

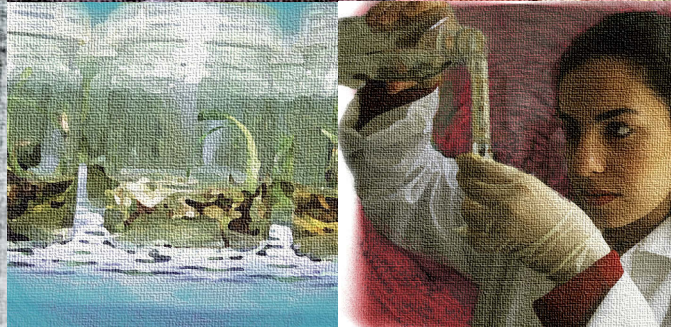
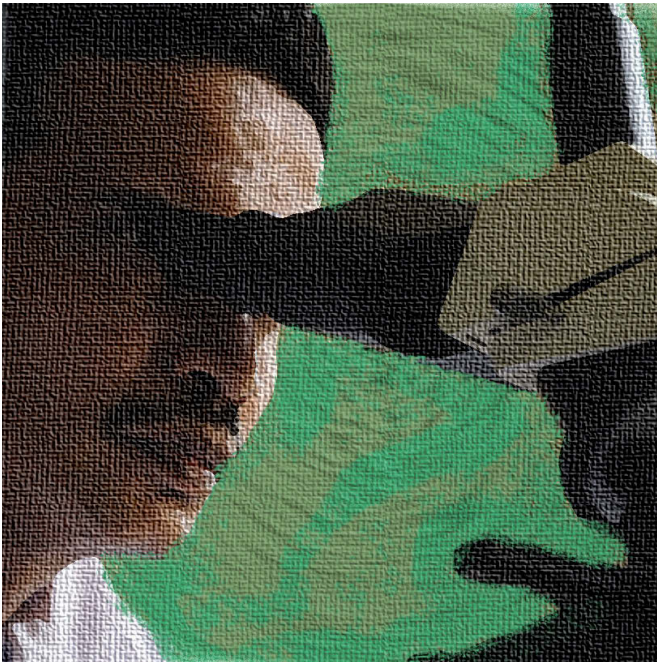


Food and Agriculture Organization
of the United Nations

15-17 February 2016
FAO Headquarters, Rome, Italy

International Symposium on

The Role of Agricultural Biotechnologies in Sustainable Food Systems and Nutrition



09.30-12.30: PLENARY SESSION, GREEN ROOM

Welcome Address by **José Graziano da Silva**, Director-General, FAO, Rome, Italy

Keynote Addresses:

- The state of knowledge in biotechnology, by **Louise Fresco**, President, Executive Board of Wageningen UR, Wageningen, the Netherlands
- Towards ending the misplaced global debate on biotechnology, by **Gebisa Ejeta**, Distinguished Professor, Purdue University, West Lafayette, United States of America
- Biotechnologies in action in Brazil, by **Maurício Lopes**, President, Empresa Brasileira de Pesquisa Agropecuária, Brasília, Brazil
- Breakthroughs in resource productivity, by **Gunter Pauli**, Founder, Zero Emissions Research and Initiatives Network, Japan

Moderated by **Ren Wang**, Assistant Director-General, Agriculture and Consumer Protection Department, FAO, Rome, Italy

12.45-13.45: SIDE EVENTS

Delivering nutrition, productivity and climate resilience — The Africa Biofortified Sorghum (ABS) project (Iran Room)
Helping farmers grow: Climate change, food security and the technology nexus (Sheikh Zayed Centre)

14.00-17.00: PARALLEL SESSIONS

- 1.1 Facing the challenges of climate change: Adaptation in the crop and forestry sectors
- 2.1 Improving productivity through enhanced resource use efficiency
- 3.1 Social and economic impacts of agricultural biotechnologies for smallholders: Taking stock of the evidence and prioritizing future assessments

17.00-19.00: RECEPTION

Aventino Room, Floor 8 in Building B



14.00-17.00: PARALLEL SESSIONS

Sheikh Zayed Centre	Red Room	Green Room
1.1 Facing the challenges of climate change: Adaptation in the crop and forestry sectors Chair: Chittaranjan Kole Jacob School of Biotechnology & Bioengineering, Allahabad, India	2.1 Improving productivity through enhanced resource use efficiency Chair: Sergio Feingold Instituto Nacional de Tecnología Agropecuaria, Buenos Aires, Argentina Co-chair: Thuy Nguyen BioSciences Research Division, Melbourne, Australia	3.1 Social and economic impacts of agricultural biotechnologies for smallholders: Taking stock of the evidence and prioritizing future assessments Chair: Sachin Chaturvedi Research and Information System for Developing Countries, New Delhi, India Co-chair: Eduardo Trigo Ministry of Science, Technology and Productive Innovation, Buenos Aires, Argentina
14.00: Introductory remarks by Chittaranjan Kole	14.00: Introductory remarks by Thuy Nguyen	14.00: Introductory remarks by Sachin Chaturvedi
14.05: Developing rice varieties with enhanced adaptation to lowland farming systems: Case studies from South Asia Abdelbagi Ismail , International Rice Research Institute, Los Baños, The Philippines	14.05: Resource use efficiency in crops: "Green super rice" to increase water and nitrogen use efficiency of rice Sibin Yu , Huazhong Agricultural University, Wuhan, China	Introductory remarks by Eduardo Trigo
14.25: Harnessing agricultural biotechnology for resilience to climate change: A lesson from water efficient maize for Africa project Yoseph Beyene , International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya	14.30: Resource use efficiency in vegetables: Application of molecular breeding to bambara groundnut, an underutilised crop for low-input agriculture Sean Mayes , Crops for the Future, Semenyih, Malaysia	14.10: Evidence-based policy-making: The role of impact assessment studies and their implications for agricultural biotechnologies David Spielman , International Food Policy Research Institute, Washington D.C., United States of America
14.45: Molecular breeding in legumes for resource-poor farmers: Chickpea for Ethiopia and India Douglas Cook , University of California Davis, Davis, United States of America	14.55: Resource use efficiency in fish: Application of biotechnology in genetic improvement in tropical aquaculture David Penman , University of Stirling, Stirling, United Kingdom	14.35: Lessons learned from case studies of applying biotechnologies for smallholders Andrea Sonnino , Italian National Agency for New Technologies, Energy and Sustainable Economic Development and FAO, Rome, Italy
15.05: Genomic approaches for dissecting fitness traits in forest tree landscapes Ciro De Pace , Università degli Studi della Tuscia, Viterbo, Italy	15.20: Resource use efficiency in livestock: Bridging the biotechnology-livestock productivity gap in East Africa Denis Mujibi , Nelson Mandela African Institute for Science and Technology, Arusha, Tanzania	14.50: Evidence at work: Country experience in the use of evidence in policy-making on agricultural biotechnologies Jikun Huang , Chinese Academy of Sciences, Beijing, China
15.25: Use of genomics for understanding and improving adaptation to climate change in forest trees Sally Aitken , University of British Columbia, Vancouver, Canada	15.45: Resource use efficiency in forestry: Utilisation of tree genetic resources Judy Loo , Bioversity International, Rome, Italy	15.05: Factors that determine whether biotechnologies can have positive impacts on the livelihoods of smallholders: Examples from India Narayan Hegde , BAIF Development Research Foundation, Pune, India
15.45: Discussion moderated by Chittaranjan Kole	16.10: Discussion moderated by Dominic Glover , Institute of Development Studies, Brighton, United Kingdom	15.20: Discussion moderated by Eduardo Trigo
16.55: Closing remarks by Chittaranjan Kole	16.55: Closing remarks by Sergio Feingold	16.55: Closing remarks by Sachin Chaturvedi



09.30-12.30: PARALLEL SESSIONS

- 1.2 Facing the challenges of climate change: Adaptation in the livestock and fishery sectors
- 2.2 Post production value addition and food safety (2 sub-sessions)
- 3.2 Public policies, strategies and regulations on agricultural biotechnologies

13.15-14.15: SIDE EVENTS

The voice of farmers: Biotechnology in the field (Iran Room)
New breeding technologies for smallholders' challenges (Sheikh Zayed Centre)

14.30-17.30: HIGH-LEVEL SEGMENT, GREEN ROOM

The high-level segment will be organized in two sessions and is expected to follow this format:

Session 1 (14.30-15.50)

14.30-14.40: Opening Remarks by **José Graziano da Silva**, Director-General, FAO, Italy

14.40-14.50: Statement by **Néstor Roulet**, Secretario de Agregado de Valor, Ministerio de Agroindustria, Argentina

14.50-15.00: Statement by **Frédéric Seppey**, Chief Agriculture Negotiator, Agriculture and Agri-Food Canada, Canada

15.00-15.10: Statement by **Katalin Tóth**, Deputy State Secretary, Ministry of Agriculture, Hungary

15.10-15.20: Statement by **Papa Abdoulaye Seck**, Minister of Agriculture and Rural Equipment Senegal

15.20-15.50: Q&A with the Moderator

Break (15.50-16.10)

Session 2 (16.10-17.30)

16.10-16.20: Statement by **Begum Matia Chowdhury**, Minister for Agriculture, Bangladesh

16.20-16.30: Statement by **Henri Eyebe Ayissi**, Minister of Agriculture and Rural Development, Cameroon

16.30-16.40: Statement by **Hans Hoogeveen**, Vice Minister for Agriculture, Ministry of Economic Affairs, The Netherlands

16.40-16.50: Statement, by **Michael Scuse**, Under Secretary for Farm and Foreign Agricultural Services, United States of America

16.50-17.20: Q&A with the Moderator

17.20-17.30: Closing remarks, **José Graziano da Silva**, Director-General, FAO, Italy

The segment will be moderated by **Marcela Villarreal**, Director, Partnerships, Advocacy and Capacity Development Division, FAO, Rome, Italy

17.30-19.00: STUDENT INTERACTIVE SESSION, SHEIKH ZAYED CENTRE

Participating universities include:

- American University of Beirut, Lebanon
- Bogor Agriculture University, Indonesia
- Cornell University, United States of America
- University of Ghana, Ghana
- Wageningen University, The Netherlands
- Universidad Nacional de Colombia, Colombia

Panellists include:

- **Gebisa Ejeta**, Purdue University, United States of America
- **Louise Fresco**, Wageningen UR, The Netherlands
- **Maggie Gill**, CGIAR Independent Science and Partnership Council, Italy
- **Gunter Pauli**, Zero Emissions Research and Initiatives Network, Japan
- **Maria Helena Semedo**, FAO Deputy Director-General, Italy




*The session is organized with Young Professionals for Agricultural Development (YPARD) and will be facilitated by **Kakoli Ghosh**, Coordinator, Academia and Research Institutions, OPC, FAO, Rome, Italy.*

Interpretation will be provided in English, French and Spanish.

17.45-18.45: SIDE EVENT

Practical approaches to regulation and oversight of agricultural biotechnology: Experiences from developed and developing countries (Iran Room)

09.30-12.30: PARALLEL SESSIONS

Sheikh Zayed Centre	Red Room	Green Room
<p>1.2 Facing the challenges of climate change: Adaptation in the livestock and fishery sectors</p> <p>Chair: Shadrack Moephuli Agricultural Research Council, Pretoria, South Africa</p> <p>Co-chair: Thuy Nguyen BioSciences Research Division, Melbourne, Australia</p>	<p>2.2 Post production value addition and food safety (2 sub-sessions)</p> <p>Chair sub-session 1: Sergio Feingold Instituto Nacional de Tecnología Agropecuaria, Buenos Aires, Argentina</p> <p>Chair sub-session 2: Delia Grace International Livestock Research Institute, Nairobi, Kenya</p>	<p>3.2 Public policies, strategies and regulations on agricultural biotechnologies</p> <p>Chair: Vimlendra Sharan Embassy of India, Rome, Italy</p>
9.30: Introductory remarks by Thuy Nguyen	<u>Sub-session 1: Enhancing value in the post-production phase</u> 9.30: Introductory remarks by Sergio Feingold	9.30: Introductory remarks by Vimlendra Sharan
9.35: Fish breeding for future environments under climate change Panya Sae-Lim , Norwegian Institute of Food, Fishery and Aquaculture Research, Ås, Norway	9.35: Use of feed additives generated through fermentation technologies for livestock feed Cavava Srinivas Prasad , National Institute of Animal Nutrition and Physiology, Bengaluru, India	9.35: Supporting developing countries in the development and implementation of their National Biosafety Frameworks Charles Gbedemah , Convention on Biological Diversity, Montreal, Canada
9.55: Development of diagnostic tools and vaccines for aquatic animals Sandra Adams , University of Stirling, Stirling, United Kingdom	9.55: Use of biotechnologies to increase the storability and shelf life of fruit Eric van de Weg , Wageningen University and Research Centre, Wageningen, the Netherlands 	9.50: The role of intellectual property rights in enabling or impeding the application of agricultural biotechnologies, with special reference to developing country agriculture Rodrigo Sara , CGIAR Consortium Office, Montpellier, France
10.15: Biotechnologies for animal breeding and coping with climate change Paul Boettcher , FAO Animal Genetic Resources Branch, Rome, Italy	10.15: Applying agricultural biotechnology tools and capabilities to enhance food security and nutrition from local food crops to stimulate sustainable income opportunities for small holder farmers to reduce poverty Howard-Yana Shapiro , Mars Incorporated, Dranesville and University of California Davis, Davis, United States of America	10.05: Regulation and intellectual property of agricultural biotechnologies: Perspectives from the private sector Adrienne Massey , Biotechnology Industry Organization, Washington D.C., United States of America
10.35: Use of biotechnologies to improve feed quantity and quality: Adaptation to the changing climate from the animal nutrition perspective Ulrich Meyer , Friedrich-Loeffler-Institut, Braunschweig, Germany	10.35: Discussion and sub-session closing remarks moderated by Sergio Feingold	10.20: Regulation and intellectual property of agricultural biotechnologies: Perspectives from the civil society Guy Kastler , La Via Campesina, Narbonne, France
10.55: Livestock vaccines: Development and market access Jean de Foucauld , Ceva Santé Animale, Libourne, France	<u>Sub-session 2: Using biotechnologies to ensure the safety of food</u> 11.00: Introductory remarks by Delia Grace	10.35: The challenges of developing national policies and regulations for agricultural biotechnologies: Reflections from cumulative experience Eduardo Trigo , Ministry of Science, Technology and Innovation, Buenos Aires, Argentina
11.15: A landscape genomics approach in unravelling adaptive genetic diversity in goats: A case study of South Africa Farai Muchadeyi , Agricultural Research Council, Pretoria, South Africa	11.05: Traditional milk fermentation as a potential tool for sustainable improvement of food safety Kohei Makita , Rakuno Gakuen University, Ebetsu, Japan	10.50: How to ensure that policies, strategies and regulations on agricultural biotechnologies act to benefit smallholders Dominic Glover , Institute of Development Studies, Brighton, United Kingdom
11.35: Discussion moderated by Shadrack Moephuli 	11.25: Aflasafe: a case study for aflatoxin reduction in crops Ranajit Bandyopadhyay , International Institute of Tropical Agriculture, Ibadan, Nigeria	11.05: Discussion moderated by Vimlendra Sharan 
12.25: Closing remarks by Shadrack Moephuli	11.45: Diagnostic tools to detect pathogens causing tuberculosis in cattle and prevent their transmission through dairy products to humans Flábio Ribeiro de Araújo , Empresa Brasileira de Pesquisa Agropecuária, Campo Grande, Brazil	11.25: Closing remarks by Vimlendra Sharan
	12.05: Discussion and sub-session closing remarks moderated by Delia Grace	

09.00-12.00: PARALLEL SESSIONS

1.3 How can biotechnologies contribute to adaptation with mitigation co-benefits?

2.3 Nutrition and food quality

3.3 Investing in biotechnology solutions through capacity development and partnerships

12.30-14.00: PLENARY SESSION, GREEN ROOM

Reporting of outcomes from the three parallel sessions dedicated to the 'Climate change' theme, by **Olivier Le Gall**, Institut National de la Recherche Agronomique (INRA), France

Reporting of outcomes from the three parallel sessions dedicated to the 'Sustainable food systems and nutrition' theme, by **Maggie Gill**, CGIAR Independent Science and Partnership Council, Italy

Reporting of outcomes from the three parallel sessions dedicated to the 'People, policies, institutions and communities' theme, by **Sachin Chaturvedi**, Research and Information System for Developing Countries, India

Reporting of the outcomes from the Student Interactive Session, by **Kakoli Ghosh**, FAO Partnerships, Advocacy and Capacity Development Division, Italy

Some highlights of the Symposium from a non-FAO perspective, by **Louise Fresco**, Wageningen UR, the Netherlands

Closing remarks, by **José Graziano da Silva**, FAO Director-General, Italy

Moderated by **Shadrack Moephuli**, Agricultural Research Council, South Africa



09.00-12.00: PARALLEL SESSIONS

Sheikh Zayed Centre	Red Room	Green Room
1.3 How can biotechnologies contribute to adaptation with mitigation co-benefits? Chair: Olivier le Gall Institut National de la Recherche Agronomique, Paris, France	2.3 Nutrition and food quality Chair: Maggie Gill CGIAR Independent Science and Partnership Council, Rome, Italy	3.3 Investing in biotechnology solutions through capacity development and partnerships Chair: Kongming Wu Chinese Academy of Agricultural Sciences, Beijing, China
9.00: Introductory remarks by Olivier le Gall	9.00: Introductory remarks by Maggie Gill	9.00: Introductory remarks by Kongming Wu
9.05: Agricultural biotechnology and the economics of food security and climate change mitigation Daniel Sumner , University of California Davis, Davis, United States of America	9.05: Our food, our diet, our health: Where do we go from here Anna Lartey , FAO Nutrition and Food Systems Division, Rome, Italy	9.05: Biosciences capacity building in Africa: Lessons learned from Biosciences eastern and central Africa (BecA) Helen Altshul , Biosciences eastern and central Africa, Nairobi, Kenya
9.30: Biodiversity key to helping farmers adapt to climate change Stephan Weise , Bioversity International, Rome, Italy	9.35: Application of biotechnologies in improving the quality of rice and wheat Melissa Fitzgerald , University of Queensland, St Lucia, Australia	9.20: Case studies of public-private partnerships in agricultural biotechnologies: Lessons learned Denis Murphy , University of South Wales, Cardiff, United Kingdom
9.45: Biological nitrification inhibition (BNI) in plants: Implications for nitrogen-use efficiency and nitrous oxide emissions from agricultural systems Guntur Venkata Subbarao , Japan International Research Center for Agricultural Sciences, Tsukuba, Japan	9.55: Biot fortification of staple food crops: Justification, progress, and future activities Howarth Bouis , International Food Policy Research Institute, Washington D.C., United States of America	9.35: Building partnerships, empowering champions: The example of the Cornell Alliance for Science Sarah Evanega , Cornell University, Ithaca, United States of America
10.00: Mitigation of enteric methane emissions from ruminant animals Henning Steinfeld , FAO Livestock Information, Sector Analysis and Policy Branch, Rome, Italy	9.50: North-south/west-east cooperation in agricultural biotechnologies: Some lessons from Italy Riccardo Aleandri , Council for Agricultural Research and Economical Analysis, Rome, Italy	9.50: Case studies of south-south collaboration in agricultural biotechnologies: Lessons learned Sachin Chaturvedi , Research and Information System for Developing Countries, New Delhi, India
10.15: Use of biodiversity as a biotechnological tool for carbon sequestration in the tropics Paulo Kageyama , Universidade de São Paulo, São Paulo, Brazil	10.15: Fish for all: role of biotechnology in improving nutrition Albert Tacon , Aquatic Farms Ltd., Honolulu, United States of America 	10.05: Case studies of south-south collaboration in agricultural biotechnologies: Lessons learned Sachin Chaturvedi , Research and Information System for Developing Countries, New Delhi, India
10.30: Carbon sequestration in agricultural soils: The "4 per mil" program Hervé Saint Macary , Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Montpellier, France	10.35: Discussion moderated by Maggie Gill	10.20: Discussion moderated by Courtney Paisley , Young Professionals for Agricultural Development (YPARD), Rome, Italy
10.45: Discussion moderated by Olivier le Gall		
11.55: Closing remarks by Olivier le Gall	11.55: Closing remarks by Maggie Gill	11.55: Closing remarks by Kongming Wu

Side Events

An international call for side events was opened by FAO in November 2015 with a deadline of 31 December 2015 (<http://www.fao.org/about/meetings/agribiotechs-symposium/side-events/en/>). All proposals were carefully considered and five side events were chosen based on the pre-defined selection criteria. Side events are arranged by external stakeholders and FAO is not responsible for organization of these side events.

Monday, 15 February 2016: 12.45-13.45, Iran Room

Title: Delivering nutrition, productivity and climate resilience — The Africa Biofortified Sorghum (ABS) project

Organizers: Africa Harvest Biotech Foundation International; DuPont Pioneer and The Global Harvest Initiative

Moderator: Margaret M. Zeigler, Executive Director, Global Harvest Initiative (also a speaker)

Speakers: Daniel Kamanga, Director, Communication Program, Africa Harvest
Firoz Amijee, Head of Global Registration & Regulatory Affairs, DuPont Pioneer

Monday, 15 February 2016: 12.45-13.45, Sheikh Zayed Centre

Title: Helping farmers grow: Climate change, food security and the technology nexus

Organizers: (1) CropLife International, Belgium and (2) the Borlaug Institute for International Agriculture, Texas A&M University, United States of America

Moderator: Howard Minigh, President and CEO, CropLife International

Panelists: Julie Borlaug, Associate Director for External Relations, Norman E. Borlaug Institute for International Agriculture, Texas A&M University
Sir Gordon Conway, Director of Agriculture for Impact and Professor of International Development, Imperial College London
Catherine Swoboda, Director of Planning, World Food Prize
Nicola Cenacchi, Research Analyst, International Food Policy Research Institute (IFPRI)

Tuesday, 16 February 2016: 13.15-14.15, Iran Room

Title: The voice of farmers: Biotechnology in the field

Organizer: Canadian Canola Growers Association

Co-organizer: Brazilian Confederation of Agriculture and Livestock (CNA)

Moderator: Thiago Masson, CNA, Brazil

Speakers: Edwin Paraluman, Rice and corn farmer, Mindanao, The Philippines
Dale Leftwich, Farmer, Canada (Canadian Canola Growers Association)
Santiago del Solar, Farmer, Argentina (Asociación Argentina de Consorcios Regionales de Experimentación Agrícola)
Mugo Makanga, Farmer, Kenya (Integrated Community Organization for Sustainable Empowerment and Education for Development)

Tuesday, 16 February 2016: 13.15-14.15, Sheikh Zayed Centre

Title: New breeding technologies for smallholders' challenges

Organizer: Ministry of Economic Affairs of the Government of the Netherlands

Moderator: Gerda Verburg (Permanent Representative of the Netherlands)

Speakers: Rene Smulders (Business Unit Manager, Wageningen UR, Plant Breeding)
Niels Louwaars (Director, Dutch association for the plant reproduction material sector)
Walter Quispe Huilcca (Coordinator, Potato Park Participatory Plant Breeding Program, Potato Park, Cusco, Peru)
Alejandro Argumedo (Program Director, Asociación ANDES, Cusco, Peru)

Tuesday, 16 February 2016: 17.45-18.45, Iran Room

Title: Practical approaches to regulation and oversight of agricultural biotechnology: Experiences from developed and developing countries

Organizers: Governments of Canada and the United States of America

Facilitator: Frédéric Seppey, Chief Agriculture Negotiator, Agriculture and Agri-Food Canada, Canada

Speakers: Veronica McGuire, Executive Director, Program, Regulatory and Trade Policy, Canadian Food Inspection Agency, Canada
Juliana Ribeiro Alexandre (TBC), Federal Inspector, Coordinator of Information Analysis, Brazil
Barbara Mugwanya Zawedde, Coordinator, Uganda Biosciences Information Center, National Crop Resources Research Institute, Uganda
Pedro Rocha, Biotechnology Coordinator, Inter-American Institute for Cooperation on Agriculture (IICA)

Agenda may be subject to change. Use this QR code to access the latest version of the agenda on the symposium website or visit: <http://www.fao.org/about/meetings/agribiotechs-symposium/>

Room Numbers

Green Room: (A122int) Building A, Floor 1, Room 22int

Red Room: (A121int) Building A, Floor 1, Room 21int

Sheikh Zayed Centre: Found in the Atrium, Ground Floor, just inside the main entrance

Iran Room: (B 116) Building B, Floor 1, Room 16

