The Feed the Future Legume Innovation Lab

Grain Legume Research Conference

The Feed the Future Legume Innovation Lab Grain Legume Research Conference
Ouagadougou, Burkina Faso
13 to 18 August 2017.

hosted by
Feed the Future Innovation Lab for
Collaborative Research on Grain Legumes
(Legume Innovation Lab)
in partnership with
The Institut de l’Environnement et des Recherches Agricoles (INERA) – Burkina Faso,
An institute of the Centre National de la Recherche Scientifique et Technologique (CNRST)
13 – 18 August 2017

TENTATIVE CONFERENCE PROGRAM

Laico 2000 Ouga Hotel
Ouagadougou, Burkina Faso

Sunday, 13 August

2:00 – 5:00 pm Conference Registration

6:30 pm Conference Welcome Reception at Laico Hotel

Monday, 14 August

7:00 am Conference Registration (Benkadi)
Poster set up in Waongo 2 (assigned poster numbers)

8:30 – 10:30 am INAUGURAL SESSION OF THE CONFERENCE – Waongo 1 (120 minutes)
Moderator: TBD

Jacob Ouedraogo, ingénieur agronome, Ministre de l'Agriculture et des Aménagements Hydrauliques, Burkina Faso

Pr Alkassoum MAIGA, Professeur, Ministre de l'Enseignement Supérieur, de la Recherche Scientifique et de l'Innovation

Nebie H. Roger, Professeur, Délégué General du Centre National de la Recherche Scientifique et Technologique (CNRST)

Abdou Tenkouano, Executive Director of CORAF/WECARD

TBD, United States Embassy to Burkina Faso

Robert Bertram, Chief Scientist, Bureau of Food Security, U.S. Agency for International Development (USAID)

Douglas Buhler, Associate Vice President for Research and Director of MSU AgBioResearch, Michigan State University

Irvin Widders, Director, Feed the Future Legume Innovation Lab, Michigan State University

10:30 – 11:00 am Break and group photo

11:00 am – 12:30 pm INAUGURAL KEYNOTE PRESENTATIONS – Waongo 1 (90 minutes)
Dr. Paco Serene, Research Director, INERA, Burkina Faso (40 min)

Dr. Robert Bertram, Chief Scientist, Bureau of Food Security, U.S. Agency for International Development (USAID) (40 min)
12:30 pm  Lunch

2:00 – 4:00 pm  PLENARY SESSION (PL1) – Waongo 1 (120 minutes)
PL1 HUMAN HEALTH AND NUTRITION
Moderator: Karen Cichy, USDA/ARS, Michigan State University (5 minutes)

PL1-1 Impact of LIL on capacity building and interdisciplinary work in agriculture and nutrition in Malawi (sub Saharan Africa)
Lead Presentation: Kenneth Maleta, University of Malawi School of Medicine (25 minutes)

Legumes, growth and development in young Malawian children
PL1-2 Mark Manary, Washington University in St. Louis School of Medicine

MASFRIJOL, nutrition-sensitive lessons for indigenous, rural families in Guatemala’s Western Highlands
PL1-3 Carolina Molina, MASFRJOL Program, Michigan State University

Impact of legume supplementation on child growth and infectious symptoms in 6-12 mo Malawian children
PL1-4 Chrissie Thakwalakwa, University of Malawi School of Medicine

Impacts of improved bean varieties and yields on Guatemalan households
PL1-5 Celina Wille, Utah State University

Legumes and the microbiota in young Malawian children
PL1-6 Isabel Ordiz, Washington University in St. Louis School of Medicine

4:00 – 4:30 pm  Break

4:30 - 6:00 pm  PANEL DISCUSSION - Waonga 1 (90 minutes)
SCALING UP AND ACHIEVING IMPACT
Moderator: Cynthia Donovan, Michigan State University (5 minutes)
Keynote Presentation: Jess Lowenberg DeBoer, Purdue University (30 minutes)
Panelists:
Jess Lowenberg DeBoer, Purdue University
Jennifer “Vern” Long, Bureau of Food Security, USAID
Hamidou Traore, Director, INERA-Burkina Faso
Abdou Tenkouano, Executive Director, CORAF/WECARD

6:30 pm  Dinner on your own

Tuesday, 15 August

8:00 – 10:00 am  PLENARY SESSION 2 - Waongo 1 (120 minutes)
PL2 GENETIC IMPROVEMENT OF GRAIN LEGUMES
Moderator: Kelvin Kamfwa, University of Zambia (5 minutes)
Open phenotyping and analytics tools that bridge the gaps between the lab and the world: Towards knowledge-driven plant breeding of legumes for local and regional solutions

**PL2-1** Lead Presentation: David Kramer, Michigan State University (25 minutes)

*Genome wide association analysis for terminal drought tolerance in Andean common beans*

**PL2-2** Isaac Dramadri, Michigan State University

*Marker-assisted backcrossing for Striga resistance in cowpea*

**PL2-3** Moussa Diangar, Institut Senegalais de Recherches Agricoles

*Marker assisted pyramiding of seed size QTL into a popular Senegal cowpea cultivar*

**PL2-4** Sassoum Lo, University of California- Riverside

*Genetic diversity of the Guatemalan climbing bean collection*

**PL2-5** Maria Gabriela Tobar Pinon, North Dakota State University

*Advances in tepary bean (Phaseolus acutifolius A. Gray) genetics and breeding*

**PL2-6** Timothy Porch, USDA-ARS, Puerto Rico

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10:00 – 10:30 am Break

10:30 – 12:30 pm **POSTER SESSION A (Presenters of ODD numbered posters should be at their poster during this session for discussion) - Waongo 2**

12:30 – 2:00 pm Lunch

2:00 – 4:00 pm **CONCURRENT SESSIONS 1A & 1B**

**CS1A: GENETIC IMPROVEMENT OF GRAIN LEGUMES: ABIOTIC STRESSES – Waonga 1**

**Moderator:** Juan Osorno, North Dakota State University (5 minutes)

*Selection of common bean to broad environmental adaptation in Haiti*

**CS1A-1** Raphael Colbert, Université Quisqueya, Haiti

*Determination of cold tolerance QTLs in Cowpea (Vigna unguiculata (L.) Walp.) via high throughput photosynthetic phenotyping*

**CS1A-2** Donghee Hoh, Michigan State University

*Harnessing PhotosynQ-connected Phenotyping Technologies for Common Bean Breeding in Zambia*

**CS1A-3** Kelvin Kamfwa, University of Zambia

*Physiological components of heat and drought tolerance differences in Phaseolus vulgaris and P. acutifolius*

**CS1A-4** James D. Kelly, Michigan State University
Thermo-tolerance of photosynthesis in cowpea, tepary and common bean at the juvenile stage  
**CS1A-5** Isaac Osei-Bonsu, Michigan State University

Effect of drought on bean cooking time using germplasm selected for drought, common bacterial blight, and root rot resistance for Uganda and Zambia  
**CS1A-6** Carlos A Urrea, University of Nebraska

**CS1B: INTEGRATED CROP MANAGEMENT: SOIL FERTILITY AND IPM – Benkadi**  
**Moderator:** Onesimus Semalulu, National Agricultural Research Organisation, Uganda (5 minutes)

Farmer field test of neem-based (Azadirachta indica) and entomopathogenic MaviNPV virus formulations on the main insect pests of cowpea in Niger  
**CS1B-1** Maimouna Abdourahmane, Institut National de la Recherche Agronomique du Niger

Farmers’ preferences for chemical versus biological pest control methods: Evidence from choice experiments conducted in Burkina Faso  
**CS1B-2** Mywish Maredia, Michigan State University

On-farm assessment of local neem oil against flower thrips and cowpea pod borer Maruca vitrata fabricius  
**CS1B-3** Fousséni Traore, Institut de l’Environnement et de Recherches Agricoles, Burkina Faso

PhotosynQ: Empowering collection of direct crop physiological measurements on smallholder farms  
**CS1B-4** Dan TerAvest, Michigan State University

Optimizing fertilizer application in common bean (Phaseolus vulgaris L.) in Gurúè, northern Mozambique  
**CS1B-5** Ricardo M. Maria, Instituto de Investigação Agrária de Moçambique

Strengthening the indigenous soil classification system using GIS-based mapping of the Buganda catena, Uganda  
**CS1B-6** B.A. Miller, Iowa State University

4:00 – 4:30 pm  
Break

4:30 – 6:00 pm  
**CONCURRENT SESSIONS 2A & 2B**  
**CS2A: COMMUNICATION, ADOPTION, AND WILLINGNESS TO PAY FOR TECHNOLOGY – Waonga 1** (90 minutes)  
**Moderator:** Ebby Luvaga, Iowa State University (5 minutes)
Comparative effectiveness of video animation delivered by smartphones versus printed images in communicating bean-growing recommended practices to farmers in Uganda and Mozambique

CS2A-1 Eric Abbott, Iowa State University

An assessment of localized animated educational videos (LAV) versus traditional extension presentations or LAV followed by extension agent discussions among farmers in Benin and Niger

CS2A-2 Julia Bello-Bravo, Michigan State University

Socioeconomics determinants for adoption of improved technologies disseminated through Farmer Field Schools for cowpea production in Maradi and Zinder, Niger

CS2A-3 Amadou Laouali, Institut National de la Recherche Agronomique du Niger

Inclusive innovation space? The bean value chain innovation platform in Masaka district, central Uganda

CS2A-4 Naboth Bwambale, Iowa State University

Towards Improving access to high quality bean seed in Nicaragua: How much are farmers willing to pay?

CS2A-5 Robert Shupp, Michigan State University

CS2B: PANEL DISCUSSION: INSTITUTIONAL CAPACITY STRENGTHENING - Benkadi (90 minutes)

Lead Presentation and Moderator: Mywish Maredia, Michigan State University

(30 minutes)

Panelists:
Robin Buruchara, International Center for Tropical Agriculture
Tracy Powell, Bureau of Food Security, USAID
Gabriela Piñón, North Dakota State University
Kelvin Kamfwa, University of Zambia

6:30 pm Dinner on your own
Legume Scholars Dinner (by invitation only)

Wednesday, 16 August

8:00 – 10:00 am PLENARY SESSION 3 - Waongo 1 (120 minutes)

PL3 FARMER DECISION MAKING, POLICY, ECONOMICS AND VALUE CHAINS

Moderator: Sostino Mocumbe, Instituto de Investigação Agrária de Moçambique (5 minutes)

Development of cowpea varieties with consumer- and farmerpreferred traits in Burkina Faso
PL3-1 Lead Presentation: Joseph Batieno Benoit, Institut de l’Environnement et de Recherches Agricoles, Burkina Faso (25 minutes)

Factors influencing cowpea farmers’ willingness to pay for quality seeds in Burkina Faso

PL3-2 Nathalie Me-Nsope, Michigan State University

Towards 2050: Projecting legume consumption and production under alternative socio-economic and resource conditions

PL3-3 Ralph Armah, Kansas State University

Role of Legume technologies in a nutrition-focused agricultural strategy: Evidence from Uganda

PL3-4 Mywish Maredia, Michigan State University

Factors affecting bean consumption among Lusaka residents

PL3-5 Mukwiti Mwiinga, University of Zambia

Small-scale community seed production to enhance the sustainability of bean improved variety dissemination: Evidence from the Western Highlands of Guatemala

PL3-6 Luis Flores, Michigan State University

10:00 – 10:30 am
Break

10:30 – 12:30 pm Concurrent Sessions 3A & 3B

CS3A: GENETIC IMPROVEMENT OF GRAIN LEGUMES: BIOTIC STRESSES
Waonga 1 (120 minutes)
Moderator: Consuelo Estevez, University of Puerto Rico, Mayaguez (5 minutes)

Evaluation of selected cowpea (Vigna unguiculata (L.) Walp) lines for thrips resistance (Megalurothrips sjöstedti) in Burkina Faso

CS3B-1 Hamadou Sidibe, Institut de l’Environnement et de Recherches Agricoles, Burkina Faso

Identification of cowpea (Vigna unguiculata L. (Walp.)) lines and polymorphic gene-based microsatellite markers for resistance to aphids (Aphis Craccivora Koch)

CS3B-2 Ouedraogo P. Adelaide, Institut de l’Environnement et de Recherches Agricoles, Burkina Faso

A novel root-knot nematode resistance QTL in cowpea accession FN-2-9-04 from Mozambique

CS3B-3 Arsenio Ndeve, University of California, Riverside

Rust resistance in the Guatemalan climbing bean germplasm collection

CS3B-4 Luz de María Montejo, North Dakota State University
Employing host plant resistance (HPR) in the control of cowpea aphids and Striga gesnerioides in Northern Ghana

**CS3B-5** Gloria Kubi Tetteh, University of Cape Coast, Ghana

Identification of sources of resistance to Alectra vogelii in cowpea (Vigna unguiculata L. Walp.) germplasm in Burkina Faso

**CS3B-6** Zakaria Dieni, Institut de l’Environnement et de Recherches Agricoles

**CS3B: CHALLENGES IN GRAIN LEGUME SEED SYSTEMS-Benkadi** (120 minutes)

**Moderator:** Juan Carlos Rosas, Escuela Agricola Panamericana- Zamorano, Honduras (5 minutes)

Adoption of improved bean varieties in Haiti: An assessment using farm surveys, bean seed supply chain analysis, and DNA fingerprinting

**CS3B-1** Mywish Maredia, Michigan State University

A local success story on cowpea production and distribution compromised by a national project

**CS3B-2** Dieudonné Ilboudo, Institut de l’Environnement et de Recherches Agricoles, Burkina Faso

Haiti Hurricane Matthew bean seed relief effort: Lessons learned and recommendations for future similar situations

**CS3B-3** Reginald Cean, Inter-American Institute for Cooperation on Agriculture

Farmers’ willingness to pay for quality seeds of bean varieties with preferred traits: Evidence from two Central American countries

**CS3B-4** David DeYoung, Michigan State University

Strategic partnerships and extension education tools for reaching geographically disperse, low literacy and language-diverse beneficiaries in Guatemala with MASFRIJOL project

**CS3B-5** Salvador Castellanos, MASFRIFOL, Michigan State University

Production systems and seed technology diffusion in Burkina Faso: The case of SFDIAB project

**CS3B-6** Eveline Compaore Sawadogo, Institut de l'Environnement et de Recherches Agricoles, Burkina Faso

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12:30 – 2:00 pm  Lunch

2:00 – 4:00 pm  **POSTER SESSION B** (Presenters of EVEN numbered posters should be at their poster during this session for discussion) - Waongo 2 (120 minutes)

4:00 – 4:30 pm  Break

4:30 – 6:00 pm  **CONCURRENT SESSIONS 4A & 4B**

**CS4A: GENETIC IMPROVEMENT OF GRAIN LEGUMES – Waonga 1** (90 minutes)

**Moderator:** Francis Kusi, Savanna Agricultural Research Institute (5 minutes)
Two new climbing bean varieties adapted to the milpa system in the highlands of Guatemala  
**CS4A-1** Juan M. Osorno, North Dakota State University

Blackeye cowpea varietal improvement program for California and the USA  
**CS4A-2** Bao Lam Huynh, University of California, Riverside

Screening bean lines in Guatemala for resistance to the common and Mexican bean weevil  
**CS4A-3** Angela Miranda, Instituto de Ciencia y Tecnologia Agricolas, Guatemala

Genetic improvement in Uganda’s Andean bean breeding program  
**CS4A-4** Stanley T. Nkalubo, National Crops Resources Research Institute

Genetic improvement of cowpea to overcome biotic stress and drought constraints to grain productivity  
**CS4A-5** Philip A. Roberts, University of California, Riverside

**CS4B: CONSUMER PREFERENCE, FARMERS DECISIONS, AND PRODUCTION ASPECTS - Benkadi** (90 minutes)  
**Moderator:** Lawrence Mapemba, Lilongwe University of Agriculture and Natural Resources, Malawi (5 minutes)

Social and Economic Factors in Farmer Decision Making for Improved Soil Fertility Management and Increased Bean Production in Uganda  
**CS4B-1** Rob Mazur, Iowa State University

Market participation of smallholder common bean producers in Malawi  
**CS4B-2** Yanjanani Lifeyo, Lilongwe University of Agriculture and Natural Resources

Role of food choice determinants and nutrition interventions in Sub-Saharan Africa: Consumer insights based on peanut consumption in Malawi  
**CS4B-3** Andre P. Gama, University of Georgia

Crossing the threshold: An analysis of factors affecting household consumption of recommended weekly common bean servings in urban Lilongwe of Malawi  
**CS4B-4** Edwin Kenamu, Lilongwe University of Agriculture and Natural Resources

Utilizing Imperfect and Inconsistent Data: Economic Feasibility Analysis of Common Bean Production in Uganda and Mozambique  
**CS4B-5** Ebby Luvaga, Iowa State University

6:30 pm  
Dinner on your own

Thursday, 17 August
8:00 – 4:00 pm  
Field Trip organized by INERA: A bus visit to cowpea fields in the Gourcy locality in Northern Burkina Faso planted with either foundation seed or certified seeds, depending on their accessibility.

4:00 – 6:00 pm  
Take down Posters by 6:00 pm

7:00 pm  
**Gala Dinner - Cascade Room, Laico Hotel**

- Traditional entertainment
- Awards Ceremony (TMAC)

**Friday, 18 August**

8:00 – 8:15 am  
Logistics

8:15 – 10:00 am  
**PLENARY SESSION 4 - Waongo 1** (75 minutes)

**PL4 INTEGRATED CROP MANAGEMENT (SOIL FERTILITY AND IPM)**

**Moderator:** Russel Yost, University of Hawaii, Hilo (5 minutes)

- *Science-driven pest management saves cowpea farms from insect pests*

**PL4-1 Lead Presentation:** Manuele Tamò, International Institute for Tropical Agriculture (25 minutes)

- *Integrated Pest Management (IPM) in cowpea cropping systems in West Africa: From genomics to biocontrol agents, bio-pesticides, and extension*

**PL4-2 Barry Pittendrigh, Michigan State University**

- *Biopesticide test of neem seed (Azadirachta indica A. Juss.) extract and MaviNPV Virus for the control of main insects pest of cowpea (Vigna unguiculata L. Walp) in Niger*

**PL4-3 Ousseina Abdoulaye Zakari, Institut National de la Recherche Agronomique du Niger**

- *Development and Impact of a Bean Market Enhancement Innovation Platform in Uganda*

**PL4-4 Robert Mazur, Iowa State University**

- *Developing a Methodology for mapping local soil types along the Buganda Catena, Uganda*

**PL4-5 Tenywa Moses, Makarere University, Uganda**

10:00 – 10:30 am  
Break

10:30 – 11:30 pm  
**CLOSING PRESENTATIONS** (120 minutes)

**Moderator:** Barry Pittendrigh, Michigan State University

- Irvin Widders, Director, Legume Innovation Lab, Michigan State University
- Abdou Tenkouano, Executive Director, West and Central African Council for Agricultural Research and Development (CORAF/WECARD)
Jennifer Vern Long, Office of Agriculture Research and Policy, Bureau of Food Security, USAID

11:30 am – 12:30 pm  **CLOSING REMARKS** (60 minutes)
TBD (name, honorifics, etc.)

12:30 pm  Lunch

2:00 pm  Bus to artisan market in Ouagadougou

Time TBD  TMAC meeting

Evening departures from Ouagadougou International Airport

**Saturday, 19 August**

Small group meetings

Departures from Ouagadougou International Airport

**Notes:**
1.  TOTAL = 62 Orals; 55 Posters
2.  Moderators: 5 minutes to briefly introduce session and speakers
3.  Lead Presenters generally 25 minutes except where noted
4.  Coding system for Plenary Sessions: example: PL1 Nutrition: **PL1-1, PL1-2**....
5.  Coding system for Concurrent Sessions: example CS1A Genetic Improvement: **CS1A-1, CS1A-2**....
6.  Coding systems for poster sessions: Poster Session A (odd number posters)
   Poster Session B: (even number posters)
   P-1, P-2, P-3.... Continuous