



## Introduction to the Food and Nutrition Session

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Welcome to the Mini-symposium on Food & Nutrition – The Role of Biotechnology in Agriculture.

The Academy invited me to organise a Symposium on these lines. With 800 million starving, an expected increase in the world population to 9.9 billion before 2050, the expectation that agriculture has to produce 70% more food while protecting the environment against the additional limitations arising from climate change, this is a timely and pressing topic.

Scientists are virtually unanimous in their conclusion that products from GM crops have great potential to contribute to food and nutrition security and are safe, based on both theory and observation. Influential NGOs, members of the public and media outlets argue – based on emotions and a hidden agenda – that GM-crops are useless and too risky to both the environment and the consumer and, therefore, should be banned.

We meet today to discuss in this context the potential of agro-biotechnology, especially genetic engineering. What has it contributed so far, especially to food and nutrition security of poor and disadvantaged populations in developing countries? And even more important, what hurdles prevent an even more effective contribution?

To this end we have been able to attract an outstanding group of experts and I am grateful that they all responded positively to the invitation despite the fact we could offer them only fifteen minutes for the presentations and five minutes for discussion.

There is Professor Joachim von Braun, former Director General of the International Food Policy Research Institute, Washington, who will remind us of the need for continued and sustained improvements of the food system.

There is Professor Peter Beyer, my partner in the Golden Rice project, who has expended his research to the topic of yield improvement and has most impressive data on yield increase with GM-rice and will discuss the GMO potential.

There is Dr. Howarth Bouis, who just received the World Food Prize for his demonstration that “biofortification” – the use of genetics to improve the nutritional content of crop plants – can indeed improve the nutritional status of poor populations in developing countries.

There is Professor Peter Raven, outstanding plant ecologist and former director of the Missouri Botanical Garden and named “Hero of the Planet” by TIME Magazine for his work. Peter will tell us how biodiversity can benefit from genetic engineering.

There is Dr. Mariano Bosch, Vice President of the National Institute of Agricultural Technology (INTA) Argentina, who will inform us on the real benefits to Argentine economy and ecology from no-till agriculture, based on herbicide-resistant GM-soybeans.

There is Professor Martin Qaim, agro-economist from the University of Göttingen, who for decades has been analysing and publishing the effects of GMOs on poor rural communities in developing countries. Martin will speak about the socio-economic impacts of genetic engineering technology.

There is Professor Marc van Montagu, World Food Prize laureate from 2014, the co-inventor of traditional, *Agrobacterium tumefaciens*-based genetic engineering technology, and tireless advocate and promoter for the use of this technology to the benefit of the poor and disadvantaged. Marc will highlight the contributions of the public sector to technology development.

There is Dr. Adrian Dubock, architect of the public-private-partnership of the Humanitarian Golden Rice project for development and deployment of Golden Rice, who is advancing the project against all hurdles preventing, so far, the use of this life-saving invention. Adrian will describe his experience in advancing this public sector GMO-project for public good – against the massive obstruction by NGOs, and under respecting all rules and regulations which all work with GMOs has to follow.

And there is Sir Rich Roberts, Nobel Laureate in Physiology and Medicine 1993, who finds it difficult to tolerate the anti-scientific ideology and political opportunity that blocks genetic engineering technology with plants and the Golden Rice project. Sir Richard has organized an appeal to “Greenpeace, the United Nations and Governments around the world“, signed so far by 121 Nobel laureates and 6319 scientists. Sir Richard will present this project for which he hopes to also find support from world religious leaders.