the PLANT BREEDING CENTER
UNIVERSITY OF CALIFORNIA, DAVIS

June 2015

Plant Breeding for Food Security: The Global Impact of Plant Genetics in Rice Production

On Thursday May 28th, the Plant Breeding Center, in collaboration with the Confucius Institute, hosted the Plant Breeding for Food Security symposium. The symposium focused on the global impact of plant genetics to rice production in honor of the work of UC Davis Alumnus and Adjunct Professor, Dr. Gurdev Khush. Over 200 guests came from all over the world to attend the day-long symposium to discuss the advances of global production in rice, wheat, and tomato, the future obstacles that face an ever-growing world population, and the technologies that will revolutionize farming and food production.

To give the audience some perspective on the breadth of Dr. Khush's global recognition, Dr. David Lobell, Associate Professor at Stanford University, explained:

"To an American, it's hard to understand just how important rice and rice breeding is to the world. Recently, I was traveling around Eastern India with some younger colleagues from CIMMYT. It was during the cricket world cup, so we spent a lot of time talking about sports. When the topic came to basketball, my colleagues said their favorite player was the tall guy with a bald head, 'Michael something.' They asked me where I live, and I mentioned that I live next to the daughter of Gurdev Khush. I asked if they knew who he was, and they both tilted their heads to say, 'Of course.' 'Everyone knows Dr. Khush,' they agreed. For an American like me, maybe the best way to understand the impact of Gurdev Khush is to know that in many places, he is more of a household name than Michael Jordan."

Dr. Khush received his Ph.D. from UC Davis in 1960 and became the Head of the Plant Breeding Department at the International Rice Research Institute (IRRI) in the Philippines, where he played a key role in developing over 300 strains of rice. He is lauded as a key leader in the Green Revolution in the 60s in Asia for his development of strains IR36 and IR64, varieties that produced a higher volume of grains per plant and are credited with vastly improving the global supply of rice during a period of extensive population growth. He was honored with the World Food Prize in 1996 for his efforts, the Borlaug Award in 1977, the Japan Prize in 1987, and the Wolf Prize in 2000. He returned to UC Davis as an Adjunct Professor in 2002.

In a panel of his international colleagues and mentees, Dr. Khush addressed the symposium to discuss the challenges he faced during the Green Revolution, and once again expressed his dedication to and deep appreciation for the faculty he learned from, claiming, "UC Davis faculty prepared me for those challenges." Audience members engaged the highly respected line-up of international and local speakers with questions and suggestions for future research, and to share stories of how Gurdev inspired them in their own work.

Symposium topics also included on overview of the California rice industry, the cultural differences between rice-growing and wheat-growing communities in China, and current collaborations in the African Orphan Crops Consortium. The symposium concluded with a dedication and ribbon cutting ceremony for the Gurdev Khush Conference Room in the Plant Reproductive Biology building. Several members of the Khush family attended, along with many of Dr. Khush's colleagues and fans. UC Davis faculty spoke at the dedication, including Chair of the Plant Sciences Department, Chris van Kessel, Drs. Kent Bradford and Alan Bennett, and Gurdev Khush himself.

-Amanda Pietras

UC DAVIS NEWS

UC DAVIS, HM.CLAUSE PARTNER TO OPEN LIFE SCIENCE INNOVATION CENTER SEEDQUEST

This joint venture builds on a long-standing partnership between the university and HM.CLAUSE, a global leader in the production and sale of vegetable seeds, to provide the facilities and support needed to turn viable ideas in all areas of life science into successful technology businesses. The shared goal of UC Davis and HM.CLAUSE is to create an environment that breeds innovation, fosters creativity and inspires synergy.

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CHALLENGES AND OPPORTUNITIES FACING THE SEED INDUSTRY - A PRIVATE LUNCH WITH MATTHEW JOHNSTON, PRESIDENT AND CEO OF HM.CLAUSE SEEDQUEST

BY JENNIFER HEBETS

For HM.CLAUSE, the future of their business lies in ensuring that growing populations in emerging economies have the economic means to buy their seeds. For society, the future of food security lies in having access to nutritious and environmentally resilient food sources. With the right approach toward building robust partnerships across disciplines and over the long term, these interests can be very much aligned.

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RELATED NEWS

AS GLOBAL POPULATION GROWS, IS THE EARTH REACHING THE 'END OF PLENTY'? FRESH AIR

In the 1960s, the farmers of Egypt grew enough wheat to feed the country and export some to its neighbors. But as the country's population grew, its farmers couldn't keep up, and Egypt is now the world's largest importer of wheat. When international food prices spiked in 2008, there were bread riots in the streets of Cairo. Our guest Joel Bourne says Egypt's problems illustrate a terrifying fact facing all humanity - the world is running out of food.

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OPPORTUNITIES AND EVENTS

THIRD THURSDAY
ARCADIA BIOSCIENCES
2:00-4:30PM, JUNE 18TH, 2015
202 COUSTEAU PLACE, SUITE 105 (DAVIS)
20212 COUNTY ROAD 103 (WOODLAND)

This month, we will be visiting Arcadia Biosiences. Tour will begin in the Davis location with a molecular biology overview, observing the transformation lab, analytical services and regulatory support, and observing the growth chamber. The tour will conclude after a trip to the Arcadia Biosciences greenhouse location in Woodland. Please note the change in time due to summer hours. The van will arrive behind PES at 1:15 and will depart at 1:30 sharp.
Register for vanpool **here**.

NATIONAL ASSOCIATION OF PLANT BREEDERS ANNUAL MEETING
JULY 27-30, 2015
WASHINGTON STATE UNIVERSITY PULLMAN, WA

The 2015 NAPB/PBCC conference will feature sessions focusing on "Exploiting genetic resources in public and private breeding programs," "Plant breeding organization, policy, and funding," and workshops on "Breeding for consumer product quality: successes and failures," and "Diverse skills needed for a diverse plant breeding workforce." Graduate student mini-presentations, abstract competition winner presentations and poster sessions will be a major feature of the program as in previous years.

Inspired by the donation of an alum, The Plant Breeding Center is pleased to announce a limited number of $500 travel scholarships for graduate students to attend the NAPB Annual Meeting. Students must present a poster at the meeting and submit their accepted abstract. The PBC will be renting a van for students to carpool to the conference. For more information, and to apply for funds, click **here**.

ASA, CSSA, AND SSSA ANNUAL MEETING
NOVEMBER 15-18, 2015
MINNEAPOLIS CONVENTION CENTER, MN

The 2015 Annual Meeting offers a unique opportunity as ASA, CSSA, and SSSA co-locate with the Entomological Society of America (ESA) to connect more than 7,000 scientists, professionals, educators, and students.
ABSTRACT DEADLINE: June 16th, 2015
For more information, or to register, click **here.**

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