



GCARD

Second Global Conference on Agricultural Research for Development

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Breakout session P1.1 National Food Security – The Wheat Initiative – an International Research Initiative for Wheat Improvement

Context – the problems being addressed

Wheat is the most widely grown crop in the world and provides 20% of the daily protein and of the food calories for 4.5 billion people. It is the second most important food crop in the developing world after rice. In recent years, wheat production levels have not satisfied demand, triggering price instability and hunger riots. With a predicted world population of 9 billion in 2050, the demand for wheat is expected to increase by 60%. To meet this demand, annual wheat yield increases must rise from the current level of below 1% to at least 1.6%. All countries share the need to increase wheat yield, tolerance to abiotic stresses, pathogens and pests, as well as to improve input use efficiency for a more sustainable wheat production. Improved agronomic practises and development of innovative cropping systems are also a priority.

The Wheat Initiative (www.wheatinitiative.org) aims at reinforcing synergies between national and international research programmes to increase food security, nutritional value and safety whilst taking into account societal demands for sustainable and resilient agricultural production.

The Wheat Initiative¹ aims to encourage and support the development of **a vibrant global wheat public-private research community sharing resources, capabilities, data and ideas to improve wheat productivity, quality and sustainable production around the world.**

This community comprises public and private researchers, educators and growers from all wheat growing countries who together will have sufficient resources and capabilities to develop strong and dynamic national programs on wheat in their country and, at the international level, through transnational collaborative programs. This community will address wheat research globally on all wheat types (bread wheat, durum wheat, wild relatives), encompassing research fields from genomics to agronomy.

To answer the challenges of wheat research internationally, the Wheat Initiative will:

1. Develop a **global strategic agenda for wheat research** through the identification of research and outreach priorities and challenges beyond the capacity of single research groups/countries, and that can best be achieved by international coordination and collaboration between researchers, research institutions and funding organisations,
2. Encourage **efficient investment in wheat research** based on the capabilities of, and synergies among, national and international programs,
3. Initiate the development of new **collaborative programmes and coordinated actions** across developing and developed countries,
4. Develop and coordinate **knowledge sharing** amongst the international wheat community,
5. Improve **access of all to resources, services and facilities**,
6. Support **education of students and life-long learning of wheat researchers and farmers**,
7. Stimulate **public/private collaborations**.

Current activities presented and discussed in the session

¹ Launched on September 2011, the Wheat Initiative was proposed by research and funding organisations from several countries, and is part of the 2011 action plan of the G20 Agricultural Ministries to contribute to global food security.

The Wheat Initiative aims at fostering communication between the research community, funders and global policy makers at the international level, to meet research and development goals. This will be achieved by liaising a Research Committee, in which scientists from participating countries, international research organisations such as CIMMYT and ICARDA, and private companies will define the research priorities for wheat, with an Institutions' Coordination Committee bringing together national and international research/funding organisations. A shared knowledge of the research priorities and funding needs of the scientific community, with the strategic directions and future investment plans of the funders, will help to secure and enhance long term funding of wheat research in support of global well-being.

Expert Working Groups (EWG) will be established where a particular topic of direct relevance to the Wheat Initiative would benefit from bringing together experts in that specific field. The Wheat Initiative would provide them with a platform for discussion, information sharing, consideration of specific problems, identification of research priorities and gaps. They could also constitute a preliminary step for transnational joint research proposals. They will provide recommendations to the Research Committee and the Institutions Coordination Committee. Expert Working Groups are being constituted on: creation of an integrated Wheat Information System, Durum Wheat Genomics and Breeding, Breeding methods. The International Wheat Genome Sequencing Consortium has submitted a proposal to become an EWG of the Wheat Initiative. Other EWG topics will include phenotyping platforms, cropping systems, raising wheat yield potential.

The Wheat Initiative website will provide a description of wheat research per country, with a searchable database allowing researchers to look for collaborations in specific areas of research.

The success of the Wheat Initiative will be dependent upon engagement of the global wheat community. It will therefore be of great importance that all countries and companies interested in wheat improvement participate and contribute to the development of this international coordination/collaboration platform. Members of the Wheat Initiative include today mostly G20 countries and private companies (see www.wheatinitiative.org). To take into account the needs of countries from the South in the activities of the Wheat initiative, and to foster collaborations between North/South, we want to broaden the memberships and invite all countries interested in wheat improvement to join. Through collaboration, we will improve food security and resolve the urgent challenge of sustainably providing enough safe, nutritious and affordable food for a growing population.

Intended outcomes
<ul style="list-style-type: none"> - Better coordination of wheat research funding internationally, on strategic priorities identified by the global research community - Facilitation of communication and collaboration between research groups/organisations worldwide - Development of publically available integrated platforms and databases (Wheat Information System) - Creation of improved wheat varieties and dissemination of better agronomic practises worldwide
Commitments to collective actions in 2012-2014 (national, regional or international)
i. With existing resources
<ul style="list-style-type: none"> - Number and range of members increased - Delivery of a Vision Paper and its translation into a Strategic Agenda, that will be updated regularly to take into account development of new areas of research. - Set up of Expert Working Groups on strategic areas of research/organisation relevant for

wheat improvement globally - Creation of a searchable database on wheat research in all countries
ii. With additional support
- Development of an integrated Wheat Information System, providing the capacity to search across databases and access to bioinformatics tools for the interrogation of datasets, and bringing all the major sources of data related to wheat together in a single-entry point with a user-friendly interface for the biologists - To be decided on the basis of the Vision paper and the Strategic Research Agenda
iii. With specific large scale programme investment
To be decided by the funders on the basis of the Vision paper and the Strategic Research Agenda