



# INSIDE

# INTSORMIL

July, 2004

Sorghum/Millet Collaborative Research Support Program Newsletter

Publication 04-02

## New Project- New Face



In early February, 2004 INTSORMIL released an RFP for a new project titled, "Molecular Genetics for Nutritional Improvement of Sorghum." The

successful bidder for this project is Dr. Dirk B. Hayes of Texas A&M University (TAMU), College Station, TX. Dr. Hayes is an Assistant Professor of Cereal Grain Developmental Genetics in the Department of Soils and Crop Sciences at TAMU. The goal of this new project is to combine the improved nutritional quality of sorghum grain (i.e.

high digestibility) with high levels of grain mold resistance. The project will integrate research involving pathology, breeding and poultry nutrition with molecular biology. It is designed to fit within the mandates of INTSORMIL and to extend the capacities of existing INTSORMIL projects. Dr. Hays will collaborate with scientists in El Salvador (Ing. Rene Clara), Mexico (Dr. Serna Saldivar), Zambia (Dr. Medson Chisi) and South Africa (Dr. John Taylor) to promote value enhanced high digestibility sorghum for processing by agro-industries into demand driven food and feed "Molecular Genetics for Nutritional Improvement of Sorghum"

products for local and urban markets. U.S. collaborators on this project are Dr. Ralph Waniska, (food scientist, TAMU), Dr. Monica Menz, (Director of plant genome technology, TAMU), Dr. Bill Rooney (breeder-TAMU), Dr. Gary Peterson (breeder-TAMU), Dr. Joe Hancock (poultry nutritionist- KSU), and Dr. Clint Magill (molecular geneticist/pathologist, TAMU). Dr. Hays is looking forward to working with graduate students from international collaborating programs and contributing to the strengthening of collaborating country laboratories in the area of molecular genetics and food science.

## INIA/CRSP Degree Training Program

This graduate degree program funded by USAID/Mozambique began in August of 2001 and is now seeing the results of three students graduating with Master Degrees in August 2004: Mr. Soares Xerinda, Mr. Fernando Chitio and Mr. Magalhães Miguel. These three scientists will return to Mozambique in August and September 2004 to resume their positions with INIA. We congratulate them on a job well done.

**Soares Xerinda** is completing his degree in soil fertility management at the University of Nebraska with Dr. Charles Wortmann, a scientist with the INTSORMIL CRSP.

**Fernando Chitio** will earn his M.S. degree in entomology from West Texas A&M University with Dr. Bonnie Pendleton, also with the INTSORMIL CRSP.

**Magalhães Miguel** is working with Dr. Jonathan Lynch at Penn State University and will receive his degree in plant physiology, with the Bean/Cowpea CRSP.

### Other notes of interest:

**Ricardo Maria**, advised by Dr. Russell Yost, and the Soils CRSP at the University of Hawaii, assisted colleagues of the

national agricultural research system of Mozambique, INIA, to prepare their first ever workshop on management of soil fertility. The workshop held in Maputo, March 2004, included a mix of 35 scientists from both research and extension components of INIA.

**Celestina Jochua**, working on her plant pathology degree with Dr. James Steadman and the Bean/Cowpea CRSP at the University of Nebraska, has focused her work on rust, a fungal disease of dry beans in Mozambique and the USA. The presentation of her research as a poster at the American

Continued on Page 2

Phytopathological Society meeting in June 2004, was selected as the best presentation in the student competition.

**João Augusto**, is completing his degree in plant pathology with the Peanut CRSP at the University of Georgia and the USDA-ARS research station in Tifton, Georgia. He developed an easy and inexpensive method to detect aflatoxins in peanut and corn. This method is extremely effective in monitoring high levels of aflatoxins, an essential step in knowing when, where and how to apply methods to reduce the risk of those toxins to human health.

## Awards



Congratulations to Dr. Steve Mason for receiving the following awards: The UNL Gamma Sigma Delta Excellence in Teaching in November,

2003 and the Hollings Family Senior Teaching in March, 2004.

The INTSORMIL Annual Report is now available online at:  
<http://intsormil.org>

## Marketing and Processing for Dryland Crops in West Africa

For the past two years Botorou Ouendeba, Tahirou Abdoulaye, and John Sanders have been working on a Marketing-Processing project for millet and sorghum in four Sahelian countries. This project builds upon the activities of several NGOs introducing new millet and sorghum technologies to farmers. This project involves helping farmers develop contracts with processors and produce a higher quality cereal product. The initial activity has been with food processors but we have begun field interviewing in 2004 to extend activities to feed processors. There is also a four

point marketing strategy for farmers that over time will be implemented. Besides the activities with farmers to get them a higher price by better marketing, there is a consultation-training component for processors. Topics to be covered are technical and marketing. A network of national and INTSORMIL food scientists provides the training and technical support.

The Marketing-Processing project has been initially financed by USAID-Africa and INTSORMIL. The regional office of USAID in Bamako has now indicated

their intention to fund this project for the next fiscal year. Those interested in obtaining more details can obtain the two concept papers for marketing and food science respectively and the progress report for the first year estimating the income gains from first the new technologies and then separating out the income effects of the marketing strategy improvements. These three papers are contained in Ouendeba, B., **Market Improvements and New Food Crop Technologies in the Sahel**, which is available from the INTSORMIL office or from [ouendeba.botorou@coraf.org](mailto:ouendeba.botorou@coraf.org).

## Comments from the Associate Director

Several notable events have occurred since our previous newsletter in March 2003. INTSORMIL Principal Investigator, Professor John Leslie, and colleagues held the Fusarium Laboratory Workshop, 22 - 27 June, 2003 at Kansas State University. Among the participants were Walter de Milliano, INTSORMIL External Evaluation Panel (EEP) Chair and a number of INTSORMIL scientists from several continents.

The External Evaluation Panel under the leadership of Dr. deMilliano has been reviewing INTSORMIL's performance with visits to West Africa and the Horn of Africa in October 2003, Central America in December 2003, and Southern Africa in March 2004. The EEP visited South Texas in June 2004 and plans visits to Purdue University, Kansas State University, and the University of Nebraska in September 2004.

In April 2004, a meeting was held in Burkina Faso where INTSORMIL scientists from West Africa and the United States and representatives of the INTSORMIL Management Entity discussed the future management of INTSORMIL's activities in West Africa. The results of the meeting should be seen in more effective collaborative research on sorghum and millet done by INTSORMIL scientists in Burkina Faso, Ghana, Mali, Niger, Nigeria, Senegal and the United States.

The current Host Country member of INTSORMIL's Board of Directors is Director General Noel Palais Checa of the Instituto Nicaraguense de Tecnología Agropecuaria (INTA). Elsewhere in Central America, in October 2003, INTSORMIL and the Dirección de Ciencia y Tecnología Agropecuaria (DICTA) of Honduras signed a memorandum of understanding which will serve as a basis for future collaborative research in sorghum improvement.

In Ethiopia, a Striga workshop was presented by scientists from INTSORMIL and the Ethiopian Agricultural Research Organization (EARO) in September 2003. A Striga workshop was also presented in Eritrea in September 2003. INTSORMIL has been asked to participate on the steering committee of the Eastern and Central Africa Regional Sorghum and Millet Network (ECARSAM).

In Southern Africa, INTSORMIL is beginning to do collaborative research on sorghum improvement with scientists in Mozambique. This August, it is anticipated that Soares Xerinda and Fernando Chitio, who are currently completing their M.S. degrees under the guidance of Drs. Charles Wortmann and Bonnie Pendleton, will return to Mozambique to begin research on soil management and entomological problems in the Instituto Nacional de Investigaçao Agronômica (INIA). Planning has already begun for collaborative research to be conducted by these four scientists within INTSORMIL's Southern Africa program.

INTSORMIL continues to adjust to changing circumstances, and a good example is the new project which is to begin in July 2004. We welcome Dirk Hays and his team whose proposal, "Breeding grain mold resistance in high grain digestibility sorghum varieties," was accepted for funding through the end of the current INTSORMIL grant from USAID.

INTSORMIL is providing leadership to the Association for International Agriculture and Rural Development (AIARD).

INTSORMIL was represented in AIARD by John Yohe as President from 2003 to 2004. Thomas W. Crawford, Jr. is President of AIARD from 2004 to 2005. AIARD is an association of professionals and practitioners in international development with experience and intellectual and institutional capabilities to articulate and address broad-based as well as more focused development issues in agriculture and rural development. AIARD's mission is to improve the quality of life for all people by improving and developing global capacities to respond to new challenges and opportunities in helping to eliminate poverty, improve food security, and conserve and protect the environment, in order to stimulate broad-based economic growth and sustainable development. AIARD serves to:

- Promote and foster greater interaction and cooperation among all organizations engaged in international development.
- Improve education in, and foster greater understanding of, international development.
- Expand members' abilities to implement development programs.
- Shape international development strategies.

**Thomas W. Crawford, Jr.**

**INTSORMIL CRSP**  
University of Nebraska-Lincoln  
113 Biochemistry Hall  
PO Box 830748  
Lincoln, NE 68583-0748

Telephone: 402-472-6032  
Fax: 402-472-7978  
E-Mail: SRMLCRSP@unl.edu  
http://www.intsormil.org

*Management Entity*

**Dr. John Yohe, Program Director**  
**Dr. Thomas Crawford, Jr.,**  
Associate Program Director  
**Mrs. Joan Frederick,**  
Administrative Technician  
**Ms. Kimberly Christiansen, Secretary**  
**Mrs. Diane Sullivan, Accounting Clerk**

*Technical Committee*

**Dr. Gary Peterson, Chair, TAMU**  
**Dr. Gebisa Ejeta, Purdue**  
**Dr. John Sanders, Purdue**  
**Dr. Bruce Hamaker, Purdue**  
**Dr. Stephen Mason, UNL**  
**Dr. Bonnie Pendleton, WTAMU**  
**Dr. Mitch Tuinstra, KSU**  
**Dr. Lloyd Rooney, TAMU**

*Board of Directors*

**Dr. Frank Gilstrap, TAMU**  
**Dr. Forrest Chumley, KSU**  
**Dr. C.W. Herndon, MSU**  
**Dr. Darrell Nelson, Chair, UNL**  
**Dr. David Sammons, Purdue**  
**Dr. Flavius Killebrew, WTAMU**  
**Dr. Noël Pallais, INTA, Nicaragua**

*External Evaluation Panel*

**Dr. Walter deMilliano**  
**Dr. Jacques Faure**  
**Dr. John Lynam**  
**Dr. John Mann**  
**Dr. Moussa Traore**

Newsletter Editor:  
**Kimberly Christiansen**  
(kchristiansen2@unl.edu)

*This publication is made possible through support provided by the U.S. Agency for International Development under the terms of Grant No. LAG-G-00-96-90009-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.*