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Newsletter of the Sorghum/Millet Collaborative Research Support Program

Comments from the Director

Greetings to all INTSORMIL collaborating scientists and friends of INTSORMIL in this new year of 2001. As we reflect back, we are truly appreciative of the hard work and dedication which each person has given to help mold INTSORMIL into the excellent program that it is today.

Now we are looking to the future and are preparing the program for continuing its work into the first decade of the 21st Century. We are moving forward with some significant changes and a loss of familiar faces which helped to make INTSORMIL such a distinctive program.

We lost a great friend and sorghum research scientist through the death of Dr. John Axtell. In addition, the program has experienced the loss of breeding, entomology, pathology, and physiology expertise with the retirements of Professor David Andrews, Dr. Lynn Gourley, Dr. Richard A. Frederiksen, Dr. George L. Teetes, and Dr. Jerry W. Maranville and with Dr. Frank Gilstrap and Dr. Gary Odvody moving on to new responsibilities. These personnel losses may be difficult to adjust to in the short term, but we hope to identify equally qualified new scientists to fill the gap these esteemed PIs have left in our program. INTSORMIL will strive not only to design a stronger program starting into the new century, but to embrace new collaborators who can bring unique expertise and vision to INTSORMIL.

We are in the last stages of preparing for the grant renewal process in which we request approval from USAID for another five year grant period and authorization for continued collaboration with our

colleagues in Africa, Central America, ICRISAT and other parts of the world. We look forward to closer relationships with our colleagues in the regional networks, ROCAFREMI, ROCARS, ASARECA, ECARSAM, SMINET, and CLAIS (Central America). We see this new year of 2001 as a propitious time for us all to work together in promoting sorghum and pearl millet as the commercial food and feed grain crops of the future in the semi-arid tropics.

John M. Yohe

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Dr. John Axtell
1934-2000

Dr. John D. Axtell, Distinguished Professor of Agronomy at Purdue University and a key member of the INTSORMIL CRSP, passed away at 8:57 a.m., Saturday, December 2, 2000 at St. Elizabeth Medical Center in West Lafayette, Indiana.

He was born February 5, 1934, in Minneapolis, and had been a West Lafayette resident for 33 years, after moving from Madison, Wisconsin. Dr. Axtell earned a bachelor's degree in agronomy and plant genetics in 1957, and a master's degree in plant genetics in 1965 from the University of Minnesota. In 1967, he received his doctorate in genetics from the University of Wisconsin. At Purdue University he had been a Professor of Agronomy since 1967 and the Lynn Distinguished Professor of Agronomy since 1982.

His professional memberships included the American Society of Agronomy (of which he had been a fellow since 1978), American Association for the Advancement of Science, Gamma Sigma Delta, Alpha Zeta and Sigma Xi. Dr. Axtell had been a member of the National Academy of Sciences since 1982, serving as the chair of section 62, Class VI from 1991 to 1993 and Class VI from 1995 to 1997.

His honors include the INTSORMIL Team Award from Purdue University on May 12, 1998; International Award for Distinguished Service to Agriculture from Gamma Sigma Delta in 1984; Crop Science Award from the Crop Science Society of America in 1977; Alexander von Humboldt Award in 1976; Certificate of Appreciation from the U.S. Agency for International Development for genetic research that improved the nutritional quality of sorghum, in 1975; Sigma Xi Research Award from Purdue University in 1975; and a special fellowship from the National Institute of General Medical Sciences.

He is survived by his wife of 33 years, a son and two daughters.

The loss of Dr. John Axtell was felt strongly throughout the organization and by our colleagues in Africa. The following was received from Dr. A. Babatunde Obilana of ICRISAT:

“This is a global disaster for sorghum and millet’s global family. A most loved John Axtell, an Iroko tree, and solid rock of INTSORMIL and African sorghum/millet improvement for development, has fallen!!

John, as he is fondly called and will be remembered, actualized incorporating a human face into the science of sorghum and millet research for development. He put smiles on the faces of women, children, farmers, scientists and others in Africa and beyond.

On behalf of my brothers and sisters in science, colleagues from West, East, Central, and Southern Africa and my sons, who graduated from Purdue, I send these condolences to his wife, family, INTSORMIL and sorghum/millet scientists across the world. It is a great shock for me, and we all will miss him and his always fatherly advise and interventions.

May God grant his soul eternal rest and peace. Amen.”

Obilana

Retirements



George Teetes
Texas A&M University

*George Teetes Retires from
Texas A&M University*

Dr. George Teetes, internationally known and recognized teacher, researcher and ambassador for the Texas A&M University System, began his long association with Texas A&M University when he arrived on campus in 1961 as an undergraduate student. George received his B.S. and M.S. degrees in entomology from TAMU in 1964 and 1965, respectively. He joined the TAMU Agricultural Research and Extension Center at Lubbock in 1971 after receiving his Ph.D. degree in entomology. While in Lubbock, George was in charge of sorghum insect research and developing sorghum insect pest management strategies. In September 1975, he moved to College Station and accepted a position with the Department of Entomology.

During his 36 years with the TAMU system, Dr. Teetes developed and successfully deployed integrated pest management (IPM) strategies for sorghum insect pests and led in the development of insect-resistant sorghums that play a vital role in sorghum production. His most impressive contribution is his impact on IPM use by sorghum growers. Dr. Teetes is known worldwide as “the sorghum entomologist.”

Dr. Teetes is an excellent scientist whose research has attracted grant support from many and varied sources. He was the founder and pioneer of the USAID INTSORMIL's Entomology Sorghum Millet Project, one of the longest funded international projects in USAID history. Throughout his career, Dr. Teetes has been active internationally. In addition to directing the graduate research programs of numerous foreign students, he maintained active collaborative research programs in Africa, Asia, and Central and South America. He organized and participated in countless

international conferences and workshops.

Teaching has been a primary responsibility for Dr. Teetes, who has been recognized as an excellent teacher within and outside the classroom. During 25 years, he taught an economic entomology course entitled “Field Crop Insects” to more than 500 students. In addition, he has graduated over 40 students from his research program. His refereed and non-refereed publications total 308.

Dr. Teetes is dedicated to the profession of entomology and tirelessly contributes to the Entomological Society of America (ESA) and the American Registry of Professional Entomologists. He served as president of each of these organizations in 1994 and 1990, respectively, and in many other capacities. In 1996 he was named a fellow of the ESA. Dr. Teetes has been recognized and awarded 21 for his contributions to agriculture, research, teaching and the sorghum industry.

Dr. Teetes is an avid Aggie football fan, fisherman and hunter. He is looking forward to spending future spring and fall semesters with his three sons George, Derek and Darin on area lakes and in deer blinds rather than in the classroom and lab.



Richard Frederiksen
Texas A&M University

*Richard A. Frederiksen Retires from
Texas A&M University*

Richard A. Frederiksen retired as professor of plant pathology at Texas A&M University after 36 years of service. Dr. Frederiksen worked principally on sorghum and corn diseases in Texas, but his research carried him to virtually all points of the globe. Dr. Frederiksen's interest was in resolving disease problems by working with others to develop plants with superior resistance and through the use of integrated management techniques. As a faculty member he worked with graduate students from the United States and around the world. Some forty-five graduate students worked directly with Dr. Frederiksen and many other students were in the courses he taught or sought him as a mentor.

Among his many awards, Dr. Frederiksen has received recognition for his contributions to the National Grain Sorghum Producers Association, the African Crop Science Society, and the International Sorghum and Millet Collaborative Research Support Program (INTSORMIL). Dr. Frederiksen has contributed to the publishing of several hundred articles, as well as editing several books on sorghum and millet diseases. The most recent include the revised edition of the *Sorghum Disease Compendium* published by APS Press and a *Sorghum Monograph* published by Wiley Press. He has organized several global conferences and workshops, as well as participated in many field days, workshops and conferences around the world. On October 13, 2000, Dr. Frederiksen was honored at a retirement party hosted by the Department of Plant Pathology & Microbiology at Texas A&M University.



Jerry Maranville
University of Nebraska

*Jerry Maranville Retires
from the University of Nebraska*

Dr. Jerry Maranville, internationally known and recognized teacher, researcher and ambassador for the University of Nebraska, began his long association with the University of Nebraska when he arrived on campus in 1967 as an assistant professor. Jerry received his B.S. and M.S. degrees in agronomy and crop science respectively from Colorado State University in 1962 and 1964. He joined the University of Nebraska, Department of Agronomy in 1967 after receiving his Ph.D. degree in crop physiology from Kansas State University. In addition to directing the graduate research programs of numerous foreign students, he maintained an active, collaborative research program in Africa, Asia, and Central and South America. He organized and participated in countless international conferences and workshops. His research focus is primarily on carbon/nitrogen relationships in field crops with special emphasis

on corn, sorghum and pearl millet. Related research includes that involved with mineral nutrition in general, crop production systems, and effects of heat and drought on physiological processes.

Dr. Maranville is an excellent scientist whose research has attracted grant support from many and varied sources. During his 33 years with the University of Nebraska, Dr. Maranville has been primarily interested in nutrient use efficiency of cereal field crops with particular emphasis on nitrogen metabolism and its interaction with water stress. His work has identified specific enzymes whose function is important in nutrient stress tolerance. In the late 1970s he began a long and successful involvement in international agricultural development. He was one of the original U.S. scientists to become involved with the International Sorghum and Millet Collaborative Research Support Program (INTSORMIL CRSP) which started in 1979. In addition to directing the graduate research programs of numerous foreign students, he maintained active collaborative research programs in Africa and Asia.

He has participated in organization and implementation of international conferences and workshops focused on the adaptation of plants to soil stresses. He has had considerable international experience in Africa including Sudan, Egypt, Somalia, Mali, Niger and Morocco. In 1982, he and his wife spent one year in the Philippines working on the possibility of including sorghum as a major crop in a rice based cropping system.

Teaching has also been an important responsibility for Dr. Maranville who has been recognized as an excellent teacher within and outside the classroom. During his career at the University of Nebraska, he has taught courses in "Techniques in Crop Physiology," "Plant Nutrition and Nutrient Management" and a seminar course on "Research Strategies in Agriculture". He was admitted to the University of Nebraska Graduate Faculty in 1970. He has been the major graduate advisor to 22 M.S. and Ph.D. students. His refereed and non-refereed publications total 126.

Dr. Maranville is a member of the Crop Science Society of America, the American Society of Agronomy (ASA) and of Gamma Sigma Delta. He was awarded the distinction of Fellow in the ASA in 1997.

Dr. Maranville is an accomplished musician and loves playing the steel guitar. He plans on retiring to the family farm in eastern Colorado and raising sunflowers, wheat and "cane".

Awards

Dr. Stephen Mason received the **2000 L.K. Crowe Outstanding Undergraduate Advising Award** given by the College of Agricultural Sciences and Natural Resources, University of Nebraska, Lincoln, NE.

Dr. Stephen Mason and Dr. Drew Lyon received a two-year Anna Elliott Foundation Grant to study water and nitrogen management of pearl millet in western Nebraska. This grant is partially funding a Ph.D. assistantship for Nouri Maman from Niger.



Nouri Maman

American Society of Agronomy Elects New President



Dr. Darrell Nelson
University of Nebraska

Dr. Darrell W. Nelson, Dean and Director of the Agricultural Research Division at the University of Nebraska, Lincoln, was elected as the new American Society of Agronomy (ASA) president for 2000-2001 at the annual ASA meetings held November 5-9, 2000.

INTSORMIL Visiting Scientists



Pearl millet plots at the University of Nebraska: (left to right) David Andrews, Thomas Crawford, Michael Mogorosi and John Rajewski.

Mr. Michael Mogorosi, agriculture research officer with the Department of Agricultural Research in Maun, Botswana was invited to the U.S. to participate in a five month training program, June 15 to November 15, 2000, in pearl millet breeding. Mr. Mogorosi has been a long

time collaborator with INTSORMIL and this visit provided him the opportunity to learn the latest techniques in breeding hybrids for pearl millet. Mr. Mogorosi worked with Professor David Andrews and Dr. John Rajewski in the pearl millet and sorghum breeding program at the University of Nebraska.

During his stay, Mr. Mogorosi also traveled to Tifton, Georgia where he met with Dr. Wayne Hanna, an INTSORMIL principal investigator in pearl millet breeding. Dr. Hanna introduced Mr. Mogorosi to activities that are ongoing in Georgia, including a pearl millet row spacing trial, disease scoring, apomixis breeding and pearl millet disease research. Mr. Mogorosi returned to Botswana where he will continue his work with the Department of Agricultural Research and his ongoing collaboration with INTSORMIL.

Ing. Reina Guzman de Serrano, CENTA, El Salvador and Ing. Sergio Pichardo, UNA, Nicaragua traveled to Kansas State University to work with Dr. Larry Clafin from August 27 to September 7, 2000. They were involved in field and laboratory projects and visited outlying research stations in several areas of Kansas. Gaining knowledge of new lab techniques and equipment will strengthen their research capabilities in collaborative sorghum research.

Mali Announces New Sorghum Cookie

In May 2000, it was announced that commercial production of a new cookie produced locally by GAM in Bamako, Mali had begun. This product substitutes 20% of the wheat flour with flour made from the white seeded tan plant Guinea variety, *N'Tenimissa*. The name of the new cookie is named **déli'ken**. *N'Tenimissa* was developed by Dr. Aboubacar Toure, an Institute d'Economie Rurale (IER) sorghum breeder, in a collaborative INTSORMIL/IER research program. This new usage demonstrates that improved sorghum grain (tan plant color) results in a significant improvement in grain quality and can enhance utilization and demand for sorghum grain.



Advertising for déli'ken Sorghum Cookie

Mali President Visits Sotuba Research Station

The President of Mali, Alpha Omar Konaré, toured the IER sorghum program at the Sotuba Research Station in October 2000.



President, Alpha Omar Konaré and IER scientists
Drs. Mamourou Diourte and Aboubacar Toure



Dr. Alpha Maiga, IER Director General
and President Alpha Omar Konaré

Southern Africa

In October 2000, Dr. Gary Peterson, INTSORMIL Southern Africa Regional coordinator, and Dr. Thomas Crawford, INTSORMIL Associate Director, traveled to Southern Africa to participate in the 15th Sorghum and Millet Improvement Program (SMIP) Steering Committee Meeting and the Southern African Development Community (SADC) Regional Needs and Strategies for Sorghum and Millets Crop Improvement Workshop at Matopos, Zimbabwe. Travel within the region also included a visit with collaborating scientists and research managers in Namibia, Zambia and Zimbabwe, and Mozambique to discuss research and training in the region. Contacts were made with USAID officials in each region and Drs. Peterson and Crawford discussed the Collaborative Research Support Programs' (CRSPs) graduate degree training program with the management of the Instituto Nacional de Investigaçao Agronômica (INIA) and others in Maputo.



Gary Peterson and Eva Vaz, herbarium assistant at INIA headquarters

External Evaluation Panel Final Report

The INTSORMIL EEP completed the five-year in-depth program review. They consolidated the individual regional and project reports into a final summary and recommendation report during a report writing session, April 24-29, 2000. This report will be an integral part of the INTSORMIL Grant Extension Proposal for 2001-2006. Dr. Walter deMilliano, EEP member, hosted the committee at Enkhuizen in the Netherlands. Committee members attending included Drs. Richard Hahn, Bruce Maunder, Fran Bidinger, Lawrence Busch, and Program Director, Dr. John Yohe.

IGAD - Horn of Africa

INTSORMIL was awarded a project entitled "Promoting Sustainable Production of Drought Tolerant High Yielding Crop Varieties through Research and Extension" from the Intergovernmental Authority on Development (IGAD). IGAD covers seven countries in the Horn of Africa, Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda. Dr. John Sanders, INTSORMIL PI from Purdue University, and Dr. Eluid Omolo, Edgerton University, Kenya, were the core team. With the assistance of a multi-disciplinary team of experts and national consultants in the Horn of Africa, they have completed the study and are finalizing the report to be presented to IGAD. A workshop will be held during the spring of 2001 in the Horn of Africa to present the findings of this study.

INIA - Mozambique

INTSORMIL was awarded a grant in July 2000 from the USAID Mission in Mozambique, for a "Collaborative Research Support Program to Strengthen the Instituto Nacional de Investigaçao Agronômica (INIA) of Mozambique." This grant is a specific plan to strengthen the human capacity of INIA in a range of scientific disciplines by providing education opportunities for Mozambican scientists to enable them to be more proficient in conducting agricultural research. This advanced degree training program will be carried out by six CRSP programs: BASIS, Bean/Cowpea, IPM, Peanut, Soil Management and INTSORMIL. Two participants have completed preliminary requirements and will begin their advanced degree program in the summer of 2001. Several other prospective participants have taken the TOEFL exam and will be taking the GRE exam this spring to qualify for training.

Publications

INTSORMIL 2000 Annual Report, Publication 00-1, is now available. For information on obtaining publications consult our world wide web site <http://www.IANR.UNL.EDU/INTSORMIL> or contact the Management Entity.

Global 2000
Sorghum and Pearl Millet Diseases III
September 24 - 29, 2000
Guanajuato, Mexico

The Global 2000 Sorghum and Pearl Millet Diseases III Conference was held in the beautiful city of Guanajuato, Mexico from September 24-29, 2000. The objectives of the conference were to review the status of sorghum and millet diseases nationally, regionally, and globally. The conference offered opportunities for the participants to discuss current issues and placed special emphasis on diseases such as ergot and grain mold, population biology of selected pathogens of pearl millet and sorghum, integrated management of disease, and effects of disease management on the crop ecosystem. Participants were treated to a packed schedule that included a full day field trip to the INIFAP Experiment Station at Celaya, one of Mexico's largest sorghum producing areas.

The International Sorghum and Millet Research Support Program (INTSORMIL) at the University of Nebraska, organized the conference and was a co-sponsor along with the Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias (INIFAP/Mexico) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT/India). INIFAP/Mexico acted as in-country host, arranging an evening walking tour of the city of Guanajuato accompanied by local street musicians and an outstanding display of Mexico's rich dance heritage during the closing ceremonies. Guests were also offered sightseeing opportunities that included some of the oldest and most breathtaking Spanish Colonial cities in North America.

Twenty-one countries, represented by 130 participants, were provided with a wide variety of scientific and cultural experiences that will be long remembered. INTSORMIL appreciates the hard work and dedication of the conference organizers in putting together this successful conference, especially Richard Frederiksen, Texas A&M University; Jesus Narro, INIFAP/Mexico and Ranajit Bandyopadhyay, ICRISAT/India.



Opening ceremonies for Global 2000

Dr. Rodrigo Aveldano, Director General de la Division Agricola, INIFAP, Dr. Rodomiro Ortiz, Program Director, Genetic Resources and Enhancement, ICRISAT and Dr. John Yohe, Program Director, INTSORMIL



Conference participants view the abstract/poster display.



Special thanks to the young ladies that assisted the ME with registration. Adriana Montes, Lucia Williams and Perla Montes.

Participants enjoy excellent food and entertainment at Friday night's reception.



Caroline Herron, Issoufou Kollo and Richard Frederiksen.



Announcements

Board of Directors

Dr. Frank Gilstrap, Associate Director of the Texas Agricultural Experiment Station in College Station, TX has replaced Dr. Bobby Eddleman on the INTSORMIL Board of Directors, effective May 2000. Dr. Gilstrap has a long history with INTSORMIL as a Principal Investigator in entomology at Texas A&M University, advised many students and collaborated with scientists in Niger and Central America.

Management Entity



Diane Sullivan

Diane Sullivan joined the Management Entity office staff in October 2000 as our accounting clerk. Diane has been with the University of Nebraska for over 22 years, most recently in the Entomology Department and Mail Services and Publications. Welcome aboard!

Do we have your mailing address correct?

Do you know someone who would like to receive our newsletter?

*If so, please contact the newsletter editors and we'll make any necessary changes or additions.
Thank you.*



BIBLIOTECA WILSON POPENOE



204683

INTSORMIL CRSP

University of Nebraska-Lincoln
113 Biochemistry Hall
P.O. Box 830748
Lincoln, NE 68583-0748

Telephone (402) 472-6032

Fax (402) 472-7978

E-Mail SRMLCRSP@unl.edu
<http://www.ianr.unl.edu/intsormil/>

Management Entity

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Dr. Richard Hahn

Newsletter Editor: Joan Frederick (jfrederick1@unl.edu)
and Kimberly Jones (kjones2@unl.edu)

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