January – June 2009

Recent publications

Araus, J.L., Bänziger, M., Ploidy K., Kosina, P. 2009. La genetica del Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT).

More information: Jose Luis Araus (j.araus@cgiar.org)


More information: Yunbi Xu (y.xu@cgiar.org)

DTMA Drought Phenotyping Protocol


Other key events at a glance

1. Regional Maize Working Group Meeting (Eastern and Central Africa): Dar es Salaam, Tanzania 4-5 February 2009
2. National Variety Release Committee Workshop and Meeting: Lilongwe, Malawi 16 February 2009
22-23 April 2009
27-30 May 2009

Ghana, Mali and Zambia win excellence awards

The 2008 DTMA excellence awards in West Africa were won by Ghana (breeding) and Mali (technology dissemination). The awards were presented to the proud winners by Paula Bramel, Deputy Director General (Research), IITA in March 2009. In southern Africa, Zambia won the breeding award, which was presented by Wilfred Mwangi, leader of the DTMA Project, also in March 2009. Congratulations to the winning teams!

New climate-ready maize varieties released in Malawi

In March 2009, two new drought tolerant maize varieties — ZM 309 and ZM 523 — were officially released in Balaka, Malawi. Developed jointly by CIMMYT and the Ministry of Agriculture and Food Security, the varieties are suitable for drought-prone areas with poor soils in Malawi and other parts of eastern and southern Africa. “We thank CIMMYT for support in developing these new varieties,” said Dr. Andrew Daudi, Principal Secretary, Ministry of Agriculture and Food Security, Malawi. “These varieties will help Malawi to alleviate poverty and hunger, and cope with climate change; which these days is becoming a reality.” ZM 309 will be included in the Malawi subsidy program in coming seasons, once enough seed is available. Both varieties are also resistant to most common maize diseases. Farmers who planted them on-farm demonstrations have even given them local names calling ZM 309 “Mkawa sala” (early-maturing) or “Msunga banja” (that which takes care of or feeds the family). About 300 demonstrations of the new open-pollinated varieties (OPVs) have been set up in farmers’ fields. More: http://blog.cimmyt.org/?p=785

West Africa holds regional planning meeting

From 29 March – 1 April 2009, Wilfred Mwangi joined West African project scientists and national collaborators from Benin, Ghana, Mali and Nigeria at the International Institute of Tropical Agriculture (IITA) in Ibadan, Nigeria, for the regional planning meeting. During the meeting, members reviewed progress made in 2008, and made plans to achieve even more in 2009.

“So far, farmers report positive experiences with some of the maize varieties evaluated through the DTMA Project last season, and we are encouraged by this,” said Prof. Tanimu Balarebe, Director of the Institute for Agricultural Research (IAR), Zaria, Nigeria. “The IAR will fully support the DTMA Project, especially in timely variety release.” During the meeting, breeders were encouraged to look out for varieties that combine drought tolerance with tolerance to Striga and low soil fertility, since many farmers had identified these as priorities.

Maize technicians in Ghana and Zambia upgrade skills

In April 2009, 30 maize technicians representing seed companies and national agricultural research systems took part in a training course on breeding and variety testing organized by the DTMA Project in Kumasi, Ghana. This training was much appreciated since the last such training had been conducted more than 10 years ago. A similar training was organized for 19 maize technicians in Lusaka, Zambia in May 2009. Topics covered included: management of field trials and nurseries; seed production; screening for drought, Striga, low soil fertility; and variety release approaches and systems. After the theoretical
sessions, the participants tried out their new skills practically. DTMA Project scientists and collaborators conducted the training and included: Baffour Badu-Apraku (IIITA), Peter Setimela (CIMMYT), Manfred Ewool (Crop Research Institute, Ghana), Prof. M. Fakorede (Avelowo University, Nigeria), Mick Mwala (University of Zambia), Catherine Mungoma and Mwansa Kabambe (Golden Valley Research Institute, Zambia) and Francisco Miti (Seed Control and Certification Institute, Zambia).

A training course with a difference

In February 2009, the DTMA Project organized a course on best practices in statistics and data management for maize breeders, attended by 27 scientists and students from CIMMYT, IITA and collaborating national agricultural research systems (NARS) in Harare, Zimbabwe.

Course participants brushed up their knowledge and skills in basic and advanced statistical analysis through both theoretical and hands-on sessions. The participants and trainers also had highly interactive discussions touching on practical issues in breeding such as use of molecular marker technology. This technology is set to increase breeding efficiency and improve drought tolerance and disease resistance in maize lines.

The participants also visited maize trials at CIMMYT in Zimbabwe to learn more about best practices in mechanization and electronic capture of field data. Resource persons from CIMMYT were Jose Crossa, Gary Atlin, Cosmos Magorokosho, Bindi Vivek, John MacRobert, Hector Sanchez, Jiankang Wang, Kassa Semagn and Yunbi Xu. Others were Sarah Hearne (IIITA) and Jean Sabado (International Rice Research Institute - IRRI).

So how was this course different from others? “Jose Crossa provided actual SAS codes for key statistical analysis and showed us in a stepwise way how to run statistical analysis such as genotype by environment (GxE) analysis,” says Stephen Mugo, CIMMYT maize breeder and coordinator of the Water Efficient Maize for Africa (WEMA) Project. “Gary Atlin and Sarah Hearne led a discussion that went beyond classroom molecular marker technology to developing a unique step-by-step system of running one of the largest public sector molecular marker breeding programs that the efforts in DTMA and WEMA will become.” SAS is one of the most powerful statistical software available, and Crossa has developed codes useful for running different types of analyses using this software.

In other DTMA Project capacity-building initiatives, in Kenya and Zimbabwe, a total of 17 scientists have been trained in breeding for various stresses and use of Fieldbook, CIMMYT software designed for managing maize breeding programs. Fieldbook can be used for handling maize field experiments, data, stocks, and pedigree information. The NARS scientists were trained through short courses and Visiting Scientist Programs, and came from Botswana, Lesotho, Mozambique, Swaziland, Tanzania, Zambia, and Zimbabwe. More: http://blog.cimmyt.org/?p=1632

TAN 250: crop insurance within the seed

Thousands of Tanzanian farmers who have grown TAN 250 — a new variety of maize developed to cope better with drought and poor soils — are urging other farmers in drought-prone areas in the country to use this variety. They have been impressed by TAN 250’s performance, particularly in the last two main maize growing seasons (2008–2009), which were characterized by high temperatures and irregular rainfall. “I like this variety, TAN 250. It is fast-maturing, can withstand drought, and has large, white, and hard kernels, which make it good for flour milling,” says Pangras Tairo, a farmer in Morogoro. Farmers also say the variety’s hard kernels are not easily attacked by pests in the field or in storage. TAN 254 is another drought tolerant maize variety being promoted. Both TAN 250 and TAN 254 represent fruitful collaboration between CIMMYT, Tanseed International Limited (a Tanzanian seed company) and the Ministry of Agriculture in Tanzania; and come from varieties selected for similar conditions by CIMMYT at Chiредзи, in Zimbabwe. Both varieties were developed through the DTMA Project and officially registered for sale by Tanzania’s competent authorities in 2008.

“At Tanseed, we promote the use of certified seed and with our TAN 250 and TAN 254 varieties, we offer them the promise of a good crop,” says Isaka Mashauri, managing director of Tanseed International. “When the rains are good, farmers can harvest a very good crop. Even when rains are unreliable, farmers can still harvest something — it is like insurance.” More: http://www.cimmyt.org/english/wps/news/2009/jun/nomaizennlife.htm

Forging alliances

Wilfred Mwangi met with Dr. Namanga Ngongi, President of the Alliance for a Green Revolution in Africa (AGRA) on 2 May 2009 to discuss areas of possible collaboration that would add value to both AGRA and DTMA Project activities.

Software updates on the DTMA website

Visit http://dtma.cimmyt.org to download the latest software available for the DTMA Project; new in 2009 includes Fieldbook v8.4.9, FieldLog v2.0 and IMIS (International Maize Information System) version 5.5.

DTM in the news

Below are some links to coverage of the DTMA Project activities between January and June 09


Ministry launches drought resistant maize varieties Lucas Bottoman, Daily News, 23 March 2009 Malawi

