CIMMYT, IITA, ICRISAT and BecA

During 8–14 June 2008 in Nairobi, Kenya, CIMMYT, IITA, ICRISAT, and Biosciences Eastern and Central Africa (BecA) jointly conducted the workshop “Molecular Breeding Capacity Building” for 22 maize and sorghum breeders working throughout sub-Saharan Africa. It was supported by the Generation Challenge Program and the Drought Tolerant Maize for Africa Project. The workshop’s objectives were to discuss the overall opportunities for and constraints on applying marker-assisted selection (MAS), including aspects of genomics, genetics and biometrics, and to strengthen the maize and sorghum molecular breeding communities of practice in Africa. The participants discussed the benefits of molecular breeding for international and national breeding and research programs, as well as issues of access to germplasm, breeding materials, training manuals, and molecular markers.

CIMMYT maize molecular breeder Yunbi Xu and maize breeder Gary Atlin and IITA molecular geneticist Sarah Hearne were the main organizers of the training, with input from Kevin Pixley, Jedidah Danson, Trushar Shah, and Jianbing Yan of CIMMYT and ICRISAT’s Dan Kiambi. Guest speaker Mike Kerns, molecular breeder with Monsanto, provided an overview of molecular breeding programs in the private sector. Presentations from Marianne Bänziger, Director of CIMMYT’s Global Maize Program, Jane Ininda, Program Officer with the Alliance for a Green Revolution in Africa (AGRA), and Segenet Kelemu, Director of BecA-ILRI Platform, set the tone for intensive workshop sessions.

{xtypo_quote_left}The greatest challenge is not just to work on molecular breeding but to make molecular breeding accelerate breeding gains.{/xtypo_quote_left}Through lectures, demonstrations, and other learning activities, the participants considered both classical and emerging issues in molecular breeding, including molecular markers and genotyping systems; marker-assisted breeding; genetic diversity and association mapping; and breeding informatics. Various activities were organized to design marker-assisted breeding programs for drought tolerance, biotic stresses, and other traits of economic importance. “The greatest challenge is not just to work on molecular breeding but to make molecular breeding accelerate breeding gains,” said Bänziger. MAS needs to be integrated with field breeding by addressing specific breeding objectives and combining contributions from scientists in different fields.{xtypo_quote_right}This eye-opening workshop couldn’t have come at a better time.{/xtypo_quote_right}

“This eye-opening workshop couldn’t have come at a better time,” said Lealem Tilahun, maize breeder with the Ethiopian Institute of Agricultural Research. “I am taking home comprehensive knowledge gained in the theoretical and practical aspects of molecular breeding that will greatly assist me in achieving success in my breeding programs in a shorter time.”

Representing seed companies, Musundire Lennin of Seed Co, Zimbabwe, said, “Collaborations such as this provide opportunities for sustaining the continuous gains of research. Up-to-date information and technology from this workshop will assist the seed industry in keeping up with trends, thereby ensuring that the gap between researchers and the market is narrowed.” He suggested: “Follow up visits from leading researchers in marker-assisted breeding will be of great value in optimally using the momentum gathered in MAS research in private seed companies towards alleviating the current global food crisis.” Read more CIMMYT informa No. 1611, June 13 - 20, 2008 84.63 Kb