

International Crops Research Institute for the Semi-Arid Tropics

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Molecular Breeding for a Hunger-Free World

“Indian farmers have been practicing selective breeding for a long time. We just take it one step further by showing farmers precisely which genes produce favorable qualities. This will help them make more effective selection of crop parents. It has nothing to do with artificial gene modification.” This is how Director General Dr William Dar encapsulated the essence of the launching of Molecular Breeding

Platform (MBP) in Hyderabad, India on 17 February.

Attended by over 80 key staff of CGIAR Centers and their partners, the four-day launch program of MBP is jointly initiated by the Generation Challenge Program (GCP) – a consortium of CGIAR institutes in collaboration with the Bill & Melinda Gates Foundation (BMGF).

The MBP will develop and deploy a sustainable web-based one-stop-shop for information, analytical tools and related services to design and efficiently conduct molecular-assisted breeding experiments. It will additionally bridge the gap between upstream and applied research in sub-Saharan Africa and South and Southeast Asia. It will have three components: the molecular



Dr Dar with participants of the MBP launch program.



Dr Dar speaks at the launch program.



Jean-Marcel Ribaut, Graham McLaren, Dr Dar, Dave Bergvinson and RR Sinha interacting with the media.

breeding portal and helpdesk, information system and services.

The overall objective of the MBP is to provide access to and facilitate the adoption of modern breeding technologies, breeding materials and related information to improve plant breeding efficiency in developing countries.

Further in his address, Dr Dar pointed out that the global agricultural production will need to grow by 70% by 2050 to feed a projected population of about 9.1 billion. "This can happen in three ways – by bringing new land into agricultural production,

increasing the cropping intensity on existing agricultural lands, and by increasing yields on existing agricultural lands," Dr Dar stated.

Describing ICRISAT's role in the MBP, Dr Dar said that the Institute will be involved in identifying, deploying and supporting tools for the management of genotypic characterization. It will also be concerned with establishing middleware infrastructure for networking database and applications and implementing a configurable workflow system for molecular breeding.

Later speaking to the media, Dave Bergvinson, Program

Officer of the BMGF, said that the Foundation will invest \$12 million spread over five years. He said that the submergentolerant Swarna-Sub 1, a marker assisted rice hybrid, has been successfully tested by the Bisauri Regional Progressive Farmers Association in Uttar Pradesh under the supervision of Banaras Hindu University.

Chairing the event, Dr Jean-Marcel Ribaut, GCP Director, announced that MBP will be a non-profit public good. Graham McLaren, Head, Bioinformatics and Crop Information Systems at GCP explained the meeting objectives. RR Sinha, advisor Department of Biotechnology, Government of India also spoke.

New Governor keen on visiting ICRISAT

Director General Dr William Dar accompanied by DDG-R Dave Hoisington met the honorable governor of Andhra Pradesh, ESL Narasimhan at the Raj Bhavan on 17 February. Governor Narasimhan assumed charge on 22 January. This was a follow-up of an interaction between the DG and the Governor during the recent BioAsia meet in Hyderabad.

During the courtesy call, the leadership of ICRISAT appraised the governor of its activities in the semi-arid tropics of the world where most of the poorest people live. Dr Dar was very specific in mentioning ICRISAT's pioneering work in watersheds particularly the Kothapally model. He also invited the Governor to visit ICRISAT.

Responding to the warm invitation, the Governor said that he would not only like to visit the headquarters in Patancheru but also places like Kothapally, where he could see the fruits of ICRISAT's labor. He enquired how ICRISAT could scale up its achievement for the benefit of a larger population.

Sweet sorghum stover enhances milk yield and fat percentage

ICRISAT and partners are working with farmers in Ibrahimbad cluster in Medak district to promote the multipurpose sweet sorghum crop. ICRISAT and partners enable farmers to take advantage of the food, feed and fuel value of sweet sorghum by linking them to markets under the National Agriculture Innovation Project (NAIP), an Indian Council of Agricultural Research (ICAR) funded sub-project on *Sweet sorghum ethanol value chain development*.

Keeping in view the Institute's experiences of bagasse feeding to milch animals, efforts were made during the previous monsoon to sensitize farmers about the advantages of using sweet sorghum bagasse as animal feed.

Simultaneously, ICRISAT encouraged private dairy farmers who use sorghum stover and fodder traders who supply chopped sorghum



Ch Ravinder Reddy with sweet sorghum farmers at Siddapuram village, in West Godavari district.

stover to the dairies in Hyderabad, to adopt sweet sorghum bagasse as animal feed.

Farmers from Siddapuram village, Akiveedu Mandal of West Godavari district visited the decentralized crushing unit (DCU) at Ibrahimbad and had hands-on experience about the sweet sorghum fodder value chain process and the impact of bagasse feeding on milk yield from the local farmers. They purchased 100 kg seed of sweet

sorghum hybrid CSH 22 SS from ICRISAT and sowed in the rice fallows (after harvesting rainy season paddy) in November 2009, along with black gram as a mixed crop. Sowing black gram in rice fallows is a general practice in that region as it helps utilize residual moisture and enriches soil as it is a legume crop. Nearly 20 farmers have taken up sweet sorghum for fodder in over 1-2 acres each, in West Godavari district.

On the request of farmers of Siddapuram village, Ch Ravinder Reddy, Scientist (Technology Exchange) visited their village. During the visit, he discussed with a farmer, Satyanarayana Raju about the status of sweet sorghum crop in the field and its productivity. An increase in the yield and fat content of cow's milk was observed at Mr Raju's farm by three other farmers, who started feeding sweet sorghum stalks to their cows from 1 February.



Milch animals relish sweet sorghum stover.

New Governing Board Member visits Patancheru



Dr Dar with new GB member Dr Adama Traore.



Dr Adama Traore planting a sapling in the presence of Dr Dar.

Dr Adama Traore, new member of ICRISAT Governing Board visited ICRISAT-Patancheru on 18 February. During his visit Dr Adama met Director General Dr William Dar and DDG-R Dave Hoisington. He planted a sapling marking his visit to Patancheru.

During the day the GB member visited the RS Paroda genebank, laboratories and interacted with scientists.

Dr Traore, who has a PhD in veterinary medicine from Karl Marx University, Leipzig, Germany, is Executive

Secretary and Research Director of Mali's National Committee on Agricultural Research (CNRA). He has also been member, Board of Trustees, West Africa Rice development Association, and Advisory member of American-Eurasian network.

ICRISAT participates in ISBA 2010 annual conference



SM Karuppanchetty speaks at the ISBA-2010 annual conference in New Delhi.

Agri-Business Incubator at ICRISAT (ABI) participated in the fourth annual conference cum exhibition of the Indian Science and Technology Entrepreneurs' Parks and Business Incubators Association (ISBA) 2010 held in New Delhi from 8 to 10 February. The focal theme of the conference was *Innovation through incubation: way forward for sustained inclusive growth*.

Prithviraj Chavan, Minister of state for Science & Technology and Earth Sciences inaugurated the three-day conference and

said, "Incubation is the best vehicle for innovation, which can play a significant role in achieving inclusive growth. There is much greater potential left to be harnessed to bring technologies to the market and convert our young technopreneurs to become job creators instead of job seekers".

T Ramasami, Secretary Department of Science and Technology and SK Brahmachari, Secretary, Department of Scientific and Industrial Research also addressed the participants. RMP Jawahar, President, ISBA, Rajendrea Jagdale, Secretary General, ISBA and Arun Nigavekar, Mentor Academia-R&D Workshop, ISBA were also present. SM Karuppanchetty, accompanied by Rama Sunderraj, attended the conference and made a presentation on *Seed Business Incubation - Promoting Sustainable Social Enterprises*.

The exhibition gave a unique opportunity to people to witness some of the novel technologies and products in areas ranging from crime detection, hazard mitigation, herbal pesticides, value added products made from forest wastes and bio-diagnostics. Around 200 national and international delegates besides



V Sivaprasad receiving the award from Prithviraj Chavan.

a large number of visitors from academic organizations and investors participated in the exhibition. ABI participated in the exhibition and showcased its newly created Network of Business Incubators (NIABI), which is supported by ICAR-NAIP.

The ISBA-2010 also hosted the second ISBA innovation and entrepreneurship award. Union minister Prithviraj Chavan gave the national award for Outstanding TBI 2010 (Technology Business Incubators) to Vellore Institute of Technology. He also gave away ISBA 2010 Awards to nine outstanding incubatee companies under different categories.

An incubatee of ABI, M/s Matrix Agri-Sciences Pvt. Ltd received the Best Start-up Entrepreneur award. The award has been given in recognition of establishing and running its business successfully with ABI support. V Siva Prasad, Chairman and Managing Director, thanked ISBA and ICRISAT for supporting their venture through incubation.

The first annual conference of ISBA was held at ICRISAT-Patancheru in February 2007. Supported by the Department of Science and Technology of Government of India, the conference has gained substantial momentum and is now a recognized event in the global incubation industry.

Expert consultancy for strategic planning

After the successful completion of the three regional in-house retreats, an expert consultancy workshop will take place in Patancheru from 23 to 25 February. This event will involve

experts from several countries and ICRISAT's Management Group. Jürgen Hagmann of the People, Innovation and Change in Organizations (PICO Team) who helped in the regional

retreats will also facilitate this event. The general strategic plan framework based on the outcome of this and previous events will be reported to the ICRISAT Governing Board in March.

Team building program



Team FETS with Dr Dar and M Prabhakar Reddy at Ramoji Film City.

On the successful completion of the year 2009 and the merging of Transport Services with Farm & Engineering Services (FETS), Team FETS have ushered in 2010 with renewed gusto and camaraderie.

The staff members of FETS celebrated the occasion with a 'Team Building Program' at Ramoji Film City in Hyderabad on 14 February. Nearly 150 staff along with Director General Dr William Dar actively participated in a day-long program which

consisted of team building exercises, fun games, sight-seeing and other events.

The program concluded with prize distribution by Dr Dar to the winners, followed by his inspiring speech.

Change in phone numbers

The Area Code number of ICRISAT-Bulawayo has been changed. It is very similar to the

old number but the Matopos Area Code number has a digit added to it.

The new office number is: +263 383 311 to 15, and the new fax number is: +263 383 307.

News for IFC members

ICRISAT Fishing Club (IFC) Executive Committee is pleased to announce a get together with lunch for all its members on Sunday, 28 February from 1100 to 1500, at Mary Cummings

Park, Patancheru. All IFC members are invited to participate in the get together. Interested members may furnish the details – employee name, ID number, boarding

point (if transportation is required from the city) – to Bryan Moss, GT – BT Extension 2397/2368 or Email [Moss, Bryan (ICRISAT-IN)] well in advance.

Military coup in Niger

A coup has taken place in Niger and the president has been captured after a gun battle in the capital, Niamey. President Mamadou Tandja is believed to

be in captivity at a military barracks. Reports say government ministers are also being held. Making the announcement on television,

the spokesman for the coup leaders, wearing a military uniform, was surrounded by a large group of soldiers.

Farewell

Michael K Butterfield, Global Theme Leader-Biotechnology, concluded his assignment with ICRISAT on 19 February.

We wish him all success in his future endeavors.

Vincent Vadez, Principal Scientist (Plant Physiology) will be the Acting Global Theme Leader-Biotechnology.



Dr Dar presenting a memento to Michael K Butterfield. DDG-R Dave Hoisington is also present.

Visitors' log

Under the aegis of International Fund for Agricultural Development (IFAD) Grant No.954-ICRISAT Project, a group of 20 farmers from Nepal, accompanied by R Darai, Senior Technical Officer paid a 4-day visit to Patancheru. They were here to learn about integrated crop management and seed production methods in groundnut, chickpea and pigeonpea. These farmers came from Dailekh, Doti, Jumla, Surkhet and Nepalgunj districts. Some of these districts in the western uphill region of Nepal are very remote. For many

farmers, it was the first time they were coming down to the plains and travelling such a long distance by train.

Gowda, Global Theme Leader – Crop Improvement welcomed the farmers and advised them to take maximum advantage of this visit and adopt ICRISAT technologies to increase productivity of legume crops in their cropping systems.

Scientists and staff members of the groundnut research unit (SN Nigam, Venuprasad, GV Ranga Rao, V Rameswar Rao, D Yadagiri and AGS Reddy),

chickpea (PM Gaur and BV Rao) and pigeonpea (KB Saxena and Rakesh K Srivastava) served as resource persons. MM Sharma conducted a tour of ICRISAT research farm and a visit to the watersheds of Kothapally. During their stay at Patancheru, they also visited historical places in and around Hyderabad. In the wrap-up meeting, they shared their experiences and cleared their doubts about pigeonpea, chickpea and groundnut cultivation. Each of them was also given a set of protective clothing for use during chemical spray operations. After reaching Nepalgunj, they sent a message thanking ICRISAT and said that the trip was memorable and amazing.

A batch of final year BSc (Agriculture) students from Adiparasakthi Agricultural College, Vellore, Tamilnadu visited Patancheru on 12 February.

Around 100 students from Chandra's concept school had a guided tour of ICRISAT on 15 February.



Nepalese farmers with their mentors at Patancheru.

Welcome



Samuel MC Njoroge.

Samuel MC Njoroge, a Kenyan national, joined as Associate Professional Officer (Groundnut Pathology) at ICRISAT, Lilongwe on 1 February. Sam attended our planning week in Nairobi recently, and has just moved to Malawi to take up the assignment.

Sam has his PhD in Plant and Environmental Sciences (Plant Pathology) in 2006 from Clemson University, Clemson, South Carolina. Prior to joining ICRISAT, he was a Post-Doctoral Scholar in the Department of Plant Pathology, University of California at Davis.



George Enoch Okwach.

George Enoch Okwach, a Kenyan national, joined ICRISAT, Bamako as Project Manager, HOPE Project for Sorghum and Millets on 1 February.

George completed his PhD in Soil Science (Hydrology) from Griffith University, Australia in 1994. He joined the Kenya Agricultural Research Institute in 1981, and worked at the National Dryland Farming Research Center as a Research Scientist. After obtaining his PhD, he became its Director in 2001. Prior to joining ICRISAT's HOPE Project, he worked as the Director/CEO of the Kenya Sugar Research Foundation, a position he held for five years. George is married and has two children.

Team ICRISAT welcomes Sam, George and their families to ICRISAT and wishes them all success.

Thought for the week

Tolerance implies no lack of commitment to one's own beliefs. Rather it condemns the oppression or persecution of others.

– John F Kennedy



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