - <http://www.mnzoo.org/>

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