

# TEXAS A&M PLANT BREEDING BULLETIN

## September 2013

**Our Mission:** Educate and develop Plant Breeders worldwide.

**Our Vision:** Alleviate hunger and poverty through genetic improvement of plants.

Our Distance Plant Breeding Program continues to mature and stimulate excitement among our plant breeding faculty and draw interest from around the world. We're entering only our second academic semester as an approved program and we have seven students enrolled, six Ph.D. candidates and one non-thesis option M.S. student. Another student is confirmed for Spring Semester 2014 with three additional students expected for Fall Semester 2014. We anticipated this rate of growth and the faculty are developing their courses into distance formats and gaining experience in distance delivery. I should note also that our traditional graduate student training model in the Department of Soil and Crop Sciences is thriving with 39 Agronomy majors, 11 Food Science and Technology majors, 12 Molecular and Environmental Plant Science majors, 34 Soil Science majors, and 42 Plant Breeding majors.



**Kotilingam (Koti) Konda is a rice breeder for Bayer CropSciences located in Hyderabad, India. He initiated his Ph.D. in Plant Breeding through our Distance Program in the summer 2013 semester. Dr. Amir Ibrahim met with Koti and Dr. Yog Raj, rice and millet breeder with Bayer CropScience, in Hyderabad in August. Dr. Amir Ibrahim, wheat breeder and Professor at Texas A&M, serves as Koti's on-campus Graduate Advisory Committee co-chair and Dr. Yog Raj serves as his distance co-chair. Yog leads Bayer's rice and millet breeding program for Asia. Dr. Rodante Tabien, rice breeder and professor at the Texas A&M AgriLife Research Beaumont Center serves as a member of Koti's committee.**

**Koti visited campus on 11-13 June and met with several faculty and graduate students. Dr. Ibrahim was traveling in Asia in August and had the opportunity to meet with Koti and Dr. Raj in Hyderabad to finalize Koti's degree plan and his dissertation research plan. Koti's dissertation will focus on genetic analysis of Indica Rice (*Oryza sativa* L.) genotypes for F<sub>1</sub> hybrid seed production, including restorer potential, and Brown Plant Hopper (BPH)**



**resistance. Koti will conduct his genotyping work at Bayer's genomics facility in Singapore and his phenotyping work at Bayer's breeding station near Hyderabad India (shown right above).**

**Dr. Ibrahim noted, "we believe this investigation will result in identification of markers linked to hybrid seed production traits such as photoperiod sensitivity and pollen load, in addition to BPH resistance. Project outcomes will facilitate the identification and development of new restorer lines resistant to BPH that also have stable flowering behavior with good pollen production. Further establishment of trait-linked markers could lead to the development of new restorer lines with good hybrid seed production potential as well as BPH resistance through marker- assisted breeding strategies."**

**In addition to his dissertation research hours (SCSC 691), Koti will take distance education courses, delivered over the internet, including Plant Path 603, Genetics, Statistics 651 and 652, Plant Breeding 641, 642, 643, Genomic Analysis 654, and Experimental Designs 660. He will have the opportunity to add business and leadership courses at a distance. “We believe this strong program will provide a good model that facilitates training of busy plant breeders through distance education and will strengthen collaboration between public institutions and the private sector.” - Amir Ibrahim.**

**We designed our Distance Program for people like Kotilingam (Koti) Konda. We are pleased with our beginning and believe that the future is bright for the program. We believe that through this program that Texas A&M University, Texas A&M AgriLife Research, and Soil and Crop Sciences will continue to make significant contributions to relieving hunger and poverty as our global population rushes toward nine billion people.**

### **Continuing Education in Plant Breeding at Texas A&M University**

**Continuing education course modules in plant breeding and genetics, and related disciplines are available from Texas A&M University to clientele interested in gaining new information in plant breeding or simply seeking refresher courses. This program is designed for individuals employed in private industry, CGIAR centers, government agencies, non-government organizations, and other agriculture professionals who need and desire additional knowledge and training in plant breeding but who are not interested in an additional academic degree. A professional certificate can be a part of this program. No campus visit is required. Course modules currently open for enrollment are**

**[\(https://scsdistance.tamu.edu/purchase/\)](https://scsdistance.tamu.edu/purchase/):**

**Basic Plant Breeding: W. Smith**

**Unit 3: Cross Pollinated Crops (August 26 – November 1)**

**Advanced Plant Breeding: W. Rooney**

**Unit 1: Principles of Plant Breeding (August 26 – September 27)**

**Unit 2: Selection: Theory and Practice (September 30 – November 1)**

**Unit 3: Statistical Tools (November 4 – December 3)**

**Experimental Designs in Agronomic Research: A. Ibrahim**

**Unit 1: Factorial Designs (August 26-September 27)**

**Unit 2: Factorial and Unbalanced Designs (September 30 – October 22)**

**Unit 3: Correlation, Regression, Covariance, & Biplot (October 24 –  
December 3)**

**Other Continuing Education courses in plant breeding and related disciplines that will be available include Host Plant Resistance; Selection Theory; Marker Assisted Selection; Genomic Analysis; Field Crop Diseases; Field Insects; Essential Nutrients in Crop Growth; and others. For more information visit <https://scsdistance.tamu.edu/> or contact LeAnn Hague, Distance Education Coordinator in Soil and Crop Sciences at [leann.hague@tamu.edu](mailto:leann.hague@tamu.edu) or (979)845-6148.**

**Texas A&M AgriLife Research Plant Breeding Highlighted in European Publication, *International Innovation* ([www.researchmedia.eu](http://www.researchmedia.eu)).**

**Our plant breeding efforts were highlighted in an interview article in *International Innovation*, a United Kingdom based publication that publishes articles across all field of Science, Research, and Technology. Our article is available at <https://scsdistance.tamu.edu/files/International%20Innovations%20Article.pdf>.**

**Please direct comments concerning this bulletin to Wayne Smith, [cwsmith@tamu.edu](mailto:cwsmith@tamu.edu) or 979.845.3450.**