Progress Report 2012

ADM Institute for the
Prevention of Postharvest Loss
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Contents

ADM Institute for the Prevention of Postharvest Loss
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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Letter from the Director

During 2012, the topic of food loss and waste received considerable attention. This attention is important because of the role that preventing postharvest loss can have on food availability and the well-being of smallholder farmers. This public attention also has fueled recognition that postharvest loss reduction can make an important contribution in addressing global food security needs in the future.

While there are positive elements to this increase in recognition, the discussion has tended to focus on general estimates of loss at regional or national levels. Such estimates tend to obscure the need for decision-relevant information that will support action which can result in reduced loss. To make significant progress in preventing loss, we believe that innovation in measurement is urgently needed. Such innovation will require an altered focus on both what is measured and on how measurement is conducted:

- The emphasis on what to measure needs to evolve to focus on measurement of actual loss in specific local settings. Further, we need to emphasize the importance of measurement of interventions to reduce loss and their effectiveness over time.
- Measurement of loss is resource and time intensive. Recent advances in the application of information and communications technology have materially affected the cost and potential effectiveness of measurement. Optimal use of such advances will require development of creative methods as well as incorporation of the input and expertise of farmers and managers on-the-ground in the target locations.

Advancing the innovation in measurement agenda is an important focus of current and future efforts of the ADM Institute.

The ADM Institute's second year has been an active one. Details of many of these activities and projects are provided in this 2012 Progress Report. Let me just highlight three examples:

- **Borlaug Dialogue**

The Norman E. Borlaug International Symposium, known as the Borlaug Dialogue, was held in Des Moines, Iowa, in October 2012 and the ADM Institute was an active participant. The annual meeting of the institute's External Advisory Board was held in conjunction with the event. At a breakfast side event during the Borlaug Dialogue, "Reducing Postharvest Loss to Advance Food Security", members of the External Advisory Board, Hans Joehr (Nestle), Elizabeth Mitcham (University of California-Davis Postharvest Technology Center), and Marcelo Duarte Monteiro (Aprosoja), provided a lively panel discussion focused on how knowledge gaps contribute to the loss of agricultural produce in food supply chains and how the work of the institute serves to fill those gaps through scholarship and network-building. Additionally, ADM Institute Director Steve Sonka moderated a dialogue session titled "Waste Not, Want Not: Solutions for Reducing Postharvest Loss". For more information of institute affiliates' activities in the Borlaug Dialogue, please see the Events section.

- **Workshop de Perdas Pos-Colheita in Sinop, Brazil**

The ADM Institute assisted in the planning and execution of a workshop held at Embrapa Agrosilvipastoril in Sinop, Mato Grosso, Brazil, on October 24-25, 2012. This was the first-ever workshop addressing postharvest loss in the region, and was sponsored by Aprosoja and Embrapa. Faculty from the ADM Institute and several Brazilian

university collaborators reported on research findings relevant to postharvest loss in Mato Grosso. Please refer to the Events section for more information.

- **Scientific Animations Without Borders (SAWBO)**

Scientific Animations Without Borders (SAWBO) is a program at the University of Illinois at Urbana-Champaign that uses animations to preserve and disseminate information and knowledge, particularly for low-literate populations. SAWBO was established by Dr. Barry Pittendrigh (Department of Entomology), Dr. Julia Bello-Bravo (International Programs and Studies) and colleagues in 2010. SAWBO's work has been brought to Brazil, Haiti, India, Uruguay, and many African countries. To deploy the animations, the SAWBO team has partnered with government entities, universities, and organizations, and for postharvest loss-related work, is receiving funding from the ADM Institute. For more on the program's progress, please see the Funded Research Updates section.

We hope that you find the contents of this report to be of interest. If you would like additional information, please contact me at (217) 333-5115 or by email at postharvestinstitute@illinois.edu.

Sincerely,

Steve Sonka

Director

ADM Institute for the Prevention of Postharvest Loss
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Executive Summary

Stepping into its second year, the ADM Institute for the Prevention of Postharvest Loss made significant progress since its foundation. In alignment with its vision statement, the ADM Institute focused activities on raising awareness of postharvest loss, enhancing collaboration with international and domestic organizations, as well as harnessing research expertise on postharvest loss reduction.

To raise awareness of postharvest loss, the ADM Institute mainly focused on three audiences, including the postharvest loss community (people or entities doing work on postharvest loss or agricultural development), the general public, and future leaders. These audiences have been approached using different strategies. The following bullet points summarize the main activities of the institute in approaching its diverse audiences:

- **Postharvest Loss Community**
  - Institute representatives participated in events, conferences and symposiums to address the importance of postharvest loss and the role of the ADM Institute in postharvest loss reduction.
- **General Public**
  - The ADM Institute launched pages on social media platforms Facebook and Twitter.
  - The institute's website was updated in summer 2012.
  - The institute was featured in several press articles from other agencies, such as the Department of State.
  - The ADM Institute has provided postharvest loss updates in e-newsletter form, PHL In the News, on a weekly basis.
- **Future Leadership**
  - The ADM Institute has supported several academic courses at the University of Illinois to establish future leadership on postharvest loss reduction.
  - The institute has provided internships to students who would like to contribute to raising awareness on postharvest loss reduction.

To enhance collaboration, the ADM Institute has been aggressively building collaboration with international agencies, governmental entities, nonprofit organizations, private companies, and universities around the world. The ADM Institute had its affiliates visit several organizations and also had many visitors to the University of Illinois at Urbana-Champaign to explore possible collaborative opportunities. In late 2012, the institute achieved several milestones on enhancing collaboration as listed below:

- The ADM Institute became a partner of Food and Agriculture Organization's (FAO) SAVE FOOD Initiative of, which is a joint campaign aiming at collaborating among industry, politics, and research against global food loss.
- A Memorandum of Understanding was signed between the International Rice Research Institute (IRRI) and the ADM Institute to prevent and manage postharvest loss in South Asia.

To harness research expertise, the ADM Institute allocated funding for research and case study projects since late 2011, mainly focusing on Brazil and India. The funded projects were initiated in January 2012 and each of them has made considerable progress throughout 2012. The list below shows the primary objectives of these projects:

- In Brazil, five funded projects are aiming at postharvest loss prevention by:
  - measuring the extent of loss,
  - examining feasibale alternative solutions,
  - establishing decision support systems for locations of facilities,
  - understanding farmers' perceptions of postharvest loss, as well as
  - creating educational materials for postharvest loss prevention.
- In India, four funded projects and three case studies are focusing on:
  - identifying factors causing loss along the supply chain,
  - developing appropriate technologies for postharvest prevention,
  - establishing decision support systems for facility locations,
  - developing a model for equilibrium investment decisions,
  - creating educational materials for postharvest loss prevention, as well as
  - understanding the postharvest process and the extent of loss.

The following Progress Report presents more information on the progress which the ADM Institute made in its second year.

The first section addresses the institute's achievements on raising awareness of postharvest loss, including participation in events, conferences and symposiums, engaging students, as well as reinforcing public outreach.

The second section shows the institute's efforts in enhancing collaboration, including establishing collaborators, signing a MOU with the International Rice Research Institute, and involvement in FAO's SAVE FOOD Initiative.

The last section highlights the institute's progress and outcomes on postharvest research, including the updates of funded research projects, and the results of case studies in India.

The institute's organizational structure and past issues of the institute's postharvest loss newsletter updates, PHL In the News, can be found in the appendix.

Raising Awareness

Raising awareness was a major focus for the ADM Institute in 2012. The institute's affiliates participated in both international and domestic conferences and symposiums on advancing the significance of postharvest loss prevention. The ADM Institute also aided in the coordination of two international events - a side event at the 2012 Borlaug Dialogue in Des Moines, Iowa, and the Workshop de Perdas Pos-Colheita in Sinop, Brazil - as well as held one debriefing session titled "Operation Postharvest: Discovering preventions for Philippine rice loss" at the University of Illinois at Urbana-Champaign (UIUC).

Leading the effort on developing future leadership also has been part of the institute's strategy in raising awareness on postharvest loss reduction. The ADM Institute collaborated with UIUC departments of Agricultural and Biological Engineering, Agricultural and Consumer Economics, as well as Business Administration in supporting study abroad trips for four courses. Students in these courses visited India and Sierra Leone to observe causes of loss. The institute also engaged two students as interns involved in its research and outreach efforts.

To raise the general public's awareness on postharvest loss, the ADM Institute launched pages on two social media platforms, Facebook and Twitter, as well as videos on its YouTube channel to promote connections with the general public. The institute's website was also updated in summer 2012 to provide timely updates for the ADM Institute's activities, publications, and external resources. Also, the institute has continued to publish an e-newsletter to summarize and disseminate recent postharvest loss news articles, opportunities, events, and media on a weekly basis.

Topics included in this section:

External Advisory Board Meeting

The ADM Institute held its second External Advisory Board meeting in conjunction with the Borlaug Dialogue and World Food Prize in Des Moines, Iowa, in October 2012. Key meeting outcomes were focused on determining what the ADM Institute should be known for, the ADM Institute as an information hub, decision-making and tools for practitioners, and leveraging for the future.

The External Advisory Board reviewed the activities and progress of the ADM Institute over its first 18 months. Many of the institute's efforts have been accomplished, particularly in terms of establishing credible capacity, raising awareness, and initiating targeted research initiatives. The question of what the ADM Institute should be known for was raised in the meeting to provide future direction for the institute.

As stated in the vision statement, serving as an international information and technology hub is a key component of the ADM Institute's core mission. The institute already is an information source for raising awareness on the extent and issues of postharvest loss through information transfer and education. The weekly e-newsletter, PHL In the News, is a compilation of the most important PHL news items and media as collected through online news aggregators. Social media platforms, such as Facebook and Twitter, are utilized to raise awareness and connect with a larger audience.

Parry Dixon, Robert Easter, KC Ting and Udatta Palekar at External Advisory Board meeting in Des Moines, Iowa

External Advisory Board members Daniel Queiroz and Dirk Maier at the Borlaug Dialogue in Des Moines, Iowa

Another portion of the meeting focused on decision-making and tools for practitioners. While new technologies and practices are needed to reduce postharvest loss, a decision-maker must decide to adopt or implement these innovations at some point. Tools to better enable decision-makers in evaluating their opportunities was felt to be an urgent need and one that the ADM Institute could provide leadership in addressing. The development of tools for decision-makers could provide a point of distinction for future ADM Institute efforts.

In looking beyond the institute's original gift commitment, there is a need for leverage to continue beyond the initial investment. The board indicated that defining "what the ADM Institute is known for" is a key factor for the institute in leveraging for the future. Funds will come if the institute is known for conducting activities that provide value.

Additionally, holding the External Advisory Board meeting in conjunction with the Borlaug Dialogue was uniformly recognized as valuable for the board members and for the ADM Institute. Therefore, the 2013 External Advisory Board meeting will be held at the 2013 World Food Prize and Borlaug Dialogue in Des Moines, Iowa, in October.

Events

To drive forward the effort on raising awareness, the ADM Institute collaborated with the World Food Prize Foundation for the 2012 Borlaug Dialogue, in Des Moines, Iowa, and assisted Brazilian organizations Embrapa and Aprosoja with the Workshop de Perdas Pos-Colheita in Sinop, Brazil. International experts, policy leaders, business executives and farmers participated in these two events to discuss issues in facing food security and the importance of reducing postharvest loss. The ADM Institute also held a debriefing session to share institute staff's experience and insight on rice postharvest loss in the Philippines. The following section provides more details for each of these events.

2012 Borlaug Dialogue

In October 2012, members of the ADM Institute's External Advisory Board and its Steering Committee participated in the Norman E. Borlaug International Symposium. This annual event, known as the "Borlaug Dialogue", is held in conjunction with the awarding of the World Food Prize in Des Moines, Iowa. The three-day event brought together international experts, policy leaders, business executives and farmers to address cutting-edge issues in food security and nutrition. Representatives of the ADM Institute engaged in the Borlaug Dialogue program, informing the participants of issues and interventive approaches associated with postharvest loss.

Conference hall of the Borlaug Dialogue

In honor of Norman Borlaug and his achievements, the World Food Prize is awarded annually to outstanding leaders who have improved the quality, quantity, or availability of food in the world. While the award ceremony is the featured event, the Borlaug Dialogue also serves as an opportunity for actors and stakeholders to come together and be engaged with key issues. The 2012 theme, "Partnerships and Priorities", framed the discussion around how international players can utilize strategic collaboration in addressing rising concerns over global food safety and security. As old problems grow, more complicated and new ones continue to emerge. The need for innovative solutions is more pressing than ever. Partnerships between businesses, the government, NGOs, institutions, and other stakeholders offer advantages in their shared resources and expertise that will allow international players to form and execute dynamic solutions. In choosing this theme, the Borlaug Dialogue highlighted how partnerships are increasingly regarded as an important tool to assist in achieving global food security.

Throughout the week, dialogue sessions and side events drove the discussion of leveraging partnerships. As an institution designed to address the complex issue of postharvest loss using the strength of public-private collaboration, the ADM Institute was honored to host a seminar titled "Reducing Postharvest Loss to Advance Food Security". The seminar, drawing experts and practitioners from all sectors, focused on how knowledge gaps contribute to the loss of agricultural

produce in food supply chains and how the work of the institute serves to fill those gaps through scholarship and network-building.

Director Steve Sonka also moderated a dialogue session titled "Waste Not, Want Not: Solutions for Reducing Postharvest Loss". Panelists for that session included Dr. Betty Bugusu, Managing Director of the International Food Technology Center at Purdue University, Jeffrey Klein, President of The Global FoodBanking Network, and Rajesh Kumar, a smallholder farmer in India. A video produced by the World Food Prize of this session is available on the World Food Prize's YouTube channel.

During these events, the ADM Institute focused on the importance of partnerships by explaining how reducing postharvest loss requires the engagement of a wide variety of stakeholders across supply chains. Please refer to the following pages for the detailed agenda.

Left: Members of the External Advisory Board, Hans Joehr, Elizabeth Mitcham, and Marcelo Duarte Monteiro discussing at the "Reducing Postharvest Loss to Advance Food Security" side event

Right: Participants at the "Reducing Postharvest Loss to Advance Food Security" side event

2012 Borlaug Dialogue

B Borlaug Dialogue **L** Lecture Series **P** Public Event **S** Side Event

OCTOBER 14 • SUNDAY

12:00PM – 1:00AM	L	**Lecture Series: "Food Security: Are we making progress? - The role of the International Potato Center"** *Speakers: Pamela Anderson*	Ensminger Room
12:00PM – 4:00PM	P	**Hall of Laureates Open House**	World Food Prize Hall of Laureates
2:00PM – 3:30PM	P	**The Bryant Park String Quartet Public Concert**	Des Moines Art Center

OCTOBER 15 • MONDAY

8:00PM – 10:00PM	L	**Norman Borlaug Lecture - Daniel Hillel** *Speakers: Daniel Hillel*	Iowa State University-Sun Room

OCTOBER 16 • TUESDAY

7:00AM – 8:00AM	S	**AECF Breakfast Round Table Meeting**	Salon D (2nd floor)
8:30AM – 3:00PM	P	**Iowa Hunger Summit** *Speakers: Jo Ann Jenkins, Howard G. Buffett, Libby Crimmings*	Hall of Cities (3rd Floor)
8:45AM – 3:30PM	S	**BIFAD Public Meeting: The Nexus of Human Health, Nutrition and Agriculture** *Speakers: Brady J. Deaton*	Salon B & C
11:00AM – 12:00PM	L	**Lecture Series - Pamela Anderson** *Speakers: Pamela Anderson*	William Penn University-George Daily Auditorium
1:30PM – 6:30PM	S	**2nd Annual Iowa Tanzania Summit**	Salon D (2nd floor)
3:00PM – 5:30PM	S	**Truth About Trade & Technology Global Farmer Roundtable**	Salon A (2nd floor)
4:00PM – 5:00PM	P	**Interfaith Service Celebrating Dr. Daniel Hillel's Contributions to Peace and Understanding** *Speakers: Daniel Hillel*	St. John's Lutheran Church

OCTOBER 17 • WEDNESDAY

7:00AM – 10:00AM	S	**Borlaug CAST Communication Award Presentation followed by Alliance to Feed the Future Program**	Cedar Rapids, Council Bluffs, Davenport, & Dubuque Rooms (3rd Floor)
7:15AM – 9:00AM	S	**Harnessing U.S. University Partnerships for Agriculture, Food Security, and Nutrition: The USAID-funded Collaborative Research Support Program (CRSP)**	Des Moines Room (3rd Floor)
8:00AM – 11:00AM	S	**Truth About Trade & Technology Global Farmer Roundtable (Day 2)**	Salon A (2nd floor)
8:30AM – 11:30AM	S	**Consultative Workshop on Responsible Investments in African Agriculture**	Salon B & C (2nd floor)
9:00AM – 3:30AM	S	**Heartland Global Health Consortium Annual Conference: Partnering for a Healthy Ecosphere**	Des Moines University
9:00AM – 11:30AM	S	**USDA Panel Discussion - Saving the Planet: Youth and Agriculture**	Marriott Lobby
11:00AM – 1:00PM	S	**3rd Annual Global Harvest Initiative GAP Report® Announcement Luncheon**	Des Moines Room (3rd Floor)
11:30AM – 12:30PM	S	**Collaborating for Growth: How public-private partnerships are improving nutrition, productivity and sustainability**	Davenport & Dubuque Rooms (3rd Floor)
11:30AM – 12:30PM	S	**Creating the Menu for a Well-Fed World: Partnership in Action**	Cedar Rapids & Council Bluffs Rooms (3rd Floor)
12:30PM – 1:30PM	L	**Lecture Series - R.S. Shanthakumar Hopper**	

2012 Borlaug Dialogue Agenda (Credit: The World Food Prize)

		Speakers: R.S. Shanthakumar Hopper	Simpson College - Jordan Lecture Hall Carver 215, Carver Science Building
1:00PM – 1:15PM	B	**Opening Remarks** *Speakers: Ambassador Kenneth Quinn*	Iowa Ballroom (2nd Floor)
1:15PM – 1:40PM	B	**Plenary Address - Peter Brabeck-Letmathe, Chairman of the Board, Nestlé** *Speakers: Peter Brabeck-Letmathe*	Iowa Ballroom (2nd Floor)
1:40PM – 2:55PM	B	**Setting the Stage - One Billion Hungry: Can We Feed the World Sustainably?** *Speakers: Gordon Conway, Jane Karuku, Roger Thurow, Susan Godwin, Gebisa Ejeta*	Iowa Ballroom (2nd Floor)
3:00PM – 3:25PM	B	**Plenary Address - Sandra Peterson, CEO, Bayer CropScience "Harnessing Global Potential to Feed a Hungry Planet Today"** *Speakers: Sandra Peterson*	Iowa Ballroom (2nd Floor)
3:30PM – 4:30PM	B	**Indices and Indicators: Creating a Common Language for Measuring Success** *Speakers: Sara Boettiger, Pedro Sanchez, Leo Abruzzese, Rajul Pandya-Lorch, Sandy Andelman*	Iowa Ballroom (2nd Floor)
5:30PM – 7:00PM	B	**Ceremony and Reception for the Inaugural Norman Borlaug Award for Field Research and Application, Endowed by the Rockefeller Foundation**	World Food Prize Hall of Laureates
5:30PM – 7:30PM	L	**Lecture Series - Betty Bugusu & S. Suzanne Nielsen** *Speakers: Betty Bugusu, S. Suzanne Nielsen*	Science Center of Iowa
7:00PM – 9:00PM	S	**Scaling Investment and Innovation for Sustainable Agricultural Growth and Food Security**	Cedar Rapids & Council Bluffs Rooms (3rd Floor)
7:00PM – 8:30PM	S	**Reaching for Abundance in 2015 and Beyond: The Sustainable Food Pavilion at Expo Milano 2015**	Davenport & Dubuque Rooms (3rd Floor)
7:00PM – 8:30PM	S	**The Next Fertilizer Paradigm – Biotic Biological Fertilizers**	Ruan Auditorium (1st Floor, Two Ruan Center)
7:30PM – 8:30PM	L	**Lecture Series - David Beckmann** *Speakers: David Beckmann*	Grinnell College - Harris Center Movie Theatre
9:00PM – 10:30PM	B	**dialogueNEXT: A Call to Action** *Speakers: Pape Samb, Molly Mattessich, Nii Simmonds, Tony Thelen, Michael Deal, Ellen Gustafson, Danielle Nierenberg, José Andrés, Cooper Munroe*	Iowa Ballroom (2nd Floor)
OCTOBER 18 • THURSDAY			
7:00AM – 8:00AM	S	**2012 Global Hunger Index**	Cedar Rapids & Council Bluffs Rooms (3rd Floor)
7:00AM – 8:00AM	S	**Breaking the Cycle of Hunger in the Sahel: Responding to Emergencies, Building Resilience and Promoting Livelihoods through Integration of Food Security Programs**	Des Moines Room (3rd Floor)
7:00AM – 8:00AM	S	**Reducing Postharvest Loss to Advance Food Security**	Davenport Room (3rd Floor)
7:00AM – 8:00AM	S	**Transforming Grassroots Support into Sustainable Hunger Solutions**	Dubuque Room (3rd Floor)
7:00AM – 8:00AM	S	**Volunteer Technical Assistance for Food Security: The Farmer-to-Farmer Program**	Waterloo Room (3rd Floor)
7:30AM – 9:00AM	L	**Partnerships Toward a More Well Nourished World** *Speakers: David Lambert*	Terrace Hill
8:00AM – 9:15AM	B	**Droughts and Drylands: Agriculture's Role in Confronting Global Water Challenges** *Speakers: Margaret Catley-Carlson, J. Carl Ganter, Roberto Lenton, Aditi Mukherji, Igal Aisenberg*	Iowa Ballroom (2nd Floor)
9:15AM – 9:40AM	B	**Plenary Address - Kendall Powell, President and CEO of General Mills**	Iowa Ballroom (2nd Floor)

2012 Borlaug Dialogue Agenda (Credit: The World Food Prize)

		Speakers: Kendall Powell	
9:40AM – 10:25AM	B	**Game Change: Innovations Shaping the Future of Green Technology** *Speakers: Marc Van Montagu, Robert Fraley, M.S. Swaminathan*	Iowa Ballroom (2nd Floor)
10:25AM – 10:40AM	B	**Plenary Address - HRH Princess Haya bint Al Hussein** *Speakers: HRH Princess Haya bint Al Hussein*	Iowa Ballroom (2nd Floor)
10:45AM – 11:45AM	B	**Working Capital: Leveraging Global Financial Tools for Smallholder Farmers** *Speakers: Ray Offenheiser, Jack Sinclair, Sano Shimoda, Carolyn Woo, Walter Bell*	Iowa Ballroom (2nd Floor)
12:30PM – 2:00PM	B	**Luncheon Keynote - Rajiv Shah, Administrator, U.S. Agency for International Development** *Speakers: Rajiv Shah*	Hall of Cities (3rd Floor)
2:00PM – 3:00PM	B	**Feed the Future: Partnerships & Progress in Food Security** *Speakers: Khalid Bomba, Kavita Prakash-Mani, Helene Gayle, Brady J. Deaton*	Iowa Ballroom (2nd Floor)
3:00PM – 3:25PM	B	**Plenary Address: Pierre Ferrari, President & CEO of Heifer International** *Speakers: Pierre Ferrari*	Iowa Ballroom (2nd Floor)
3:00PM – 4:00PM	L	**Lecture Series - J. Carl Ganter** *Speakers: J. Carl Ganter*	Drake University - Reading Room, Cowles Library
3:30PM – 4:30PM	S	**Access to Knowledge: The Challenge of Supporting Smallholder Farmers**	Davenport Room (3rd Floor)
3:30PM – 4:30PM	S	**Cooperatives: Key to Ending Hunger**	Council Bluffs Room (3rd Floor)
3:30PM – 4:30PM	S	**Feed the Future: Innovating for Impact**	Dubuque Room (3rd Floor)
3:30PM – 4:30PM	S	**Gaining Ground: The Connection between Women's Land Rights and Food Security**	Cedar Rapids Room (3rd Floor)
7:00PM – 9:00PM	B	**2012 Laureate Award Ceremony Watch Party**	Salon A, B & C (2nd Floor)
7:00PM – 9:30PM	B	**2012 Laureate Award Ceremony & Dinner - Invitation Only (Webcast Live)** *Speakers: Ban Ki-moon*	Iowa State Capitol
OCTOBER 19 • FRIDAY			
7:30AM – 9:00AM	B	**Breakfast Keynote - Ertharin Cousin, Exec. Director, UN World Food Programme** *Speakers: Ertharin Cousin*	Des Moines Room (3rd Floor)
9:00AM – 10:00AM	B	**Waste Not, Want Not: Solutions for Reducing Post Harvest Loss** *Speakers: Betty Bugusu, Steve Sonka, Jeffrey Klein, Rajesh Kumar*	Iowa Ballroom (2nd Floor)
10:00AM – 11:00AM	B	**The Impact of Food Productivity: Its Importance to Our Future** *Speakers: Jeff Simmons, Margaret Zeigler, Bob Thompson, Isidro Antonio Matamoros Ochoa, Susan Finn*	Iowa Ballroom (2nd Floor)
11:00AM – 12:00PM	B	**Value Added: Integrating Nutrition for Human and Animal Health** *Speakers: Mehmood Khan, Jim Gerardot, Marc Van Ameringen, Florence Chenoweth*	Iowa Ballroom (2nd Floor)
12:00PM – 1:30PM	B	**Laureate Luncheon** *Speakers: Daniel Hillel*	Hall of Cities (3rd Floor)
3:00PM – 9:30PM	S	**Iowa Farm Tours**	Farms Across Iowa

2012 Borlaug Dialogue Agenda (Credit: The World Food Prize)

Workshop de Perdas Pos-Colheita in Sinop, Brazil

A joint venture workshop between Aprosoja, Embrapa, and the ADM Institute was held at Embrapa Agrosilvipastoril in Sinop, Mato Grosso, Brazil, from October 24-25, 2012. The "Workshop de Perdas Pos-Colheita" or "Workshop on Postharvest Losses" addressed the 12.5% of Brazilian soy production lost in the processes associated with short- and long-distance transportation, grading, and storage. The following page provides the detailed agenda and press release of the workshop. More information of the workshop can also be found in the Press section.

ADM Institute Director Steve Sonka, institute faculty Dr. Peter Goldsmith, Dr. Barry Pittendrigh, Dr. Luis Rodriguez, and graduate student Anamaria Guadencio presented at the workshop. As the speaker for opening session on the first day, Dr. Sonka discussed the significance of postharvest loss in the global supply chain, followed by Ms. Guadencio presenting her findings on case studies of Brazilian soy farmers' perceptions of postharvest loss. Dr. Altair Moura, Associate Professor at Universidade Federal de Viçosa, presented his work with Dr. Goldsmith about the characteristics of soybean quality classification in Sinop, Mato Grosso. Dr. Rodriguez introduced the concept of ConSEnT (Concurrent Science, Engineering, and Technology) in linking systems, technologies, and practices.

ADM Institute faculty member Dr. Luis Rodriguez presenting at the workshop (Credit: Aprosoja)

Director Steve Sonka addresing the importance of postharvest loss at the workshop (Credit: Aprosoja)

On the second day, Alexander Estermann, an affiliate of the Scientific Animations Without Borders (SAWBO) team, demonstrated the concept behind SAWBO animations as well as its opportunities for training low-literate learners.

A YouTube video produced by Aprosoja explains the outcomes of the workshop and the topics researchers are studying. The original video in Portuguese can be found on the Aprosoja Youtube Channel. The ADM Institute has provided English captions for the video on its YouTube channel.

I Workshop Perdas Pós-Colheita

Reserve um espaço na agenda: em Outubro acontece o I Workshop de Perdas Pós-Colheita!

Produtores, pesquisadores e empresas ligadas ao setor agrícola terão a oportunidade de discutir sobre alternativas de reduzir as perdas pós-colheita nas lavouras de milho e soja.

Os interessados em participar devem preencher a ficha de inscrição e enviar para o e-mail franciele@aprosoja.com.br

Data: 24 e 25 de Outubro de 2012
Local: Auditório da Embrapa Agrossilvipastorial
Cidade: Sinop - MT
Horário: das 08h às 12h e das 13h30 às 17h30.

Confira a programação completa:

24/10 – Quarta-feira

08h00 - Importância da PHL na oferta mundial de grãos
Palestrante: Steve Sonka

08h40 - Percepção dos produtores com relação às perdas de SOJA e problemas de acesso ao crédito para investimento em armazenagem/avaliação
Palestrante: Anamaria G. Martins e Peter Goldsmith

09h20 - Visão e ações da Embrapa em pós-colheita de soja
Palestrante: Irineu Lorini (Embrapa Soja)

09h50 - A Dinâmica das Transações Comerciais entre Produtores e Receptoras de soja em MT - Tabelas de Descontos e Necessidade de Ajustes
Palestrante: Altair Dias de Moura

10h10 - Intervalo

10h40 - Qualidade da soja (classificação)
Palestrante: Altair Dias de Moura

11h00 - Classificação de Grãos EUA
Palestrante: Carol Jones

11h30 - Debate

12h00 - Almoço

- **Painel de Perdas e Projetos na Colheita**

13h30 - Perdas durante a colheita do milho
Painelista: Zulema Figueiredo

14h00 - Perdas no Transporte, Armazenagem e Colheita em Mato Grosso
Palestrante: Roberta Martins Nogueira (UFMT-Sinop)

14h30 - Perdas durante a colheita de soja (dados do Rally da Safra)

15h15 - Intervalo

- **Painel de Perdas e Projetos no Transporte**

15h30 - Perdas no transporte curto
Palestrante: Carlos Caneppele

16h15 - Sistemas, Informática e analises na prevenção de perdas Pos-colheita: sistemas de acoplamento, tecnologia e práticas
Palestrante: Luís Rodriguez

17h00 - Debate

25/10 – Quinta-feira

- **Painel de Perdas e Projetos na Armazenagem**

08h00 - Projetos de Perdas em Armazenagem
Tetuo Hara - Centreinar (UFV)

09h40 - Animações científicos Sem Fronteiras: Novas Oportunidades para Estratégias de Treinamento
Palestrantes: Alexander Estermann (Sistema Famato/Senar).

10h20 - Grupos de Trabalho

12h00 - Encerramento

13h00 - Almoço

Agenda of the Workshop de Perdas Pos-Colheita (Credit: Aprosoja)

Workshop sobre perdas pós-colheita será realizado em Sinop

Na programação, palestrantes internacionais e painéis sobre as perdas

Fonte: Ascom Aprosoja
Crédito da Foto: Felipe Barros
18/10/2012

As alternativas para diminuir as perdas pós-colheita serão discutidas nos dias 24 e 25 de outubro, em Sinop. A Aprosoja realiza o 1º Workshop de Perdas Pós-Colheita, no auditório da Embrapa Agrossilvipastoril, com a presença de pesquisadores, produtores rurais e empresas ligadas ao setor produtivo.

Na programação, o pesquisador norte-americano Steve Sonka, da Universidade de Illinois, vai falar sobre a importância da atenção às perdas pós-colheita na oferta mundial de grãos. Outro grande nome da pesquisa sobre perdas é Peter Goldsmith, que apresentará a percepção dos produtores com relação às perdas de soja e os problemas de acesso ao crédito para investimento em armazenagem.

Goldsmith está à frente da pesquisa sobre as perdas pós-colheita do Instituto ADM de Perdas Pós-Colheita, ligado à Universidade de Illinois. A Aprosoja é a realizadora do projeto no Brasil e os técnicos da associação e pesquisadores da Universidade Federal de Mato Grosso apresentarão os dados compilados que foram colhidos durante a safra de milho deste ano.

Ainda na programação do workshop estão debates sobre a qualidade da soja e como é feita a classificação no Brasil e nos Estados Unidos. Três painéis serão apresentados: perdas e projetos na colheita, no transporte e na armazenagem.
As inscrições podem ser feitas aqui.

SERVIÇO:
Workshop Perdas Pós-Colheita
Data: 24 e 25 de outubro de 2012
Local: Auditório da Embrapa Agrossilvipastoril – Sinop (MT)
Horário: a partir das 8h

Aprosoja announces the Workshop de Perdas Pos-Colheita (Credit: Aprosoja)

Operation Postharvest: Discovering preventions for Philippine rice loss

On December 18, 2012, the ADM Institute held a debriefing session, "Operation Postharvest: Discovering preventions for Philippine rice loss", to share ADM Institute staff member Grace Kenney's experience at the "Rice: Postproduction to Market Training Course" hosted by the International Rice Research Institute (IRRI). Ms. Kenney presented her main takeaways of the course, her insights on the importance of extension and training, the challenges of cultural history and tradition in traditional agricultural practices, as well as potential impactful entry points.

The course was held in Los Baños, Philippines, with participants from research, extension, NGOs, and the private sector, who came from countries in Africa, South Asia, and Southeast Asia, predominantly. Three principal aspects of postharvest rice study were covered in the course: how to identify and measure losses along the post-production chain, the evaluation of technology options for paddy (rice plant) harvesting, threshing, drying, storage, and milling, as well as analyzing the use of certain methodologies and tools to assess local postharvest chains, mapping actors, and use of a business plan for introducing or scaling out suitable options. Detailed topics covered in the course are available in the box at the bottom.

In addition to the training and trip report, Ms. Kenney will also be releasing a video including footage from the trip and analyzing the different stages of the Philippine rice postharvest system. The institute also retains an IRRI Quality Kit for training and other purposes.

For more information on takeaways from this course or resources available through the institute, please check the website or contact the institute through email at postharvestinstitute@illinois.edu.

Left: IRRI Quality Kit

Right: Participants examine rice quality after using traditional processing methods

Topics covered in the course included:

- National knowledge management and sharing through the Rice Knowledge Bank
- Physical quality/measurement; IRRI quality kit
- Measurements and quantification
- Sensory quality testing for rice
- Harvesting and threshing
- Field Exercise: Yield estimating and harvesting rice
- Field Exercise: Mechanized harvesting of rice
- Field Exercise: Cleaning and quantification of rice
- Rice drying: Sun vs. Mechanical
- Storage of rice grain and seed; Storage technologies and experiments
- Field trips to PhilRice in Nueva Ecija, AgriNet Grain Rice Mill, Banaue Rice Terraces in Ifugao Province, GrainPro plant in Subic
- Farmer villages and post harvest practices
- Rice market field visit
- Research partnerships
- By-product utilization

(Credit: IRRI)

Combating Postharvest Loss: The Fight Against Global Hunger

In February 2013, the ADM Institute participated in a high-level forum hosted by the U.S. Department of State, which gathered diplomats, representatives from industry, non-governmental organizations, and academic institutions to discuss issues surrounding postharvest loss. Coordinated by the Bureau of Economic and Business Affairs and the Office of Global Food Security, the forum aimed to highlight problems with cold chain storage, financing, research, and implementation of new technologies and programs.

Director Steve Sonka served on the panel "Moving from Research to Implementation of PHL Initiatives" which was moderated by Florence Rolle of the U.N. Food and Agriculture Organization (FAO). Throughout the day, Dr. Sonka continued this discussion in various breakout sessions. Dr. Sonka spoke on the role of evidence in implementation and decision-making and suggested the idea of an "evidence portal", which easily organizes evidence-based information for various stakeholders. The event garnered strong awareness and support from important international actors as portions of the forum were broadcast online. Senior-level government officials, including Undersecretary Robert Hormats and Assistant Secretary Jose Fernandez, highlighted the importance of the ADM Institute in contributing to the reduction of losses worldwide. A transcript of their remarks can be found at the links below.

- Undersecretary Robert Hormats
- Assistant Secretary Jose Fernandez

Food Security and Minimizing Postharvest Loss:
Markets, Applied Research, and Innovation

February 19, 2013

Co-sponsored by the Foreign Service Institute, the Bureau of Economic and Business Affairs, and the Office of Global Food Security

U.S. Department of State
Marshall Center East Auditorium (Visitors use 21st St. Entrance)

Objectives:
1. To better understand the impact of postharvest loss on food security in low-income countries.
2. To identify promising research, innovations, and business practices that can help stem postharvest loss.
3. To elevate the profile of postharvest loss prevention initiatives across the for-profit, government, and non-profit spheres and identify new areas for collaborative solutions.

8:30 **Registration** – Coffee served

9:00 **Welcome and Opening Remarks**
- **Jose W. Fernandez,** Assistant Secretary, **Bureau of Economic and Business Affairs, Department of State**
- **Joseph Domask,** Deputy Coordinator for Roundtables, **Foreign Service Institute**

9:15 **Panel 1 – Role of the Private Sector in Addressing Postharvest Loss –** Panel 1 is Open to the Press
- **Moderator – Jose W. Fernandez,** Assistant Secretary, **U.S. Department of State**
- **Bill Hudson,** CEO, **Global Cold Chain Alliance**
- **Philippe Villers,** President, **GrainPro**
- **Bruce McNamer,** President and CEO, **TechnoServe**
- **Margaret Enis Spears,** Director, Office of Markets, Partnerships, and Innovation, **USAID Bureau for Food Security**

10:30 **Coffee Break**

10:45 **Panel 2 – Moving from Research to Implementation in PHL Initiatives**
- **Moderator – Florence Rolle,** Senior Liaison Officer, **UN FAO Liaison Office for North America**
- **Steve Sonka,** Director, **ADM Institute for the Prevention of Postharvest Loss**
- **John Lamb,** Fellow and Principal Associate for Agriculture and Food Security, **Abt Associates**
- **Dieudonné Baributsa,** Team Manager, **Purdue Improved Cowpea Storage (PICS)**
- **Roger Frank,** Founder & Managing Director, **Innovare Advisors**

12:05 **Robert Hormats, Under Secretary of State for Economic Growth, Energy, and the Environment**
Introduction by: **Kathryn Russell,** Chief of Staff, **Secretary's Office of Global Food Security**

12:15 **Lunch – served on site**

1:10 **Breakout Sessions** (Group 1 in Room #1482; G-2 in Room #1498; G-3 in Room #1478; G-4 in Room #1499)
1. **Finance, Markets, and Investment –** Moderator: **Rob Lalka,** Howard G. Buffet Foundation; discussants: **Mary Jane Potter,** Innovare; and **Clyde Martin,** Office of Global Food Security
2. **Perishables and Cold Chain:** fruits, vegetables, meats, seafood, roots, tubers, dairy – Moderator: **Bruce Rubin,** Nenko Advisors International; discussants: **Corey Rosenbusch,** President, Global Cold Chain Alliance; **Isabel Walls,** National Institute of Food and Agriculture
3. **Non-perishables:** cereals and other – Moderator **Johanna Nesseth Tuttle,** CSIS Global Food Security Project; discussants: **Angela Boss,** Foods Resource Bank; **Eliot Masters,** Abt Associates / ICRAF
4. **Bridging Research with Implementation** – Moderator: **Ann Bartuska,** USDA Deputy Under Secretary for Research, Education, and Economics; discussants: **Steve Sonka,** ADM Institute; **James French,** IICA; and **Charlie Wilson,** Wilson Associates

2:40 **Report-backs from Break-out Groups to the Full Plenary**

3:00 **Concluding Remarks**

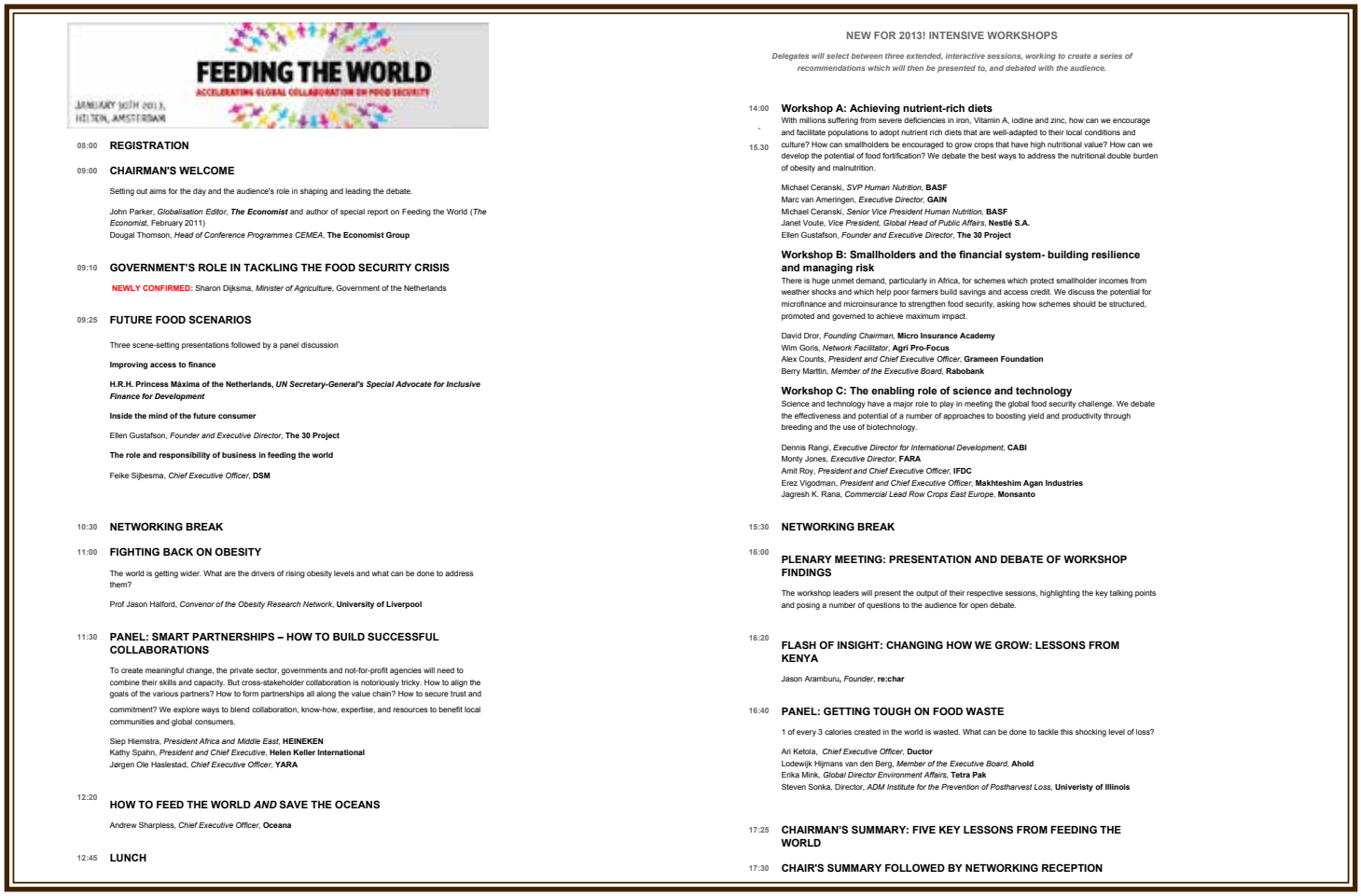
3:10 **Adjourn** – Participants are welcome to stay through 4:00 PM for coffee / informal networking

Agenda (Credit: U.S. Department of State)

Feeding the World 2013: Accelerating Global Collaboration on Food Security

ADM Institute Director Steve Sonka participated in the Feeding the World 2013 conference hosted by the Economist in Amsterdam, the Netherlands, on January 30, 2013. The Economist has been holding a series of "Feeding the World" conferences since February 2012 to engage government entities, industry, NGOs, and the research community in addressing the urgent issue of food crisis.

The 2013 theme was "Accelerating Global Collaboration on Food Security". Dr. Sonka explained the importance of reducing food waste in advancing food security and the role of the ADM Institute in addressing the issue in the "Getting Tough on Food Waste" panel. Other issues discussed during the conference included the role of government in the food security crisis, scenarios for future food systems, obesity problems, collaboration-building, and ocean-saving. Also, workshops on nutritious diets, financial problems, and risk management for smallholders, as well as the role of science and technology in averting food security, were held during the conference. The results of these workshops were debated right after the workshops. For more information, please see the detailed agenda below or visit the Feeding the World 2013 conference website.



FEEDING THE WORLD

ACCELERATING GLOBAL COLLABORATION ON FOOD SECURITY

JANUARY 30TH 2013, HILTON, AMSTERDAM

08:00 **REGISTRATION**

09:00 **CHAIRMAN'S WELCOME**

Setting out aims for the day and the audience's role in shaping and leading the debate.

John Parker, *Globalisation Editor*, ***The Economist*** and author of special report on Feeding the World (*The Economist*, February 2011)
Dougal Thomson, *Head of Conference Programmes CEMEA*, **The Economist Group**

09:10 **GOVERNMENT'S ROLE IN TACKLING THE FOOD SECURITY CRISIS**

NEWLY CONFIRMED: Sharon Dijksma, *Minister of Agriculture*, Government of the Netherlands

09:25 **FUTURE FOOD SCENARIOS**

Three scene-setting presentations followed by a panel discussion

Improving access to finance

H.R.H. Princess Máxima of the Netherlands, *UN Secretary-General's Special Advocate for Inclusive Finance for Development*

Inside the mind of the future consumer

Ellen Gustafson, *Founder and Executive Director*, **The 30 Project**

The role and responsibility of business in feeding the world

Feike Sijbesma, *Chief Executive Officer*, **DSM**

10:30 **NETWORKING BREAK**

11:00 **FIGHTING BACK ON OBESITY**

The world is getting wider. What are the drivers of rising obesity levels and what can be done to address them?

Prof Jason Halford, *Convenor of the Obesity Research Network*, **University of Liverpool**

11:30 **PANEL: SMART PARTNERSHIPS – HOW TO BUILD SUCCESSFUL COLLABORATIONS**

To create meaningful change, the private sector, governments and not-for-profit agencies will need to combine their skills and capacity. But cross-stakeholder collaboration is notoriously tricky. How to align the goals of the various partners? How to form partnerships all along the value chain? How to secure trust and commitment? We explore ways to blend collaboration, know-how, expertise, and resources to benefit local communities and global consumers.

Siep Hiemstra, *President Africa and Middle East*, **HEINEKEN**
Kathy Spahn, *President and Chief Executive*, **Helen Keller International**
Jørgen Ole Haslestad, *Chief Executive Officer*, **YARA**

12:20 **HOW TO FEED THE WORLD *AND* SAVE THE OCEANS**

Andrew Sharpless, *Chief Executive Officer*, **Oceana**

12:45 **LUNCH**

NEW FOR 2013! INTENSIVE WORKSHOPS

Delegates will select between three extended, interactive sessions, working to create a series of recommendations which will then be presented to, and debated with the audience.

14:00 - 15.30 **Workshop A: Achieving nutrient-rich diets**

With millions suffering from severe deficiencies in iron, Vitamin A, iodine and zinc, how can we encourage and facilitate populations to adopt nutrient rich diets that are well-adapted to their local conditions and culture? How can smallholders be encouraged to grow crops that have high nutritional value? How can we develop the potential of food fortification? We debate the best ways to address the nutritional double burden of obesity and malnutrition.

Michael Ceranski, *SVP Human Nutrition*, **BASF**
Marc van Ameringen, *Executive Director*, **GAIN**
Michael Ceranski, *Senior Vice President Human Nutrition*, **BASF**
Janet Voute, *Vice President, Global Head of Public Affairs*, **Nestlé S.A.**
Ellen Gustafson, *Founder and Executive Director*, **The 30 Project**

Workshop B: Smallholders and the financial system- building resilience and managing risk

There is huge unmet demand, particularly in Africa, for schemes which protect smallholder incomes from weather shocks and which help poor farmers build savings and access credit. We discuss the potential for microfinance and microinsurance to strengthen food security, asking how schemes should be structured, promoted and governed to achieve maximum impact.

David Dror, *Founding Chairman*, **Micro Insurance Academy**
Wim Goris, *Network Facilitator*, **Agri Pro-Focus**
Alex Counts, *President and Chief Executive Officer*, **Grameen Foundation**
Berry Martin, *Member of the Executive Board*, **Rabobank**

Workshop C: The enabling role of science and technology

Science and technology have a major role to play in meeting the global food security challenge. We debate the effectiveness and potential of a number of approaches to boosting yield and productivity through breeding and the use of biotechnology.

Dennis Rangi, *Executive Director for International Development*, **CABI**
Monty Jones, *Executive Director*, **FARA**
Amit Roy, *President and Chief Executive Officer*, **IFDC**
Erez Vigodman, *President and Chief Executive Officer*, **Makhteshim Agan Industries**
Jagresh K. Rana, *Commercial Lead Row Crops East Europe*, **Monsanto**

15:30 **NETWORKING BREAK**

16:00 **PLENARY MEETING: PRESENTATION AND DEBATE OF WORKSHOP FINDINGS**

The workshop leaders will present the output of their respective sessions, highlighting the key talking points and posing a number of questions to the audience for open debate.

16:20 **FLASH OF INSIGHT: CHANGING HOW WE GROW: LESSONS FROM KENYA**

Jason Aramburu, *Founder*, **re:char**

16:40 **PANEL: GETTING TOUGH ON FOOD WASTE**

1 of every 3 calories created in the world is wasted. What can be done to tackle this shocking level of loss?

Ari Ketola, *Chief Executive Officer*, **Ductor**
Lodewijk Hijmans van den Berg, *Member of the Executive Board*, **Ahold**
Erika Mink, *Global Director Environment Affairs*, **Tetra Pak**
Steven Sonka, Director, *ADM Institute for the Prevention of Postharvest Loss*, **Univeristy of Illinois**

17:25 **CHAIRMAN'S SUMMARY: FIVE KEY LESSONS FROM FEEDING THE WORLD**

17:30 **CHAIR'S SUMMARY FOLLOWED BY NETWORKING RECEPTION**

Agenda of Feeding the World 2013 Conference (Credit: The Economist)

Conferences and Symposiums

Representatives of the ADM Institute participated at several conferences and symposiums in the past year to document the significance of postharvest loss and how the ADM Institute contributes to this issue. The following section provides some key points addressed in the major presentations made by the institute and a partial list of events at which the affiliates of the institute have participated.

Postharvest Loss: A Global Issue for a Growing World

- Food demand is expected to increase 70%, and demand for agricultural products will double by 2050.
- Millions of tons of staple crops – enough to meet the dietary needs of hundreds of millions of people – are lost each year. Food and Agriculture Organization estimates that roughly one-third of food produced is lost.
- Only 5% of agriculture research dollars are dedicated to the study of postharvest loss.
- Postharvest loss is a complex issue which differs by region, by crop, and across growing conditions. It even varies between countries or states for the same crop.

Raising Awareness: The Role of ADM Institute

- Reducing postharvest loss represents one of the most economical ways to increase food production.
- The ADM Institute serves as an international information and technology hub to encompass technologies, practices, and systems focusing on staple crops in key agricultural domains.
- Reducing postharvest loss is an efficient, achievable way to fight hunger and help feed a growing population, and the ADM Institute is committed to being a part of this important solution.

Solutions for the Future

- The ADM Institute has allocated $2.5 million in funding since 2011 in four major research themes: measurement & technology development; systems informatics & analysis; policy analysis; and education, training & information transfer.
- With these projects, the ADM Institute will:
  - Develop low-cost methods to obtain robust measurements of loss,
  - Design and utilize animations to educate and train farmers on techniques to reduce postharvest loss, and
  - Implement systems-based frameworks which can effectively track potential benefits and costs of loss-reducing interventions.

The table on the following page lists some of the events at which representatives of the ADM Institute have participated.

Partial List of Events

Date	Presenter/ Participant	Event/Conference/Symposium/Object	Presentation Title	Location
2/27-29/2012	K.C. Ting	46th Annual Convention: Indian Society of Agricultural Engineers (ISAE) and International Symposium	The ADM Institute for the Prevention of Postharvest Loss	Pantnagar, Uttarakhand, India
3/2/2012	Steve Sonka	Aprosoja	The ADM Institute for the Prevention of Postharvest Loss	Cuiaba, Brazil
3/6/2012	Peter Goldsmith	Embrapa-Sinop	The ADM Institute for the Prevention of Postharvest Loss	Sinop, Brazil
4/18/2012	Steve Sonka	ACES in International Action Workshop: Engagement with the Feed the Future Initiative	Research Projects	Champaign-Urbana, IL, USA
4/24/2012	Steve Sonka	Class presentation - International Business Immersion Program	Corporation Social Responsibility and the Multi-National Firm	Champaign-Urbana, IL, USA
5/16/2012	Steve Sonka	Archer Daniels Midland Company (ADM)-Decatur	Progress of the ADM Institute	Decatur, IL, USA
6/6/2012	Steve Sonka	U.S. Agency for International Development officials (USAID)	Reducing Postharvest Loss to Advance Food Security	Washington, DC, USA
6/12/2012	Steve Sonka	ADM-China	Development of the ADM Institute	Shanghai, China
6/13/2012	Steve Sonka	22nd Annual IFAMA World Forum and Symposium	Postharvest Loss and Sustainable Development	Shanghai, China
7/16/2012	Richard Gates	CLIA/CONBEA 2012	Preventing Postharvest Loss: an Initiative at the University of Illinois	Paraná, Brazil
9/17/2012	Pradeep Khanna	Sustainable Product and Market Development for Subsistence Marketplaces course	Postharvest Loss and Sustainable Development	Champaign-Urbana, IL, USA
9/18/2012	Steve Sonka	Reducing Food Waste, From Farm to Fork Conference	Food Loss in Production, Processing and Distribution	London, UK
10/9/2012	Steve Sonka	National Defense University Fellows	Reducing Postharvest Loss to Advance Food Security	Champaign-Urbana, IL, USA
10/18/2012	Steve Sonka	2012 Borlaug Dialogue	Waste Not, Want Not	Des Moines, IA, USA
10/22/2012	K.C. Ting	ADM-China State Administration of Grain Program visit (hosted by the China Executive Leadership program at the University of Illinois)	Postharvest Loss and Sustainable Development	Champaign-Urbana, IL, USA
10/24-25/2012	Peter Goldsmith, Barry Pittendrigh, Luis Rodriguez, & Steve Sonka	Workshop de Perdas Pos-Colheita (Workshop on Postharvest Loss)	Various issues regarding postharvest loss	Sinop, Brazil
1/30/2013	Steve Sonka	The Economist: Feeding the World 2013 Conference -- Accelerating global collaboration on food security	Getting Tough on Food Waste	Amsterdam, Netherlands
2/19/2013	Steve Sonka	Food Security and Minimizing Postharvest Losses: Markets, Applied Research, and Innovation; Department of State	Moving from Research to Implementation in PHL Initiatives	Washington, DC, USA
2/22/2013	Steve Sonka	Frontiers in Technology Seminar of Master of Science in Technology Management program at the University of Illinois	Technology Management in a World of Resource Scarcity	Champaign-Urbana, IL, USA
3/2/2013	Grace Kenney	JACS Conference: The Future of Waste / Roundtable Discussion	Food Loss or Food Waste?	Champaign-Urbana, IL, USA
3/27/2013	Steve Sonka	Panelist: Ag Sector Council Seminar, USAID Bureau for Food Security	Experiences of the ADM Institute on Postharvest Loss Prevention	remotely from Champaign-Urbana/ Washington, DC
5/22/2013	Steve Sonka	4th Annual National Policy Conference, CropLife America (CLA)		Washington, DC, USA
7/13/2013	Steve Sonka	Institute of Food Technologists & Feeding Tomorrow (IFT) Annual Meeting		Chicago, IL, USA

Student Engagement

In serving as an international information hub, the institute takes pride in providing excellent support and services to its home institution. One way the institute achieves this is by engaging undergraduate and graduate students on campus in a variety of ways. These efforts serve to build awareness of postharvest loss, foster development of relevant skills, and increase the transfer of knowledge within the campus community. Important examples of student involvement with the institute's work are listed in this section.

Academic Courses

Over the last year, the institute has strengthened outreach relationships with several academic departments. For several courses, the institute provides funding, resources, and connections that facilitate unique educational opportunities, including field trips abroad. The institute currently is engaged with four classes across multiple major disciplines, including:

Agricultural and Biological Engineering 469: Industry-Linked Design Project

Instructor: Steve Zahos

Term: Spring 2013

Mr. Zahos instructs a class of engineering undergraduates who lead industry-submitted and sponsored design projects. The students apply principles of design and engineering analysis to evaluate alternatives, model and analyze solutions, and build and test a final product for their industry partner. This year, groups worked with institute affiliates Compatible Technology International and the Archer Daniels Midland Company. In addition to receiving educational and resource support, students were invited to executive campus visits hosted by the institute.

Business Administration 337: Practicum in Supply Chain Management

Instructor: Dr. Udatta Palekar

Term: Spring 2013

Dr. Palekar instructs a senior capstone course for undergraduate supply chain management students. The course requires students to work in teams to solve real-world supply chain management problems using the knowledge, tools, and techniques they acquired

Supply chain management and ag-bio-engineering students at Pancha Rathas, India

over the course of their academic career. This year, the institute supported a ten-day class field trip to India, where students toured several locations in the southern part of the country to observe and analyze supply chain issues that cause postharvest loss.

Business Administration 533: Sustainable Product and Market Development for Subsistence Marketplaces

Instructor: Dr. Madhu Viswanathan

Term: Spring 2013

Dr. Viswanathan instructs a graduate-level course that focuses on the systematic approach of designing sustainable products and developing business plans that address the issues of economic, social, and ecological sustainability. While on the winter break field trip to India, students worked with on-site partners and researchers to further develop their team projects.

Engineering 315: Learning in Community

Instructor: Dr. Paul McNamara

Term: Spring 2013

Professor Paul McNamara leads a unique course abroad through the International Development and Agribusiness Program of the College of Agricultural, Consumer and Environmental Science that allows undergraduate and graduate students to study at the University of Njala in Freetown, Sierra Leone. During the semester, students participate in a service-learning project where they work in teams alongside local farmers and organizations. This year, McNamara collaborated with the institute to design a project focused on the postharvest loss of rice. The students will serve as partners to the institute and their teams will identify and catalogue how rice is harvested, the conditions under which it is stored, and measure the amount of the product being lost. The students will report this information directly to the institute through written and visual means, as well as present their findings at a local symposium involving a variety of stakeholders. Before the group departed in January 2013, the ADM Institute provided supporting background information on postharvest loss and assisted in preparing students to critically analyze value chains.

Right: Supply chain management and ag-bio-engineering students visit farm villages in India

Left: Supply chain management student Daniel Eckel inspects rice quality at a local mill

Students at the ADM Institute

The institute promotes student professional and leadership development through its internship opportunities. In 2012, two students served on the institute staff team and played key roles in the institute's success.

Kari Wozniak – Undergraduate senior

Kari Wozniak is a senior in Global Studies at the University of Illinois at Urbana-Champaign focusing on international agricultural development and global food systems. Ms. Wozniak started at the institute in Fall 2012 after finding out about the institute during a summer internship with the Department of State in the Bureau of Economic and Business Affairs. As undergraduate intern, Ms. Wozniak compiles the institute's weekly newsletter, PHL in the News, uses social media to communicate important updates, helps prepare for large conferences and events, and supports several other projects currently developing at the institute.

Ms. Wozniak is interested in how public policy impacts the food system and hopes to pursue a career in government or international development. Ms. Wozniak's internship experience has increased her awareness and knowledge of postharvest loss and the network of stakeholders working to solve an issue of global scale.

Yu-Tien (Casey) Cheng– Recent masters graduate

Yu-Tien (Casey) Cheng is a recent graduate student of the Professional Science Master's program in the Technical Systems Management major. Ms. Cheng joined the ADM Institute in Summer 2012 as a summer intern focusing on internal communication. She established the institute's internal communication platform and interviews research faculty members to obtain recent project updates. Also, Ms. Cheng's graphic design abilities have been used to craft institutional publications.

Food security has always been a topic of interest for Ms. Cheng. Her undergraduate project focused on people's knowledge and awareness toward genetically modified foods. She also took several courses on food security as part of her master's degree requirements. The experience at the institute has provided Ms. Cheng a different view in addressing food security problems - that increasing productivity is not the only solution for advancing food security. Preserving what has been produced can have the same result with less resource input. Ms. Cheng would like to contribute to raising the awareness of reducing postharvest loss, and bring the concept back to her home country, Taiwan.

Public Outreach

To enhance the institute's ability in raising public awareness of postharvest loss, the ADM Institute created public pages on the social media platforms, Facebook and Twitter, developed a YouTube channel, as well as remodeled the institute website in 2012. The "brand awareness" of the ADM Institute also increased in 2012. Government entities, such as the Department of State and the United States Agency for International Development, in addition to well-known newspapers like the Economist, are aware of the efforts of the ADM Institute in reducing postharvest loss and advancing food security. PHL In the News, a weekly e-newsletter, is published by the institute to provide a summary of recent postharvest loss news articles, events, and media. The following section describes more about the institute's efforts on public outreach.

New and Improved Website

The ADM Institute updated its website in early 2012. The enhanced site features a complete listing of all research projects and proposals, as well as graphics that allow for better understanding of the institute's vision, goals, and themes.

The Home page features new side panels with updates on new additions to the website. The Recent News shortcut allows site visitors to see all that has happened recently in one quick location. The site map shows all the locations of the different types of information on the site.

The About tab includes information on the institute, staff, External Advisory Board, Steering Committee, and "Why PHL?"

Funded Research covers 2012 funded projects, 2011 seed projects, and 2011 projects in India. Each of these sections includes proposals. Some include video interviews, while others have PowerPoint presentations available.

External Resources consists of literature, databases, tools, projects, videos, and events that have been compiled by institute staff.

Outreach consists of sponsorship, presentations, reports, and videos created by the institute.

Institute Reports consists of the progress report, periodic reports, and PHL In the News.

Visit the ADM Institute's website to get the latest news and reports of the institute's recent updates, as well as research, outreach, and resources on postharvest loss.

New ADM Institute home page launched in July 2012

YouTube Channel Launch

Visit the institute's YouTube channel to see how Dr. Robert Easter, President of the University of Illinois, and Pradeep Khanna, Associate Chancellor for Public Engagement, think about postharvest loss, as well as discuss the role the University and the ADM Institute have in addressing this issue. Also included on the channel are videos of the institute's research faculty discussing the importance of postharvest loss research, current challenges, their excitement for possible outcomes, and the potential impact of the ADM Institute. In addition to videos produced by the institute, event videos produced by the ADM Institute's collaborators are also available. Visit the institute's YouTube channel to know more about the ADM Institute, its research focus, and recent activities.

ADM Institute launched its YouTube channel in Summer 2012

Social Media: Facebook and Twitter

The ADM Institute began to utilize social media this year to build awareness and share important information with various stakeholders. Campus visits by affiliates and conference travel by institute staff and researchers were announced via Twitter and Facebook, and the institute also used social media to share follow-up videos, links, photos, and other relevant content. The ADM Institute also supported the Department of State's digital awareness campaign for a high-level forum event held in mid-February, "Combating Postharvest Loss: The Fight Against Global Hunger". In the coming year, the institute seeks to develop a robust social media strategy so as to optimize its ability to share information worldwide through a variety of media.

Follow the ADM Institute on Facebook!

Follow the institute on Twitter to obtain timely news!

Press

Organizations are increasingly becoming aware of the ADM Institute and its efforts on postharvest loss prevention. This section includes some press articles featuring the institute.

Department of State

In September 2012, the U.S. Department of State noted the importance of postharvest loss reduction in a press release article. The ADM Institute's efforts on reducing postharvest loss were featured in the article as well.

IIP Digital | U.S. Department of State

ARTICLES

TRANSLATED: English Русский Français Español فارسی عربي

Post-Harvest Food Loss, Waste Are Focus of New U.S. Institute

By Kathryn McConnell | Staff Writer | 21 September 2012

A farmer in India dries her maize under the sun. Drying is one post-harvest stage in which pests or fungi may attack a crop.

Washington — A person in a developed country sees leftover food spoiling in a bin and thinks nothing of it. A person in an emerging economy sees a broken gunny sack of grain on the road and thinks it's common for trucks to lose sacks during transport.

A new U.S. institute wants to change consumers' perceptions of food loss and serve as an international information and technology hub for economically viable technologies and practices that reduce losses of staple crops such as rice, corn, wheat, oilseeds and pulses. The institute also plans to provide training for people who make their living growing, processing and delivering food.

About one-third of all the food produced for human consumption worldwide is lost, said Steve Sonka, director of the ADM Institute for the Prevention of Postharvest Loss at the University of Illinois at Urbana-Champaign. The Archer Daniels Midland Company, an agribusiness giant, established the institute with a $10 million grant in January 2011.

Post-harvest loss of staple crops has global implications in food security, malnutrition and poverty. Valued at more than $14 billion a year, lost food could meet the minimum annual food requirements of at least 48 million people, Sonka said.

After the issue received a surge of attention in the 1970s and 1980s, awareness of post-harvest loss faded. Then, with renewed global focus on agriculture beginning in 2008, interest in food loss prevention re-emerged, according to the World Bank report *Missing Food: the Case of Postharvest Grain Losses in Sub-Saharan Africa*. Yet, post-harvest loss still attracts just 5 percent of agricultural research dollars, Sonka said.

Sonka will highlight the issue at the Borlaug Symposium, October 17–19 in Des Moines, Iowa, an event that takes place in conjunction with World Food Day, an annual day to raise international understanding of approaches to ending hunger.

"One complexity is the diversity of effects and causes of food loss," Sonka said. "In one locale the problem may be pests in storage. In another it may be during harvesting. And it may be with the same crop in the same country," Sonka said.

The losses contribute to higher food costs, environmental degradation and climate change, according to the U.N. Food and Agriculture Organization (FAO). Water, land, labor and nonrenewable resources such as energy and fertilizer used to produce food that no one consumes are wasted.

Commodities are lost during production as a result of damaged machinery or spillage; during handling and storage that also can degrade the crop; during processing and distribution; and during consumption, according to the FAO report *Global Food Losses and Food Waste*. In medium- and high-income countries, most food is wasted at the consumption stage, discarded even if it is still suitable to eat, FAO says.

In some countries, food may be lost because of premature harvesting if a farmer is desperate for cash. This food also may incur a loss in nutritional and economic value, and may get wasted if it is not suitable for consumption.

Potential ways to reduce loss include proper harvesting and drying, monitoring grain humidity, and careful transport from field through each stage along the supply chain. Improved pest and fungus management, proper warehousing and cooperation among farmers to reduce risk of overproduction of a single crop are other ways, FAO reports.

The World Bank reports that the most widespread post-harvest technology adopted in sub-Saharan Africa is the small-scale hammer mill that pounds maize. Other new technologies are a simple rice thresher and small tin silos that protect grain from insects, rodents, birds and fungi and allow it to be kept for long periods without degrading.

The World Bank says it is important to establish cultural and gender acceptability of any new technology, incentives for farmers to adopt new post-harvest practices, and learning alliances to ensure that key entities in the value chain interact.

"The goal is to get as much of that crop we economically and environmentally can to its user," Sonka said.

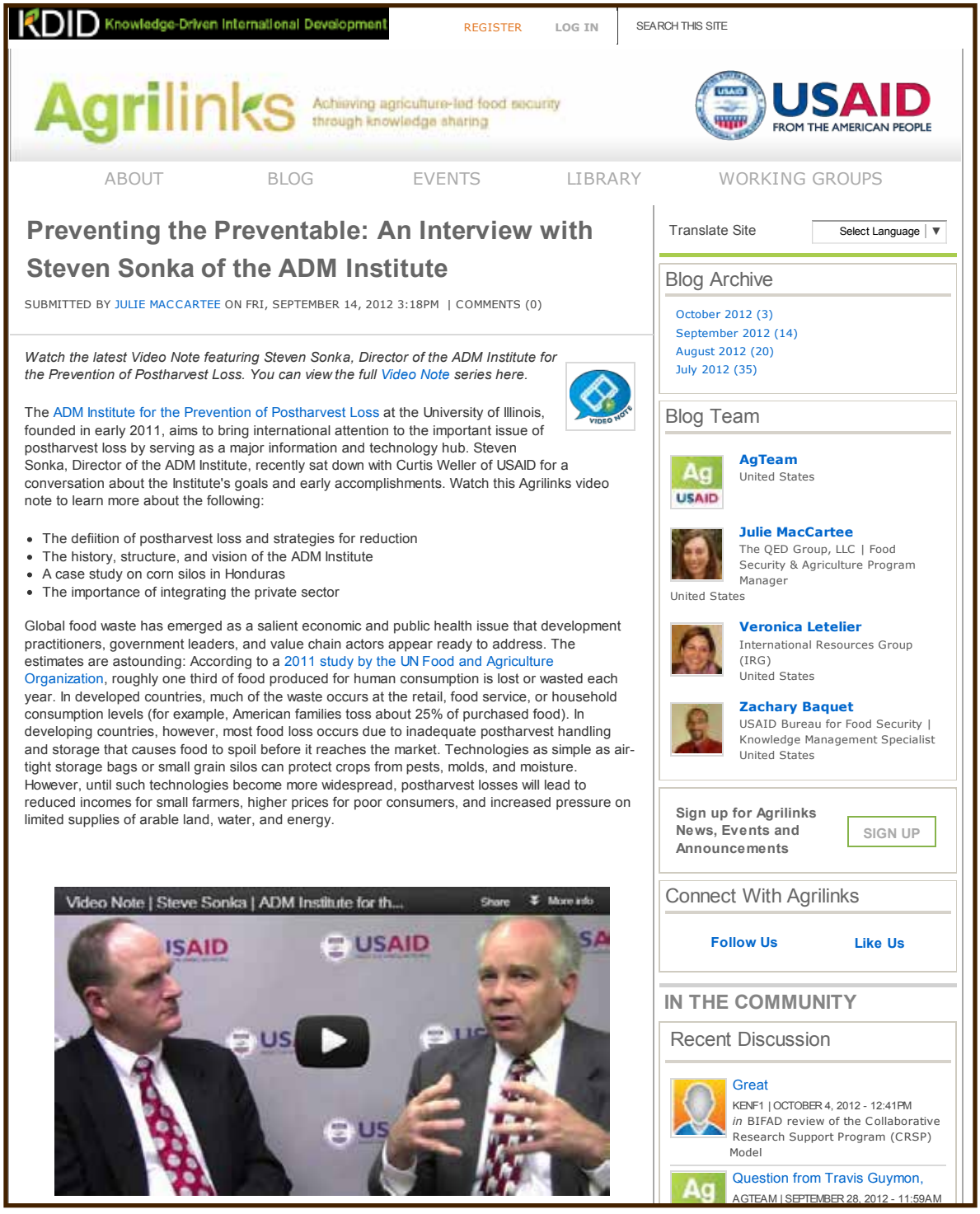
Based in Decatur, Illinois, ADM converts corn, oilseeds, wheat and cocoa into food, feed and energy. It operates a global crop transportation network, connecting crops and markets.

Missing Food: the Case of Postharvest Grain Losses in Sub-Saharan Africa is on the World Bank website. *Global Food Losses and Food Waste* is on the FAO website.

ADM Institute featured in press release of the U.S. Department of State (Credit: U.S. Department of State)

U.S. Agency of International Development Agrilinks

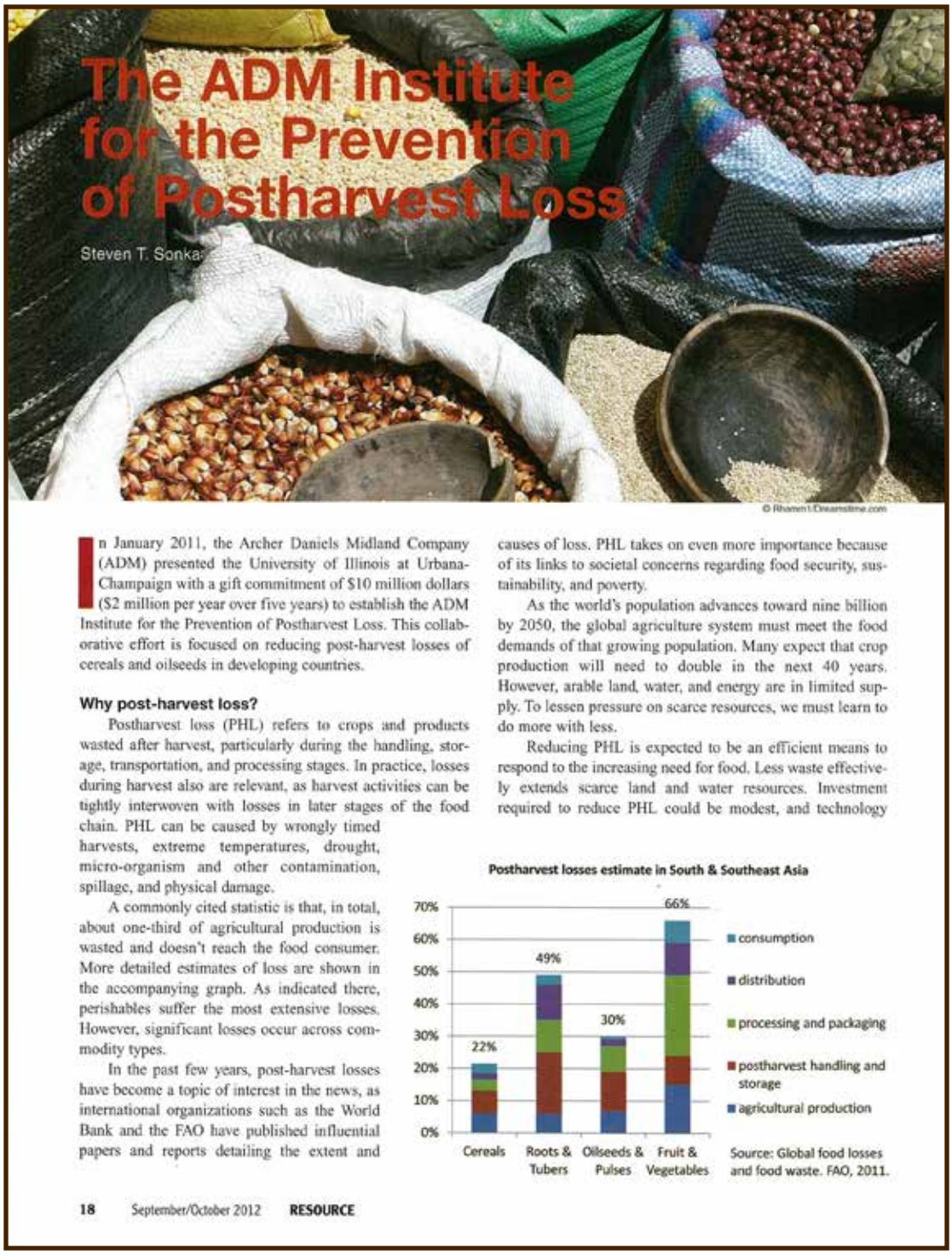
Institute Director Steve Sonka appeared as a guest expert in USAID's Agrilinks Video Note interview series in June 2012. During the interview, Dr. Sonka discussed the definition of postharvest loss, strategies to reduce loss, as well as the role of the ADM Institute in addressing the complex issues, and provided anecdotes on postharvest loss prevention efforts in the developing world.



Director Steve Sonka interviewed by Agrilinks (Credit: Agrilinks)

Resource Magazine

Institute Director Steve Sonka authored an article in *Resource* magazine's September/October 2012 issue, which is published by the American Society of Agricultural and Biological Engineers (ASABE). The importance of postharvest loss, how the ADM Institute addresses the issue, and the institute's research focus were discussed in the article.



The ADM Institute for the Prevention of Postharvest Loss

Steven T. Sonka

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In January 2011, the Archer Daniels Midland Company (ADM) presented the University of Illinois at Urbana-Champaign with a gift commitment of $10 million dollars ($2 million per year over five years) to establish the ADM Institute for the Prevention of Postharvest Loss. This collaborative effort is focused on reducing post-harvest losses of cereals and oilseeds in developing countries.

Why post-harvest loss?

Postharvest loss (PHL) refers to crops and products wasted after harvest, particularly during the handling, storage, transportation, and processing stages. In practice, losses during harvest also are relevant, as harvest activities can be tightly interwoven with losses in later stages of the food chain. PHL can be caused by wrongly timed harvests, extreme temperatures, drought, micro-organism and other contamination, spillage, and physical damage.

A commonly cited statistic is that, in total, about one-third of agricultural production is wasted and doesn't reach the food consumer. More detailed estimates of loss are shown in the accompanying graph. As indicated there, perishables suffer the most extensive losses. However, significant losses occur across commodity types.

In the past few years, post-harvest losses have become a topic of interest in the news, as international organizations such as the World Bank and the FAO have published influential papers and reports detailing the extent and causes of loss. PHL takes on even more importance because of its links to societal concerns regarding food security, sustainability, and poverty.

As the world's population advances toward nine billion by 2050, the global agriculture system must meet the food demands of that growing population. Many expect that crop production will need to double in the next 40 years. However, arable land, water, and energy are in limited supply. To lessen pressure on scarce resources, we must learn to do more with less.

Reducing PHL is expected to be an efficient means to respond to the increasing need for food. Less waste effectively extends scarce land and water resources. Investment required to reduce PHL could be modest, and technology

Postharvest losses estimate in South & Southeast Asia

Source: Global food losses and food waste. FAO, 2011.

First page of the article in Resource Magazine

advances could make reduction more feasible and less expensive. However, lack of awareness regarding the potential benefits of reducing PHL has historically hampered progress.

The ADM Institute

To address these global concerns, the ADM Institute seeks first to serve as an international information and technology hub for evaluating, creating, and disseminating economically viable technologies, practices, and systems that reduce post-harvest loss in staple crops such as rice, corn, wheat, and oilseeds. The ADM Institute is research driven, and its resources are primarily focused on innovation and application of knowledge so as to reduce PHL in developing agriculture. In addition, the institute strives to heighten the understanding of this issue through sponsorship of conferences, support of undergraduate experiential learning, publications, and presentations, as well as by engaging the public through the institute's website and social media outlets.

Providing leadership and guidance for the institute are an external advisory board and its steering committee. The external advisory board is comprised of distinguished leaders from around the world and provides strategic guidance to the institute. The steering committee oversees the activities of the institute. Five University of Illinois faculty members and one representative from ADM serve on that body. I serve as director.

A research focus

During 2011, the ADM Institute allocated $2.5 million in funding for research projects, particularly focused on PHL in India and Brazil. More than 20 Illinois faculty members from four different colleges are engaged in this research. These faculty members are linked to a growing network of collaborators in developing nations. Not unexpectedly, the agricultural engineering faculty provide essential research and organizational leadership. The ADM Institute's research and development activities focus on the following four themes:

- Measurement and technology development efforts that strive to determine methods to better assess the extent of loss and create specific innovations that, if successful, can effectively reduce postharvest loss.
- Systems informatics and analysis investigations that focus on data organization, quantitative modeling, and results delivery, particularly at the supply chain and food system level.
- Policy analysis initiatives that concentrate on the effects of existing public and private sector policies and evaluation of potential enhancements.
- Education, training, and information transfer activities that serve to transfer knowledge and implement tools to enhance the performance of farmers and supply chain participants.

Raising awareness

Although post-harvest loss is not a new topic, analysis has shown that PHL reduction is under-publicized relative to its potential to contribute to societal goals. One responsibility of the institute is to increase awareness of the extent of PHL and, more importantly, the opportunities associated with reducing PHL. To address this need, the ADM Institute has adopted an ambitious agenda to provide leadership at significant conferences, sponsor key events, and disseminate findings through electronic and other media.

For example, the institute was a co-sponsor of the Indian Society of Agricultural Engineers' Annual Convention in February 2012. In March of that year, the institute supported an experiential learning program for undergraduates to examine agriculture and post-harvest loss in India.

Each year, the institute publishes several reports to document institute activities, future plans, trips, and publications. "PHL in the News," a weekly e-letter published by the institute, compiles recent news about PHL issues, projects, and opportunities. Additionally, representatives of the ADM Institute provide presentations at conferences around the world to better collaborate with entities involved in related areas of work. In addition to the recent convention in India, early 2012 keynote presentation venues included the 22nd International Food and Agribusiness Management Association World Forum and Symposium in Shanghai, China, and the XLI Congresso Brasileiro de Engenharia Agrícola in Londrina, Brazil.

Additional information on the activities and goals of the ADM Institute for the Prevention of Postharvest Loss can be found on the institute's website at http://postharvestinstitute.illinois.edu. For further inquiries, the ADM Institute can be reached by phone at 217-333-5115 or by e-mail at postharvestinstitute@illinois.edu.

To keep informed on the state of post-harvest losses around the world, subscribe to the institute's "PHL In the New" weekly newsletter at http://illinois.edu/gm/subscribe/6325.

Steve Sonka is the director, ADM Institute for the Prevention of Postharvest Loss, and Professor Emeritus of Agricultural Strategy, University of Illinois, Urbana-Champaign, USA (ssonka@illinois.edu).

Second page of the article in Resource Magazine

Resource Magazine is published by the American Society of Agricultural and Biological Engineers (ASABE), providing information on technologies, issues, applicants and future trends related to agricultural and biological engineering.

Aprosoja press release of Workshop de Perdas Pos-Colheita (Portuguese)

In October 2012, Aprosoja, a soybean producers' association in Brazil, released an article to announce the outcomes of the Workshop de Perdas Pos-Colheita. Affiliates of the ADM Institute participated in the two-day workshop to discuss the 12.5% soybean production loss during transportation, grading, and storage in Brazil.

APROSOJA > COMUNICAÇÃO > NOTÍCIAS

GESTÃO DA PRODUÇÃO

Brasil perde cerca de 12% da soja produzida no país

Projetos de pesquisadores brasileiros e americanos vão auxiliar produtores na mensuração e prevenção de perdas na colheita, transporte curto, padronização, armazenagem e transporte longo

Tweetar 2 Curtir 7

Fonte: Ascom Aprosoja
Crédito da Foto: Eduardo Cardoso
26/10/2012

Estimativas da Aprosoja apontam que o Brasil perde aproximadamente 12,5% da soja produzida no país durante os processos de pré-colheita, colheita, transporte curto, padronização, armazenagem e transporte longo. Considerando as previsões para a safra brasileira, isto representaria cerca de 10 milhões de toneladas de soja. Os dados foram apresentados durante o Workshop de Perdas Pós-Colheita, realizado nos dias 24 e 25 de outubro, na Embrapa Agrossilvipastoril, em Sinop. O evento reuniu trabalhos de pesquisadores do Brasil e dos Estados Unidos, que estudam os diversos tipos de perdas, tanto físicas quanto qualitativas e econômicas, ocorridas em todo o processo da cadeia da soja.

Deste percentual que o país perde, cerca de 4% fica na própria lavoura, segundo informações coletadas pelo Rally da Safra, da empresa Agroconsult. O diretor executivo da Aprosoja, Marcelo Duarte Monteiro, considera a perda significativa. "Se usarmos uma média de 50 sacas de produtividade por hectare este percentual de 4% equivale a mais de duas sacas que o produtor perde no processo da colheita", destacou Duarte Monteiro.

As outras perdas são de 1% no processo de pré-colheita e mais 1% somando o transporte curto, a armazenagem e o transporte longo. Os outros 6% não são perdas físicas mas econômicas, decorrentes do atual modelo de classificação de grãos e descontos praticados pelas empresas compradoras de soja.

O Workshop reuniu diversos trabalhos realizados por pesquisadores da Universidade Federal de Viçosa, da Universidade Federal de Mato Grosso (UFMT), Universidade do Estado de Mato Grosso (Unemat), Embrapa, Universidade de Illinois, nos Estados Unidos, e Instituto ADM de Prevenção de Perdas Pós-Colheita,

Press release of Workshop de Perdas Pos-Colheita from Aprosoja (page 1)

também sediado em Illinois.

Segundo o diretor da Aprosoja, o objetivo foi reunir os pesquisadores para que eles trocassem ideias e realizassem um intercâmbio de informações. "A partir desta sinergia, a Aprosoja espera que os pesquisadores atuem em conjunto, potencializando os trabalhos e auxiliando o produtor na prevenção das perdas na produção, armazenagem e transporte de soja e também do milho. Perda zero a gente sabe que é difícil, mas com certeza é possível minimizar estes números", afirmou Marcelo Duarte Monteiro.

O diretor do Instituto ADM de Prevenção de Perdas Pós-Colheita, Steve Sonka, alertou que 1/3 da produção agrícola do mundo é desperdiçada e não chega aos consumidores finais. Com o crescimento populacional a FAO - Organização da ONU para Agricultura e Alimentação - estima que em 2050 a demanda global por alimentos irá crescer cerca de 70%, pois teremos mais dois bilhões de pessoas no mundo consumindo alimentos. Além de trabalhar na prevenção das perdas, Sonka destacou ainda que é preciso baratear o preço para que esta população tenha acesso à alimentação de qualidade.

Neste sentido, os esforços para trabalhar a prevenção das perdas estão partindo de diversas instituições, como o trabalho da professora Zulema Figueiredo, do campus da Unemat de Cáceres, que apresentou durante o Workshop os resultados um trabalho de mensuração de perdas na colheita, com ênfase na análise das máquinas que são utilizadas no campo. A pesquisa foi realizada em seis propriedades, durante a colheita do milho segunda safra, e foram observados diversos aspectos, entre eles regulagem das máquinas, idade da máquina, velocidade no deslocamento durante a colheita, as perdas que ocorrem na plataforma de corte, os sistemas internos da máquina. "A metodologia que nós usamos pode ser indicada para o fabricante no processo de regulagem das máquinas. Acreditamos que as ações de extensão realizadas por instituições como o Senar, por exemplo, com cursos de capacitação para operadores, poderão ajudar no sentido de prevenir as perdas ocorridas em decorrência da má utilização das máquinas", explicou Zulema Figueiredo.

A produtora rural Roseli Giachini, do município de Cláudia, avaliou que muitos produtores não conseguem quantificar quanto se perde nos processos de colheita, armazenagem e transporte. "A pesquisa é fundamental neste sentido, pois na minha propriedade eu sabia que tinha perda, mas a partir do trabalho da professora Zulema nós pudemos quantificar isto", destacou Giachini. No caso da produtora, as perdas estavam ocorrendo na plataforma de corte da máquina. "A máquina não conseguia colher direito porque houve erros no processo de plantio. Quando você compara um plantio realizado com GPS em relação a um realizado com marcador de linha você observa o quanto se pode reduzir as perdas", enalteceu Giachini.

O professor Carlos Caneppele, da UFMT, pesquisou as perdas que ocorrem no transporte curto, que é aquele realizado da lavoura até a unidade armazenadora, que pode estar dentro da própria propriedade ou fora, no caso dos produtores que não possuem armazém. Foram pesquisadas sete propriedades na região de Sinop e Cláudia. "A má conservação das estradas e a situação dos caminhões que são usados para fazer este transporte influenciaram bastante nas perdas observadas. Além disto, a forma de descarregar o produto e a falta de limpeza dos caminhões no retorno para a propriedade também acarretam em perdas para o produtor. É preciso um investimento na melhoria dos caminhões utilizados e também na conservação destas estradas", apresentou Caneppele.

Tanto o trabalho da professora Zulema Figueiredo quanto do professor Carlos Caneppele contaram com o apoio da Aprosoja.

Já no quesito armazenagem, o trabalho da professora Roberta Nogueira, do campus da UFMT em Sinop, que conta com a parceria de outras instituições, inclusive do Instituto ADM, avaliou a utilização de sensores para medir temperatura, umidade e fluxo de ar. Estes sensores poderão ser instalados dentro das unidades armazenadoras estáticas ou também nos caminhões que fazem o transporte de grãos ou de sementes, por exemplo. "Nos sistemas atuais a gente só consegue obter dados de temperatura. E para fazer a predição de perdas e a qualidade do produto, no mínimo, umidade relativa e temperatura devem ser aferidos. O desenvolvimento destes sensores é um passo importante para que possamos saber como de fato ocorre o armazenamento de grãos no nosso estado", destacou Roberta Nogueira.

O armazenamento em silo bag também foi outro item do trabalho. A capacidade estática atual de Mato Grosso não suporta a produção de grãos do estado e quem sofre com isto são os produtores. "Nosso trabalho avaliou a viabilidade econômica deste sistema, muito utilizado em outros países, para o armazenamento de milho, comparando os custos em relação ao armazenamento convencional", explicou Roberta Nogueira. Os pesquisadores armazenaram o milho durante três meses no silo bag, em condições reais, ou seja, no campo, e a cada 20 dias eram coletadas amostras, analisadas em laboratório. "A conclusão do trabalho foi que a qualidade do material armazenado foi mantida e os custos em comparação com o sistema tradicional também compensaram", destacou a professora.

O chefe de Pesquisa da Embrapa Agrossilvipastoril, Auster Faria, que conduziu todas as apresentações durante o Workshop, destacou que ao final os pesquisadores definiram grupos de trabalho, com coordenadores e propostas para a continuidade dos projetos, divididos em quatro grandes áreas de atuação: perdas na colheita, no transporte, na armazenagem e uma última que serão políticas públicas, a fim de se estudar alternativas e propostas de leis, comissões e outros aparatos que complementem os projetos de prevenção e mensuração de perdas na produção agrícola.

Press release of Workshop de Perdas Pos-Colheita from Aprosoja (page 2)

PHL In the News

The ADM Institute publishes a weekly newsletter called PHL in the News, which compiles recent stories, reports, and other web content related to postharvest loss. PHL in the News is the only available information source that sorts postharvest loss content using a human filter, making it an invaluable resource to the public. To date, the institute has published over 60 issues of PHL In the News.

The newsletter presents global and regional updates, includes links to related topics, and lists upcoming conferences. This year the institute added an additional spotlight feature to highlight a particular issue within postharvest loss, such as storage or extension services, as well as to showcase recent work of the institute and its researchers. To review past issues, please visit the PHL In the News page at the institute website.

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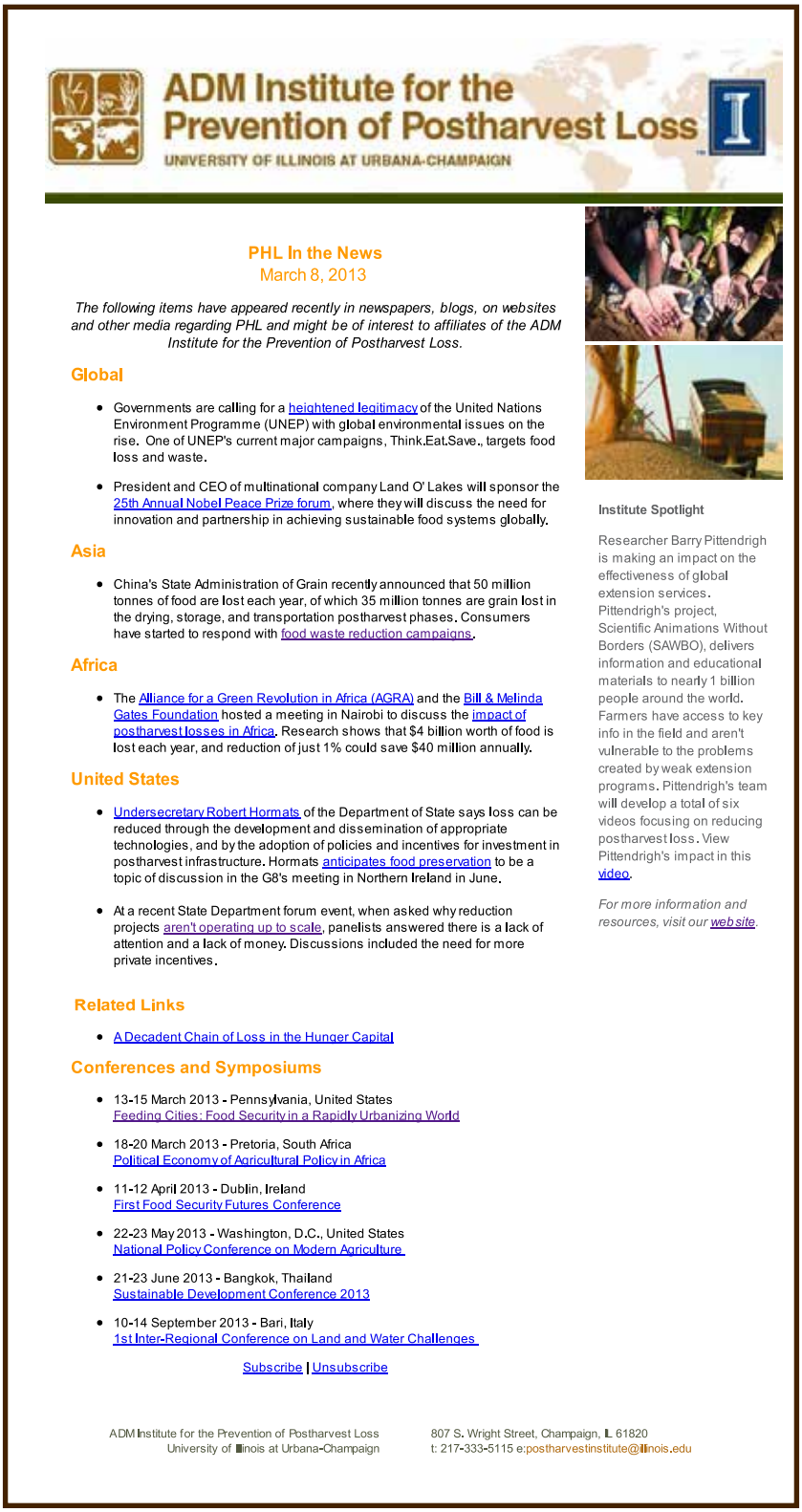

ADM Institute for the Prevention of Postharvest Loss
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PHL In the News
March 8, 2013

The following items have appeared recently in newspapers, blogs, on websites and other media regarding PHL and might be of interest to affiliates of the ADM Institute for the Prevention of Postharvest Loss.

Global

- Governments are calling for a heightened legitimacy of the United Nations Environment Programme (UNEP) with global environmental issues on the rise. One of UNEP's current major campaigns, Think.Eat.Save., targets food loss and waste.
- President and CEO of multinational company Land O' Lakes will sponsor the 25th Annual Nobel Peace Prize forum, where they will discuss the need for innovation and partnership in achieving sustainable food systems globally.

Asia

- China's State Administration of Grain recently announced that 50 million tonnes of food are lost each year, of which 35 million tonnes are grain lost in the drying, storage, and transportation postharvest phases. Consumers have started to respond with food waste reduction campaigns.

Africa

- The Alliance for a Green Revolution in Africa (AGRA) and the Bill & Melinda Gates Foundation hosted a meeting in Nairobi to discuss the impact of postharvest losses in Africa. Research shows that $4 billion worth of food is lost each year, and reduction of just 1% could save $40 million annually.

United States

- Undersecretary Robert Hormats of the Department of State says loss can be reduced through the development and dissemination of appropriate technologies, and by the adoption of policies and incentives for investment in postharvest infrastructure. Hormats anticipates food preservation to be a topic of discussion in the G8's meeting in Northern Ireland in June.
- At a recent State Department forum event, when asked why reduction projects aren't operating up to scale, panelists answered there is a lack of attention and a lack of money. Discussions included the need for more private incentives.

Related Links

- A Decadent Chain of Loss in the Hunger Capital

Conferences and Symposiums

- 13-15 March 2013 - Pennsylvania, United States
  Feeding Cities: Food Security in a Rapidly Urbanizing World
- 18-20 March 2013 - Pretoria, South Africa
  Political Economy of Agricultural Policy in Africa
- 11-12 April 2013 - Dublin, Ireland
  First Food Security Futures Conference
- 22-23 May 2013 - Washington, D.C., United States
  National Policy Conference on Modern Agriculture
- 21-23 June 2013 - Bangkok, Thailand
  Sustainable Development Conference 2013
- 10-14 September 2013 - Bari, Italy
  1st Inter-Regional Conference on Land and Water Challenges

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Institute Spotlight

Researcher Barry Pittendrigh is making an impact on the effectiveness of global extension services. Pittendrigh's project, Scientific Animations Without Borders (SAWBO), delivers information and educational materials to nearly 1 billion people around the world. Farmers have access to key info in the field and aren't vulnerable to the problems created by weak extension programs. Pittendrigh's team will develop a total of six videos focusing on reducing postharvest loss. View Pittendrigh's impact in this video.

For more information and resources, visit our website.

Recent PHL In the News

Enhancing Collaboration

In the past year, enhancing collaboration has been one of the core activities for the ADM Institute. The institute has established relationships with international agencies, governmental entities, private companies, nonprofit organizations, as well as universities in Asia, Europe, North America, and South America.

Because of the rising recognition of the ADM Institute and its location at the University of Illinois, many organizations have also come to visit the institute for potential collaborative opportunities. For example, representatives of the International Rice Research Institute (IRRI), a nonprofit research and training organization for developing rice varieties and technologies, visited in summer 2012 and signed a Memorandum of Understanding with the ADM Institute later in October 2012. Compatible Technology International, a nonprofit organization focused on developing technology to promote food security in the developing world, visited the ADM Institute to discuss the opportunities for collaborating with student research groups and with the institute.

The ADM Institute became a partner of Food and Agriculture Organization's (FAO) SAVE FOOD Initiative in 2012. The SAVE FOOD Initiative campaign aims at collaborating with industry, politics, and research to develop and implement programs on reducing food loss and food waste.

To learn more about the ADM Institute's efforts on enhancing collaboration, please refer to the following section.

The following section includes:

Collaborator Establishment

Located in Illinois, and focused on Brazil and India, creating collaborative relationships with entities is essential for the ADM Institute to practice in the focused countries. Thus, developing international and domestic collaborations has been one of the major focuses of the institute throughout 2012. Below is a table partially listing institute collaborators.

Partial List of Collaborators

International Agencies	Government Agencies	Other Corporations	Nonprofits	Universities
• Food and Agriculture Organization (FAO) • World Bank • Union of African States • International Food and Agribusiness Management Association (IFAMA) • The World Food Prize • FAO Save Food Initiative • International Rice Research Institute (IRRI)	USA – • Department of State • US Agency for International Development (USAID) Australia – • Australian Trade Commission Brazil – • Secretaria da Agricultura Familiar • Embrapa China – • Research Center for Rural Economy (RCRE) • State Administration of Grain (SAG) India – • Commission for Agricultural Costs and Prices, Ministry of Agriculture, Government of India • Indian Consul in Chicago • Ministry of Agriculture, Government of India	USA – • John Deere • Bill & Melinda Gates Foundation • Caterpillar • MarketMaker • Riverside Research • Monsanto • Chicago Council on Global Affairs Brazil – • Aprosoja India – • Maharashtra Hybrid Seed Company (Mahyco Seeds) • Digital Green • Federation of Indian Chambers of Commerce and Industry (FICCI) Latin America – • Asociacion Americana Soys-IM Switzerland – • Agriculture at Nestlé	USA – • Institute of Food Technologists (IFT) • Compatible Technology International (CTI) India – • MART • Indian Society of Agribusiness Professionals (ISAP) • Marketplace Literacy South Asia – • Cereal System Initiative for South Asia (CSISA)	USA – • Kansas State University • Oklahoma State • Purdue University • University of California Davis – Postharvest Technology Center • Iowa State University • University of Nebraska-Lincoln • University of Kentucky Brazil – • Universidade Federal de Viçosa • UFMT (Universidade Federal de Mato Grosso), • Unemat (Universidade do Estado do Mato Grosso) • Universidade Federal de Goiás • Universidade de São Paulo • Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ) • CENTREINAR – University of Vicosa India – • Haryana Agricultural University (HAU) • Indian Institute of Technology (IIT) • Jadabpur University

Visitors to the ADM Institute

The ADM Institute has had the honor of hosting many guests in its second year on the University of Illinois Urbana-Champaign campus. As seen in the accompanying list on the following page, visitors have come from both developed and developing nations, from public and private entities, and have represented the diverse community that is associated with postharvest loss reduction and research.

Below features a selection of distinguished guests, with some information on the events surrounding their visit to the ADM Institute.

International Rice Research Institute (IRRI)

In July 2012, Alfred Schmidley, Scientist and Business Model Development and Market Specialist at the International Rice Research Institute (IRRI), visited the institute to discuss future collaboration possibilities. This trip was followed in October 2012 by a visit from Director General Robert Zeigler, who signed a Memorandum of Understanding (MOU) with the institute to "promote the development of cooperation in the domains of research, operations, and training, with Prevention of Post Harvest Loss being one specific field of collaboration". More can be found on the MOU in the following pages.

The International Rice Research Institute is a nonprofit organization aimed at improving the quality and quantity of rice through research, education, training, and partnerships through the entire rice farming and supply chains. The Institute is a member of the Consultative Group on International Agricultural Research (CGIAR) and also works with national agricultural research and extension systems (NARES) in order to improve rice.

State Administration of Grain, China

The Chinese State Administration of Grain was hosted by the China Executive Leadership Program at the University of Illinois, and visited the institute in October 2012. During the visit, institute faculty Dr. K.C. Ting and institute staff member Casey Yu-Tien Cheng hosted the delegation and presented information on the ADM Institute and postharvest loss issues to their members.

Compatible Technology International

Roger Salway, then Executive Director of Compatible Technology International (CTI), visited the institute in November 2012, to present CTI's particular approach to postharvest loss reduction through small-scale technologies. Students in institute-supported trips and institute faculty joined the informational sessions to learn more about their approach and experiences.

CNA (National Confederation of Agriculture, Brazil)

Pedro Costa and Rubens Oliviera, of the CNA (National Confederation of Agriculture) of Brazil, visited the ADM Institute in March 2013 to discuss e-learning, content, and new technologies that could be absorbed by five million Brazilian farmers. Costa and Oliviera met with institute faculty to discuss their research projects.

In the following pages, other collaborations are detailed, and certain advancements have been highlighted to illustrate the ADM Institute's progress and outward growth.

Partial List of Visitors

- **Paul Adler**, Director of Market Development, Australian Trade Commission
- **Pedro Augusto L. Costa**, National Confederation of Agriculture (CNA), and **Rubens Oliveria**, Instituto de Estudos Avancados (IEA)
- **Rod Beeler**, **Patrick Dierker**, and **Jim Voigt**, CGN Consulting
- **China State Administration of Grain**, hosted by the China Executive Leadership program at the University of Illinois
- **Richard Fitzgerald**, CEO of NZ Young Farmers
- **John Hickman**, Director of Global University Relations and Life Sciences, John Deere; **Graeme Jarvis**, Director of Latin America Technology Innovation Center, John Deere; and **Ritu Raj**, Director of Asia Technology Innovation Center, John Deere
- **Carol Keiser-Long**, Trustee at Farm Foundation
- Delegations from **MarketMaker** and **Riverside Research**
- Dr. **Edwin Momoh**, Njala University, Sierra Leone
- **Roger Salway**, former Executive Director of Compatible Technology International (CTI)
- **Alfred Schmidley**, Scientist and Business Model Development and Market Specialist, International Rice Research Institute (IRRI)
- Representatives of the Uruguay-based Institute for Agriculture Research (**Instituto Nacional de Investigacion Agropecuaria**, INIA)
- **Wayne Wargo**, Abbott Nutrition Global Research
- **Wei Yang**, President of Zhejiang University, China
- **George Yeo**, Vice Chair of Kerry Group
- Dr. **Robert Zeigler**, Director General, International Rice Research Institute (IRRI)

FAO – SAVE FOOD Initiative – Partnership

The Institute is proud to announce its partnership with Food and Agriculture Organization's SAVE FOOD – Global Initiative on Food Loss and Waste Reduction. The initiative aims to reduce global food loss and food waste by raising awareness, strengthening collaboration between public and private actors, developing policies, strategies, and programs, as well as investing in a variety of projects seeking to curb losses. The ADM Institute will participate in this important work by serving as an information hub on postharvest loss.

MOU with International Rice Research Institute

In October 2012, Phyllis Wise, Vice President of the University of Illinois and Chancellor of the Urbana-Champaign campus, and Dr. Robert Zeigler, Director General of the International Rice Research Institute (IRRI) signed a Memorandum of Understanding (MOU) to initiate the collaboration between the ADM Institute for the Prevention of Postharvest Loss and IRRI on postharvest loss prevention. The MOU became effective on November 6, 2012, with the initial focus on applying postharvest technologies to reduce loss and improve income of rural households, as well as developing awareness and workable solutions on postharvest loss prevention in South Asia.

The ADM Institute and IRRI agreed on four major activities for potential collaborative activities, including research, partnership development, data collection, and capacity-building.

- **Research**
  - Screening of postharvest technologies and practices for sustainability assessment
  - Developing tools for targeting postharvest interventions and developing an assessing method to examine the effectiveness of solutions
  - Developing Adaptive Field Trails
- **Partnership Development**
  - Building new or expanding existing relationships to gather country-specific data collection on postharvest
  - Developing dissemination pathways through development partners in South Asia
  - Encouraging active participation by all stakeholders for achieving desired goals
- **Data Collection**
  - Mapping of chain actors (national agricultural research and extension systems, private corporations, NGOs)
  - Comprehensively assessing the postharvest chain and inherent current losses
  - Developing supply chain maps to clearly understand the nature and extent of cause and effect relationships between policies and postharvest losses for specific crops
  - Identifying entry points for improved postharvest technologies and management options
- **Capacity-Building**
  - Promoting and extending improved, customized, and cost-sensitive technologies and practices
  - Developing technically-validated dissemination materials in English or the local language that help in dissemination of chosen technologies or practices through partners
  - Developing FAQs resulting but not solely dependent on feedback received from farmers catered to by partner institutions

IRRI Director General Dr. Robert Zeigler and UIUC Chancellor Phyllis Wise signing the MOU (Credit: Shelley Mix)

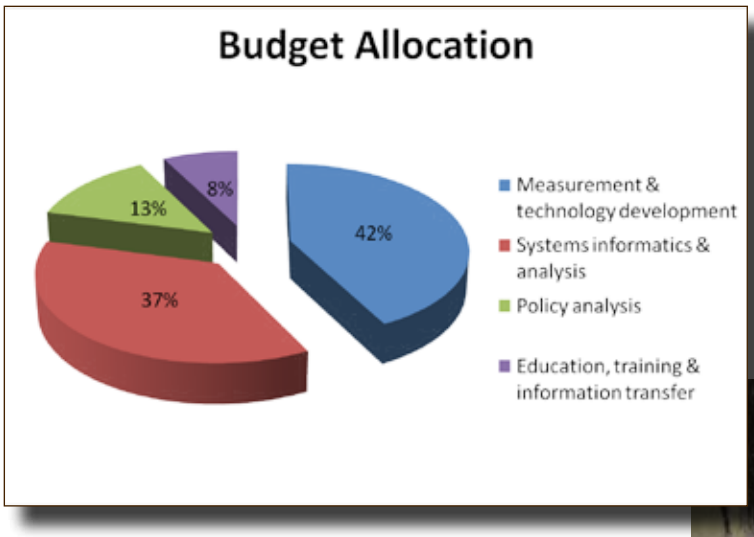
Harnessing Research Expertise

Located at the University of Illinois at Urbana-Champaign, the ADM Institute possesses rich research resources for innovation in reducing postharvest loss. In fall 2011, the institute allocated $2.1 million dollars to fund seven research projects contributing towards postharvest loss reduction. Each of the funded projects aligns with the four main research themes of the institute, which are:

- Measurement and technology development,
- Systems informatics & analysis,
- Policy analysis, and
- Education, training & information transfer.

The budget allocations of each research theme are 42%, 37%, 13%, and 8%, respectively. This section provides an overview of the seven funded projects, as well as each project's progress through 2012.

In addition, the ADM Institute also invested in three case studies in India to understand the extent of postharvest loss of specific crops along the supply chain. Two of the commissioned case studies, "A study on pigeon pea postharvest loss in Maharashtra", jointly conducted with Mahyco, and "Mapping the production system and the supply chain and study the crop losses of black gram", conducted with MART, have been completed. Summaries of the results of these two case studies are available in the following section.



Left: Budget allocation by research themes

Right: Broken and split black gram kept for domestic consumption by farmers in Bodgaon, Alirajpur, India

Funded Research

Starting in January 2012, the institute commenced funding of seven specific research projects dealing with postharvest loss (PHL). Below is the list of titles and principal investigators of the funded projects, followed by details of each project.

- Measurement and technology development
  - Measurement, Documentation and Postharvest Processing for the Prevention of Postharvest Losses of Soybeans and Corn: Dr. Mary-Grace Danao
  - Managing Grain Losses in Continuous Cropping Systems of the Tropics through On-Farm or Cooperative Storage: Dr. Peter Goldsmith
  - Appropriate Technology Development and System Integration for Postharvest Loss Prevention: Dr. Ximing Cai
- Systems informatics and analysis
  - Concurrent Science, Engineering, and Technology for the Prevention of Postharvest Loss: Dr. Luis Rodriguez
- Policy analysis
  - Supply Chain Policy and Strategy Analysis for Prevention of Postharvest Loss: Dr. Kathy Baylis
  - The Nature of Small Landholder Agriculture in the Brazilian States of Sao Paulo and Parana and Implication for Understanding Postharvest Loss: Dr. Mary Arends-Kuenning
- Education, training and information transfer
  - Education, Training and Information Transfer to Minimize Postharvest Losses – Scientific Animations Without Borders: Dr. Barry Pittendrigh

Measurement, Documentation and Postharvest Processing for the Prevention of Postharvest Losses of Soybeans and Corn

Principal Investigators: M.C. Danao, R.S. Gates, S.R. Eckhoff, & M.R. Paulsen

Objectives

- Determine extent and cost of harvest losses for soybean and corn
- Develop a measure of storability risk based on equilibrium moisture content and climate data for addition to the Companhia Nacional de Abastecimento (CONAB) database
- Measure the ambient conditions, temperature and airflow distribution, and carbon dioxide (CO_2) buildup during truck transport and within a graneleiro; develop a computational fluid dynamics (CFD) model to develop guidelines for proper handling, transportation, and storage
- Test and analyze the costs, quantity, and quality losses associated with using silo bags for alternative storage of grains
- Determine the respiration rates and diffusivity of CO_2 in deep beds of wet grains
- Determine the storability of soybeans and soybean meal products in high heat/high humidity conditions

Expected Outcomes

- Two literature reviews and four publications on combine harvest losses:
  - Use of advances in wireless sensor systems for

grain monitoring in graneleiros and trucks

- CFD simulation models for different aeration strategies and ambient conditions
- Quality of corn grain stored in silo bags in Mato Grosso
- Respiration rate and CO_2 diffusivity
- Storability of soybeans and soybean meal products.
- Press release for GloboRural
- Instructional materials for a wide audience will be delivered

Project Progress in 2012

- Harvest loss measurement:
  - Measured soybean harvest loss in Jataí, GO; Sorriso, MT; and Sinop, MT (February 2012)
  - Measured corn harvest loss in Jataí, GO (June 2012)
- Silo bag tests:

Field measurement of combine header loss

  - Visited graneleiros and planned silo bag tests in Sinop, MT (March 2012)
  - Completed Phase 1 of silo bag testing at Taffarel Farm in Sinop, MT (June to November 2012)
  - Silo bag test was featured in Globo Rural TV (October 2012)

Presentations

- Dr. Gates presented "Preventing Postharvest Loss: an Initiative at the University of Illinois" at CONBEA 2012, Londrina, Paraná, Brazil, on July 16, 2012.
- Dr. Nogueira presented "Measurement and Documentation of Grain Loss During Harvest, Transportation, and Storage" at Workshop de Perdas Pós-Colheita, Sinop, Brazil, from October 24-25, 2012.
- Dr. Danao presented "Measurement and Documentation of Grain Loss during Harvest, Transportation, and Storage" at the ASABE Quad Cities Section Meeting, Moline, IL, on November 13, 2012.

Published Papers

- "Perda de Grãos" article about soybean combine loss measurements in Revista Agro & Negocios, Jataí, GO (May 2012)

Above: Storing grain in a silo bag

Right: Sensors on silo bags measure ambient conditions, temperature, airflow distribution, and CO_2

Managing Grain Losses in Continuous Cropping Systems of the Tropics Through On-Farm or Cooperative Storage

Principal Investigators: Peter Goldsmith & Altair Moura

Objectives

- Understand the interaction between safrinha production (Portuguese word meaning "additional or second smaller crop") and soybean loss
- Recognize the interaction between safrinha production, loss, and access to storage
- Measure field and short-haul loss
- Measure and analyze loss between farms/storage facilities and elevators
- Explore the role of technology, harvest, and storage to reduce loss
- Analyze the returns from loss reduction by intervening to reduce loss

Expected Outcomes

- A better understanding of the sources of grain loss in low-latitude environments
- A better understanding of the impacts of the safrinha system on grain loss
- Understand the linkage or the lack of a linkage between in-bound grain quality and storage loss, distance to storage/market and loss, harvest management and loss
- Establish a Center for Storage and Harvest Loss Research at the Embrapa-Sinop station, focusing on loss under conditions of high humidity, rainfall, and safrinha production
- Establish a biannual conference on harvest loss and storage in Mato Grosso at the Embrapa station

Project Progress in 2012

- Measured postharvest loss of corn in Mato Grosso, Brazil (July 2012)
- Completed interview with seven farmers to understand farmers' views of and experiences with postharvest loss (July 2012)
- Collected weight slips data from farmers (July 2012)
- A new survey was sent through a mailing list of Aprosoja in September 2012, and the online survey was sent in January 2013.

Left: Silos of an interviewed farm

Right: Grain drying in-field

Presentations

- Graduate assistant, Anamaria Martins, presented the results of their case studies in July 2012 at Workshop de Perdas Pós-Colheita, Sinop, Brazil (October 2012).
- Dr. Goldsmith and Dr. Moura presented "Características dos carregamentos de soja em termos dos principais defeitos de classificação: o caso de produtores selecionados da região de Sinop-MT" at Workshop de Perdas Pós-Colheita, Sinop, Brazil (October 2012).

Appropriate Technology Development and System Integration for Post-Harvest Loss Prevention

Principal Investigators: Ximing Cai, Imad Al-Qadi, Khaled El-Rayes, Youssef Hashash, Praveen Kumar, Wen-Tso Liu, Paramita Mondal, John Popovics, Mary-Grace Danao & Steven Eckhoff

- Four subprojects
  - Biosensor technology development
  - Materials engineering for durable and sustainable storage structures
  - Modeling and optimizing postharvest storage and handling systems
  - Integrating information for decision support at the farm level to prevent postharvest losses
- Overall Objective: Investigate appropriate technology development and system integration for postharvest loss (PHL) prevention in an entire crop supply chain

Mechanical harvesting in India

Biosensor Technology Development

Objectives

- Identify factors associated with the occurrence of bio-deterioration in rice postharvest storage in India
- Demonstrate the use of cost-effective biosensors to detect the presence of key implicit biological factors associated with postharvest loss

Expected Outcomes

- Establish databases of microbial diversity, and physical and chemical conditions during postharvest storage
- Identify key microbial causative agents responsible for PHL and key physical/chemical parameters that are important to PHL
- Evaluate the feasibility of cost-effective and robust biosensors for monitoring PHL
- Develop instructional materials for a wide audience

Project Progress in 2012

- Clarified postharvest loss issues in India
- Established collaborators in India
- Collaborated with the Indian Institute of Technology (Environmental Engineering Laboratory, Department of Civil Engineering) for DNA extraction

Materials Engineering for Durable and Sustainable Storage Structures

Objectives

- Assess storage facility conditions and postharvest storage for rice in India
- Develop alternative materials for construction materials of storage facilities

Expected Outcomes

- Establish database related to current usages of construction materials used for centralized warehouse and on-farm storage structures
- Identify key factors for failure (responsible for PHL) of construction materials used for grain storage
- Identify cost-effective sustainable raw materials and develop alternative, appropriate binders
- Develop instructional materials on alternative construction materials to reduce PHL for a wide audience

Project Progress in 2012

- Clarified postharvest loss issues in India
- Established collaborators in India
- Conducted initial literature review of current construction practices in India and construction materials for small-scale farming
- Collected information on raw materials in the 3rd Advances in Cement-based Materials conference (June 2012)
- Identified cost-effective building materials and tested for feasibility

Modeling and Optimizing Postharvest Storage and Handling Systems

Objectives

- Develop models and technologies for optimizing the storage of a particular commodity to minimize postharvest losses in less-developed countries
- Model key components of grain transport systems to increase transport efficiency and reduce postharvest loss during transport
- Develop recommendations and provide solutions for two case studies in India and Brazil based on the findings of the developed models and technologies

Expected Outcomes

- Practical and effective models for optimizing postharvest handling and storage systems which will provide decision-makers and analysts, with a scientific and methodological basis to analyze the implications of various decisions under various scenarios
- Improved designs for up to two components of the conveyance systems during the first two years with potential field verification and implementation in the subsequent two years

Project Progress in 2012

- Clarified postharvest loss issues in India
- Established collaborators in India
- Reviewed literature on modeling and optimizing regarding the rice supply chain, low-developed countries, especially India, and storage
- Developing model for decision-makers to decide the optimized type, size, and location for storage facilities at regional, farm, and city levels

Integrating Information for Decision Support to Prevent Postharvest Losses At and Beyond the Farm Level

Objectives

- Integrate information from sensors and weather forecasts to support decision-making at and beyond the farm level

Expected Outcomes

- Develop a stochastic optimization model based on the probabilistic weather forecast and sensor-based information. The model will be established as a real-time decision tool with a one-day rolling window

Project Progress in 2012

- Clarified postharvest loss issues in India
- Established collaborators in India
- Identified research questions on the usefulness and feasibility of weather forecasting in preventing postharvest loss, and the effective way to educate farmers in using weather forecasting
- Established a pilot model combing weather forecasting and suggestions for farmers

Left: Storage losses in India

Right: Potential storage loss due to broken gunnysack

Concurrent Science, Engineering, and Technology for the Prevention of Postharvest Loss

Principal Investigators: Luis F. Rodríguez, Yogendra Shastri, & Yanfeng Ouyang

Objectives

- Build collaborative connections in India and Brazil for acquisition of country-specific data on the current state of postharvest losses
- Develop and implement a web-based informatics foundation, as well as decision-support system, on the prevention of postharvest losses
- Perform targeted modeling and analysis for the prevention of postharvest losses

Expected Outcomes

- A platform for the integration of new knowledge and exchange of data and ideas
- Feedback to other focus areas, supported by quantitative analyses, regarding technology development needs, promising policy plans, and key educational messages
- A database resource for future analysis, research, and technology development

Project Progress in 2012

- Built collaborations with International Rice Research Institute, Consultative Group on International Agricultural Research, Embrapa, Aprosoja, and other collaborators in India and Brazil
- Conceptual mapping of supply chains in India has been completed
  - Have identified data which is available in existing literature
  - Have identified areas where data is lacking or untrustworthy, and areas where data is available and potentially very useful
- Currently initiating the establishment of optimization models for scenarios in India and Brazil
- Have established a vendor agreement with the Indian Institute of Technology in Mumbai facilitating collaboration with co-principal investigator (Co-PI) Yogendra Shastri
- Currently preparing a survey to be implemented by students working with Co-PI Yogendra Shastri to initiate the data collection process in India.

Presentations

- Presented at Workshop de Perdas Pós-Colheita, Sinop, Brazil (October 2012)
  - Systems, Informatics, and Analysis for the Prevention of Postharvest Losses: Linking systems, technologies, and practices

Supply Chain Policy and Strategy Analysis for Prevention of Postharvest Loss

Principal Investigators: Kathy Baylis, Dilip Chhajed, Mindy Mallory, & Udatta Palekar

Objectives

- Develop supply chain maps detailing the nature and extent of cause and effect relationships between policies and postharvest loss for specific crops in India
- Develop tools for targeting postharvest loss interventions and develop a method to assess the effectiveness of these solutions within the Indian context
- Examine the effect of new infrastructure innovations such as e-Choupal and availability of spot market prices
- Develop a game-theoretic model to understand equilibrium investment decisions in infrastructure, information, and technology investment

Expected Outcomes

- Four white papers describing each objective
- Market data: cleaned and organized dataset originated from the Indian Ministry of Agriculture

Farmers picking up grains after weighing in mandi

Project Progress in 2012

- Collected supply chain data of wheat, rice, and soybean in India
- Established a data set of market efficiency studies in India
- Mapping first crop for supply chain analysis
- Built basic model for infrastructure study
- Described the characteristics of spot market prices and price dispersion of wheat in eight states in India, and their relationship to total production

Presentations

- Mallory, M. and Baylis, K. "The Food Corporation of India and the Public Distribution System: Impacts on Market Integration in Wheat, Rice, and Pearl Millet." NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management. St. Louis, MO (April 2012)
- Graduate assistant, Tianqin Shi, presented "Price Change and Price Dispersion in Crop Markets in India" at the Illinois Conference on Business Analytics, Champaign, IL (November 2, 2012).

Published Papers

- Mallory, M. and Baylis, K. "The Food Corporation of India and the Public Distribution System: Impacts on Market Integration in Wheat, Rice, and Pearl Millet." Forthcoming at Journal of Agribusiness.

The Nature of Small Landholder Agriculture in the Brazilian States of São Paulo and Paraná and Implication for Understanding Postharvest Loss

Principal Investigators: Mary Arends-Kuenning & Ana Lucia Kassouf

Objectives

- Provide an up-to-date report describing smallholder agriculture in the states of São Paulo and Paraná in Brazil

Research Questions

- What is a useful definition of smallholder agriculture in São Paulo and Paraná? How many hectares do smallholders cultivate?
- What crops do smallholders grow in São Paulo and Paraná?
- Where are smallholders located within these two states?
- To what extent are smallholders in these states likely to be affected by postharvest loss of grains such as corn, soy, wheat, rice, and beans?

Expected Outcomes

- Two reports:
  - Literature review of previous work on postharvest loss of smallholders in São Paulo and Paraná states, focusing on grains and beans
  - New descriptive statistics about farms in these states, based on analysis of the Agricultural Census
- An Endnote database of literature about smallholder farmers

Project Progress in 2012

- Reviewed literature in Portuguese and English and established an Endnote database and a bibliography
- Mapping small landholders in São Paulo and Paraná, Brazil
- Preparing a small pilot survey for farmers in Paraná state regarding their perspective of smallholder farmers

Location of research states in Brazil

Education, Training and Information Transfer to Minimize Postharvest Losses – Scientific Animations Without Borders (SAWBO)

Principal Investigators: Barry Pittendrigh, Julia Bello-Bravo, Francisco Seufferheld & Madhu Viswanathan

Objectives

- Create educational content for key postharvest loss issues and test for potentially demonstrated impact
- Develop a platform for educational materials that can be used to educate low-literate learners involved in postharvest processes
- Create a database of a series of educational materials in a diversity of world languages
- Develop a reproducible educational strategy for dealing with challenges associated with education to minimize postharvest losses

Concept of SAWBO for information transfer

Expected Outcomes

- Produce three videos in a diversity of languages to demonstrate postharvest loss reduction techniques
- Develop a network of collaborators to deploy these videos
- Obtain data from assessments of the impact of these videos on acceptance, penetration, deployment approaches, and changes in behavior
- Ability to directly impact postharvest loss reduction and to scale the project to other areas
- Collect datasets and "lessons learned" to results in manuscripts that can be submitted to and published in peer-reviewed journals

Project Progress in 2012

- Built collaborations
  - A collaborator in India helped to create one video regarding maize postharvest loss
  - Established proactive partnership in Ghana
  - A group from Burkina Faso visited University of Illinois the week of December 3, 2012, discussing techniques used in Africa
  - Collaborating with Indian Society of Agribusiness Professionals (ISAP) for other agriculture-related videos
- Identified issues for current and future video topics
- Created four videos regarding the preservation of grains in transportation and storage stages that are available on the SAWBO website, including: 1) bag transportation; 2) bulk transportation; 3) bag stacking; and 4) storage

- Conducted field assessment
  - Field assessments of previously-produced videos were conducted in Benin, Ethiopia, and India.
  - Collaborated with Indian Society of Agribusiness Professionals (ISAP) for field assessments in India
  - Two assessment studies done in Burkina Faso with cost-shared funding from U.S. Agency for International Development (USAID)

Presentations

- Presented at Workshop de Perdas Pós-Colheita, Sinop, Brazil (October 2012)

Published Papers

- Bello-Bravo, J., and Baoua, I. 2012. Animated Videos as a Learning Tool in Developing Nations: A Pilot Study of Three Animations in Maradi and Surrounding Areas in Niger. The Electronic Journal of Information Systems in Developing Countries, 55(6): 1-12.
- Bello-Bravo, J., and Pittendrigh, B. 2012. Scientific Animations Without Borders: A new approach to capture, preserve and share indigenous knowledge. The Journal of World Universities Forum, 5(2): 11-20.

Left: SAWBO video for postharvest loss prevention during bag transportation

Right: SAWBO video for preventing storage loss

Summary of Case Studies in India

The institute-funded case studies on the pigeon pea in the state of Maharashtra, India, and black gram in the states of Madhya Pradesh and Maharashtra, India, have been completed. The ADM Institute collaborated with the Maharashtra Hybrid Seeds Company Limited (Mahyco) to understand the extent and causes of loss of the pigeon pea crop in India. The institute also cooperated with MART, an Indian consulting company dealing with emerging markets, to identify harvest and postharvest issues of black gram production in India.

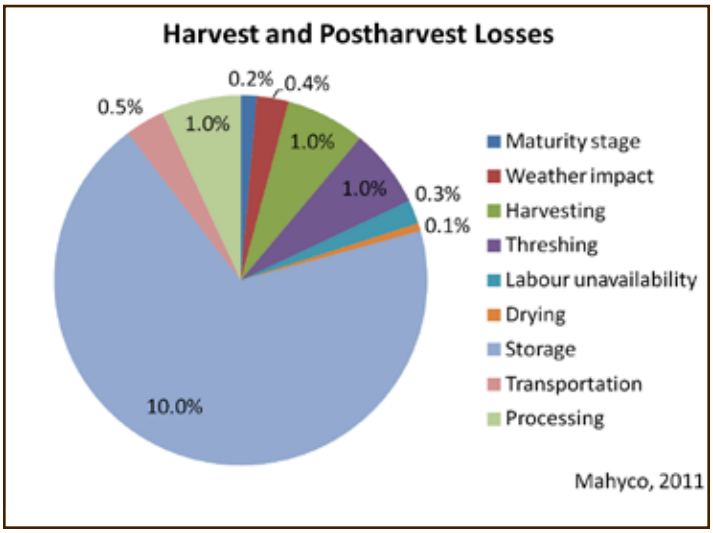
A Study on Pigeon Pea Postharvest Loss in Maharashtra

Maharashtra Hybrid Seeds Company Limited (Mahyco) Full Report

Pigeon pea, also known as red gram, contains abundant protein and other nutrients and is widely consumed in India, where it accounts for about one-fifth of Indian pulse production. It is the second largest pulse produced in India, and the country is also the largest producer of the grain worldwide, producing approximately 2.5 million tons of pigeon pea every year, according to Food and Agriculture Organization (FAO) production statistics. However, FAO estimates that 10-15% of cereals and pulses are lost during postharvest stages in developing countries, leaving Indian farmers needing to confront significant postharvest loss.

To evaluate the extent of postharvest loss for the pigeon pea, Anshu Rani, Management Trainee at Mahyco, and her colleagues conducted a random sampling survey of 150 farmers mainly located in the state of Maharashtra in August 2011. The pigeon pea is mainly cultivated in marginal farms for food, feedstock and biomass. It is grown as an inter-crop rather than a primary crop in Maharashtra. The positive attributes of pigeon peas include low-input costs, nitrogen fixation to nourish the soil, and a relatively higher market price. However, harvesting pigeon pea also requires a longer cultivation period and more space than harvesting soybeans.

Mahyco's report indicates that about 14.5% of pigeon peas are lost between maturity and the processing stage (see the figure below for details). Loss occurs in each stage, where weather is also a primary factor causing loss. In the maturity stage, excess moisture can result in bio-deterioration. While lack of rain can sometimes reduce the crop by 40%, excess rain in the wrong season causes loss from mold and fungus. The total loss at the maturity stage, including weather impact, is felt to result in 0.6% loss of the yield. Loss at the harvesting stage accounts for 1% of postharvest loss because of pods smashing during harvest and delay in harvesting because of labor shortage. Threshing, a labor-intensive process, is more complex for the pigeon pea as it has a hard stalk, which can be used as biomass and in building materials. Loss in this stage is also

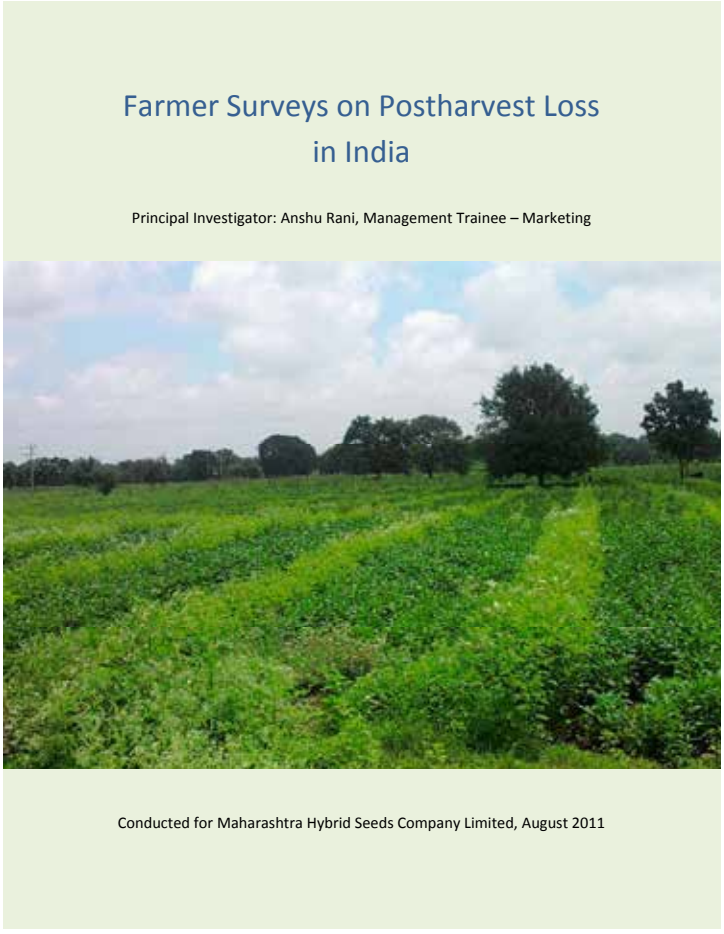


Percentage of pigeon pea harvest and postharvest loss at each stage

about 1%.

Storage loss is the most serious one among all stages. Pest damage and high moisture content are the major factors for postharvest storage loss of pigeon pea. The lack of storage facilities also is a significant problem contributing to the postharvest loss of pigeon pea. Finally, in the processing stage, the factors of cleaning, storage and manual handling errors cause about 1% loss.

Mahyco indicates that there is an immediate need of designing specific thresher and storage facilities for the pigeon pea. However, postharvest loss is affected not only by technology but also by economic and policy issues. Indian farmers receive unprofitable prices when selling the pigeon pea, as they are forced to sell the pigeon pea immediately after harvesting to pay their loans. Unfortunately, the harvest product surplus results in a low selling price. The lack of grading system and market price information keeps the farmers away from beneficial prices. Farmers obtain market price information from other farmers through mobile phones only, leading to sell product at prices lower than the actual market price. The lack of timely information also causes farmers to consistently lack sufficient capital to improve their facilities. In terms of policy issues, there are numerous problems, including the price gap between whole beans and milled beans, deficient and improper storage facilities, insufficient government support for value-added processing, as well as exceptions to the procurement policy. To properly address the issues of pigeon pea postharvest loss, comprehensive strategies from the technical, economic and policy aspects are required.



Cover page of the study on pigeon pea postharvest loss in Maharashtra, India

Mapping the Production System and the Supply Chain and Study the Crop Losses of Black Gram

MART Excerpt | Full Report

India accounts for 70% of black gram production worldwide, and is thus the largest producer of black gram. Each year, 1.5 million metric tonnes of black gram are produced in India. However, the current production cannot satisfy Indian demand for black gram. India is also the largest black gram importer, as pulses are widely consumed as a main staple in Indian cuisine. Preventing black gram loss is essential for Indian farmers to meet the demand and feed the Indian people.

Maharashtra and Madhya Pradesh, two of the major black gram-producing states, account for about one-third of India's annual production. In this study, these two states were chosen to understand the causes of black gram loss as well as to identify currently available postharvest technology in India. Farmers, representatives of farmer groups, the private sector, and governmental agencies were interviewed to examine current practices, loss along the supply chain, and key postharvest loss issues.

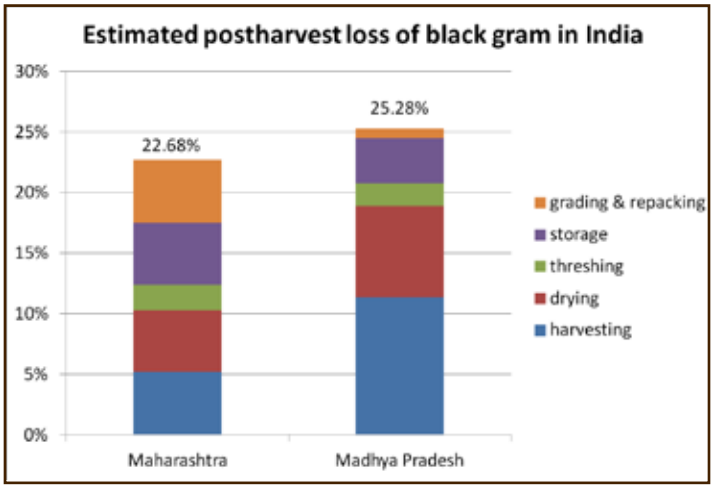
Extent of loss

The report indicates that black gram farmers were somewhat unaware of postharvest loss and tended not paying attention to the amount of loss in the processing stages. Respondents reported that black gram postharvest loss in Maharashtra and Madhya Pradesh were 22.68% and 25.28%, respectively. Farmers in both states reported their highest loss during the harvesting stage, mostly in response to weather conditions. Drying stage practices also resulted in high loss, especially as the drying conditions of the black gram affect different extents of loss during the threshing and storage stages.

Supply chain challenges

There are four major challenges in black gram production: weather conditions, lack of timely available labor, low technology adoption rates, and improper drying and storage practices. Black gram is cultivated as an inter-crop on land that is usually devoid of nutrients and irrigation facilities. As black gram is grown during the rainy season, production is highly affected by weather conditions. While fertilizing requires adequate rainfall, sunny days are usually expected during harvesting and drying stages.

The lack of timely available labor is another problem in black gram production. Large labor input is necessary for black gram production. Cultivating, harvesting, and threshing all heavily rely on labor. However, the amount of labor is limited, and farmers' processes are concentrated on certain days as dictated by weather constraints. As the wait for processing lengthens, so does the quality of grain continue to deteriorate. Additionally, technology adoption rates remain low in both Maharashtra and Madhya Pradesh. Each village



Estimates of black gram postharvest loss at each stage in India

interviewed had only 2-4 tractors or threshers. Many farmers still employ traditional processing methods, although threshing techniques are slowly shifting from manual to mechanical. Farmers generally prefer manual threshing methods when grains are already damaged or of low quality. They also indicated that manual threshing practices result in less loss.

Finally, improper drying and storage practices are also key issues of black gram postharvest processing. Indian farmers still rely on sunlight to dry their crop, which leaves them with minimal control of moisture content. High moisture content results in a higher possibility that fungus will be present in storage, while over-drying grains lead to breakage during threshing. Additionally, storage practices are poor, particularly at the farm level. Farmers store grains in their homes, and government- or privately-owned storage facilities were not found in the interviewed villages.

The table below summarizes the challenges along the black gram supply chain:

Challenges Along Black Gram Supply Chain

Stage	Challenges
Cultivation	• Unpredictable and unevenly-distributed rain • Shortage of timely available labor
Harvest	• Shortage of timely available labor • Slow harvesting process
Drying	• Serious loss may occur from heavy rain • No moisture content control results in both quality and quantity loss
Threshing	• Manual threshing results in less loss but higher soil content • Machine-threshing causes more breakage, splitting and blowing away of grains • Threshers are not exclusively used for black gram and thus need trial and error to achieve appropriate settings • Shortage of timely-available threshers and labor
Transportation	• Loss occurs only because of accidental breakage of gunnysacks
Storage	• High moisture content • Lack of storage facilities
Sales	• Careless handling in market yards

Premises of trader who purchases grain from farmers (Credit: MART)

Incomplete wicker basket for field storage, Alirajpur, India (Credit: MART)

Appendix

Organizational Structure

Steering Committee

- **Peter Goldsmith**, Associate Professor and Interim Director of the Food and Agribusiness Management Program (FAM), University of Illinois at Urbana-Champaign, and Executive Editor of the International Food and Agribusiness Management Review (IFAMR)
- **Sophi Martin**, Manager of Research, College of Engineering, University of Illinois at Urbana-Champaign
- **Udatta Palekar**, Associate Professor of Business Administration and Director of the Supply Chain Management Program, University of Illinois at Urbana-Champaign
- **Victoria Podesta**, Vice President and Chief Communications Officer, Archer Daniels Midland Company
- **Steve Sonka**, Director, ADM Institute for the Prevention of Postharvest Loss, University of Illinois at Urbana-Champaign
- **K.C. Ting**, Professor and Head, Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign

External Advisory Board

- Chair – **Robert Easter**, President, University of Illinois
- **Usha Barwale-Zehr**, Chief Technology Officer, Mahyco Seeds
- **Carlos Campabadal**, Grain Industry Consultant, Asociación Americana Soys-IM
- **Ashok Gulati**, Chairman, Commission for Agricultural Costs and Prices, Ministry of Agriculture, Government of India
- **Hans Joehr**, Corporate Head of Agriculture, Nestlé
- **Dirk Maier**, Professor and Head, Department of Grain Science and Industry, Kansas State University
- **Kent Miller**, Director, Global Strategic Quality, John Deere
- **Elizabeth Mitcham**, Director, University of California Davis Postharvest Technology Center
- **Arlene Mitchell**, Deputy Director, Agricultural Development/Access and Market Systems, Bill & Melinda Gates Foundation
- **Marcelo Duarte Monteiro**, Executive Director, Aprosoja
- **Victoria Podesta**, Vice President and Chief Communications Officer, Archer Daniels Midland Company
- **Daniel Queiroz**, Department of Agricultural Engineering, Universidade Federal de Viçosa

PHL In the News Archives

In 2012, the ADM Institute published 31 issues of PHL In the News. Three examples are included in this section. To review past issues, please visit the PHL In the News page at the institue website (http://postharvestinstitute.illinois.edu/phl-news.html). To stay updated on postharvest loss issues, please subscribe to PHL In the News at https://illinois.edu/gm/subscribe/6325.

ADM Institute for the Prevention of Postharvest Loss
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PHL in the News
December 31, 2012

The following items have appeared recently in newspapers, blogs, on websites and other media regarding PHL and might be of interest to affiliates of the ADM Institute for the Prevention of Postharvest Loss.

Global

- The global food industry is increasingly concerned about food loss and food waste as prices rise for the third time in 5 years and global supply chains grow more vulnerable. Private sector mitigation strategies include forming the Food Waste Reduction Alliance (FWRA), establishing food recovery programs, and composting food waste.
- The FAO, Nigeria, and other African, Caribbean, and Pacific (ACP) states formed a partnership against hunger and poverty. The agreement seeks to improve food security in part by developing improved food products and establishing stronger standards and marketing techniques, important components to combatting food loss.

Africa

- Ghana approved a US $19.1 million loan to alleviate poverty by increasing agricultural productivity and ensuring food security in farming communities. The Integrated Rural Development Project (IRDP) will focus on enhancing farming practices as well as marketing and distribution chains.
- A farmer's group in northern Ghana has appealed to the Ministry of Food and Agriculture to provide them with postharvest reduction devices such as silo bags and better storage facilities. The group says farmers currently suffer "massive" grain losses without proper storage.
- Kenyan farmers are benefitting from metal silo technology that protect grains against pests. Kenyan experts seek to scale-up the project after two years of successful pilot implementation. Pests are thought to cause up to 30% loss of Kenyan maize, the equivalent of about 162 million tonnes per year.

United States

- The Wall Street Journal featured an article discussing the need to reduce food loss worldwide. The article highlights the distinction between developed and developing nations' problems of loss, and describes key interventions such as hermetically sealed bags, metal silos, solar-powered dehydrators, and food recovery programs.

Related Articles

- Food Businesses Are Set to Surge in Africa
- Now, Cook Food on Farm Waste
- Crop Yields Stall in China, India

Conferences and Symposiums

- 22-23 January 2013 California, United States
  Sustainable Foods Summit
- 30 January 2013 - Amsterdam, The Netherlands
  The Economist's Feeding the World, 2013
- 13-15 March 2013 - Pennsylvania, United States
  Feeding Cities: Food Security in a Rapidly Urbanizing World
- 18-20 March 2013 - Pretoria, South Africa
  Political Economy of Agricultural Policy in Africa
- 10-14 September 2013 - Bari, Italy
  1st Inter-Regional Conference on Land and Water Challenges

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Issue Spotlight

Pests

Pests pose serious risks to crops after harvest. Rodents, mites, insects, microbes and other pests ingest food products and reduce yield sizes. They also significantly damange yield quality by leaving behind contaminating fragments such as hair, pellets, and toxins.

Some estimates attribute pests as the cause of 10% of loss worldwide and from 10% -30% of loss in the developing world. Losses can be mitigated with proper storage techniques such as using metal silos and testing air moisture content once stored.

Read more on how pests cause postharvest loss here or view examples of mitigation technologies here.

For more information and resources, visit our website.

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PHL in the News
December 21 , 2012

The following items have appeared recently in newspapers, blogs, on websites and other media regarding PHL and might be of interest to affiliates of the ADM Institute for the Prevention of Postharvest Loss.

Asia

- The Asian Development Bank (ADB) announced its new business plan that has a strategic focus on Cambodia. The US$525 million pipeline will target urbanization of secondary towns, urban-rural linkages, and private sector development, among other things. It will support projects aiming to commercialize rice production and enhance supply chains overall.
- ADB and the International Food Policy Research Center released a report on the importance of strong market supply chains in Asia. "The Quiet Revolution in Staple Value Food Chains" describes successes within the system and stresses the need to scale-up those strategies.

The United States

- The United States Agency for International Development (USAID) worked with 23 countries in 2012 to unlock up to US$525 million in private capital to go to "underserved entrepeneurs". US$219 million will go towards agriculture and food security initiatives, and US$215 million for small enterprises.
- USAID contributed US$7.9 million to the UN World Food Program towards projects that are working to improve agriculture and market access for smallholder farmers in Uganda. Activities include building and upgrading warehouses, repairing feeder roads, and providing market information.

Europe

- Hungary food safety authorities have found the country's feed maize supply to be contimated with aflatoxin. Some officials suggest this year's severe drought might have caused the increased presence of aflatoxin.
- The Guardian featured an article on postharvest loss and its contributions to food security. Caspa van Vark reviews PHL reduction techniques such as the use of metal silos, bags, and the role of public and private interventions.

Conferences and Symposiums

- 29 December 2012 - Kuala Lumpur, Malaysia
  Int'l Conference on Food and Agricultural Engineering (ICFAE'12)
- 30 January 2013 - Amsterdam, The Netherlands
  The Economist's Feeding the World, 2013
- 13-15 March 2013 - Pennsylvania, United States
  Feeding Cities: Food Security in a Rapidly Urbanizing World
- 18-20 March 2013 - Pretoria, South Africa
  Political Economy of Agricultural Policy in Africa

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ADM Institute

Barry Pittendrigh, an institute-affiliated researcher and professor of entemology, creates animated videos to educate farmers and others in the developing world on how mitigate postharvest losses. Read more about the cellphone-accessible technology and Professor Pittendrigh's project with Scientific Animations Without Borders in a recent article published on phys.org.

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PHL in the News
December 13, 2012

The following items have appeared recently in newspapers, blogs, on websites and other media regarding PHL and might be of interest to affiliates of the ADM Institute for the Prevention of Postharvest Loss.

Global

- Zimbabwe will depend heavily on food aid and food assistance from the World Food Programme in coming months. 1 out of 5 people living in rural areas will experience food shortages between January and March of next year. Japan's contributions are especially significant, but more resources are needed to reach vulnerable families.

Asia

- A new, Korean-funded postharvest processing center was inagurated in Northern Mindanao, Philippines on December 12. The center will bring the market closer to the farmers and include a community center, integrated post-harvest facilities, a warehouse, and a demonstration farm.

Africa

- The African Development Bank is lending Nigeria US$650 million to support the country's agricultural value chain. Small and medium size enterprises will be targeted with plans to develop infrastructure that will better connect farmers, markets, and processing centers.
- Additionally, the African Development Bank will fund a US$63 million project aimed at supporting research efforts for strategic African crops such as maize, rice, wheat, and cassava. The project will run until 2016 and will be jointly implemented by three Africa-based CGIAR centers: IITA, Africa Rice Center, and the International Center for Agricultural Research in the Dry Areas (ICARDA).

South America

- Heavy rains in Argentina have damaged wheat crops, reducing the harvest from 11.5 to possibly just 9.5 million tonnes this year. Quality was also affected as added moisture and delayed harvest time spurred the growth of fungi which is causing the crop to rot in the fields. The situation is a point of concern for the state of global wheat prices.

ADM Institute

- Director Steve Sonka will speak at The Economist's Feeding the World conference in Amsterdam on January 30th. Senior level policymakers, business leaders, NGOs, researchers, and other stakeholders will discuss what it will take to create a sustainable food chain. Dr. Sonka will speak during the session "Getting tough on food waste".

Related Articles

- Breakthrough discovery on wheat genome sequence (USA)

Conferences and Symposiums

- 14 December 2012 - Paris, France
  Food Safety, Trade and Development: The role of supply chains structures and organizations
- 29 December 2012 - Kuala Lumpur, Malaysia
  Int'l Conference on Food and Agricultural Engineering (ICFAE'12)
- 30 January 2013 - Amsterdam, The Netherlands
  The Economist's Feeding the World, 2013
- 9-11 March 2013 - Bangkok, Thailand
  Poverty Alleviation and Social Protection Conference 2013
- 18-20 March 2013 - Pretoria, South Africa
  Political Economy of Agricultural Policy in Africa

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Issue Spotlight

Wheat production is low on a global scale due to droughts and flooding in major exporting countries like the United States, Canada, Ukraine, and Argentina. FAO reports that current global reserves are near the level they were in 2008. With food prices projected to increase, the ability to strengthen smallholder participation in value-added supply chains will be crucial to maintaining food security. Additionally, inefficient processes for drying, processing, and storing wheat cause postharvest losses, and stakeholders should look to close these gaps in order to not lose more of their harvest.

ADM Institute Resources

WHEAT: Post-harvest Operations (FAO)

Post-harvest Profile for Wheat (Ministry of Agriculture-India)

For more literature and resources, visit the resources tab on our website.

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