



ANNEX 6

EXPERT WORKING GROUP ANNUAL REPORT TEMPLATE

Please return your completed Annual Report to wheat.initiative@versailles.inra.fr

NAME OF EXPERT WORKING GROUP	
Wheat information system	

LEADERSHIP & AUTHORSHIP	
Chair	Hadi Quesneville (INRA, France)
Vice-Chair(s)	Mario Caccamo (TGAC, UK), Gerard Lazo (USDA-ARS, USA), Dave Edwards (Univ. of Queensland, Australia)
Report Authors	Hadi Quesneville (INRA, France)

MEETINGS HELD (please attach minutes of these meetings using the template provided)	
Face-to-Face Meetings	~20 members, WheatIS kickoff meeting - December 2-3, 2013 - Versailles, France ~20 members, Meeting (during PAG conference), January 13, 2014 - San Diego, USA
Other Meetings	WebEx meeting - May, 16 th 2014/Online WebEx meeting - October, 24 th 2014/Online

AIMS OF THE EWG	
List objectives/aims of the EWG as stated in the proposal	
<p>This expert group work together (i) to define data standards and data exchange protocols, and (ii) to develop a framework to support an integrated Wheat Information System. Our aim is to provide the international wheat research community with an easy access to wheat genetic, phenotype, and environmental information, genomic data and bioinformatics tools.</p> <p>A central node, called WheatIS core, will provide a single entry point for the WheatIS users. The WheatIS core will be built upon the resources provided and shared by the nodes. It will provide access to data and information through a web portal. This portal (i) will give access to a data file repository storing files with their associated metadata, (ii) through a google-like search engine, will allow to find data available in the WheatIS core and its nodes using keywords (iii) several dedicated integrative databases, e.g. for genomic, genetic, and phenotype information, comparative genomics, and functional genomics, will be available. Analysis tools will be available for download from the web portal. Some WheatIS nodes will provide computing resources for data analysis.</p>	

(2014) ACTIVITY REPORT	
Objectives identified for (2014)	
<p>We identified as main objectives for 2014:</p> <p>Data standards</p> <p>Definition of standards for data sharing. Part of the activity is to follow and participate in international initiatives (e.g. transPLANT European project, crop and trait ontologies, Research Data Alliance,...) and to propose standards when they are missing.</p> <p><i>Objective:</i> Writing a first version of a “cookbook” giving recommendation on the standards to use for sharing wheat data.</p>	

Distributed search

A search engine will be set up on the WheatIS web portal, allowing to dynamically search remote WheatIS nodes databases. Users will be able to connect to the WheatIS portal and type a keyword, or a term, that will be searched remotely in each node. Results will be provided as a brief summary of the matching data (e.g. identifier, name, short description) with links to access the remotely hosted data. This tool will allow the researchers to discover available data in the WheatIS core and its nodes, from simple keywords.

Objective: Implementation of a first prototype.

Data file submission

The WheatIS will offer a space allowing data submission and the exchange of standardized data files with their associated metadata. The submission process will check for required metadata information and the correct use of data standards and ontologies as defined by the EWG. This space will be also used for data exchange between WheatIS nodes or with wheat scientists. Data correctly formatted and respecting defined standards will be provided here promoting data interoperability.

Objective: Implementation of a first prototype.

WheatIS nodes identification

Identification of organisations offering wheat data to the community, willing to be considered as a WheatIS node and to contribute to the WheatIS effort.

Objective: Identification of a first list of nodes with the associated wheat and bioinformatics resources.

WheatIS portal

A web site giving access to WheatIS resources through links to the nodes.

Objective: A website prototype.

Progress against aims in for (2014)

Standards definition

A first meeting held at Versailles to write a cookbook draft, recommending standards to use for wheat data sharing. The cookbook is currently collectively written, refined, and published as a web site for an easy diffusion and collaborative updating.

Distributed search

A first prototype is available for testing at <https://urgi.versailles.inra.fr/wheatis/> among the EWG partners. Only a limited number of data is present for the moment. It demonstrates the offered search capabilities using faceting technologies.

Data file submission

A first prototype is available at <http://urgi.versailles.inra.fr/xmlui> for testing the data file submission process. Feedbacks are expected by the EWG members on the submission workflow and the important metadata to be collected for each data type.

WheatIS nodes identification

A list of 12 nodes has been identified (see joined document). They are organisations offering wheat data to the community, willing to be considered as a WheatIS node and contributing to the WheatIS effort.

WheatIS portal

The “www.wheatis.org” domain name has been bought. A first prototype is currently built using the information from the identified WheatIS nodes.

Outputs and deliverables in (2014)				
<p>The EWG contributed to the Strategic Research Agenda writing. In particular, we provided the section on the wheat information system in the “shared platforms and standards (core theme 5)” section.</p> <p>A project proposal, called “<i>wheatual</i>”, answering the H2020 European Call, is currently built to support the WheatIS development. It should be the European contribution to this endeavour. Note that Australia and Mexico (non-European countries) are also involved.</p>				
Contribution to Wheat Initiative objectives (http://www.wheatinitiative.org/about/objectives)				
<p>The EWG contribute to the “Core theme 5: Shared Methods, Resources and Capabilities”. We work on the deployment of a “Wheat Information System” to provide the international wheat community with a single and comprehensive access point for wheat information and informatics tools. This action is considered as a top priority to be completed in the first 5 years.</p>				
Links established with other Wheat Initiative activities				
<p>Some nodes already established a close collaboration with the IWGSC EWG to manage and integrate the sequence data they provided. In particular the wheat survey sequence and the wheat chromosome 3B sequence have been integrated in different nodes databases and made available to the scientific community.</p> <p>Some contacts with the durum wheat EWG have been initiated through the <i>wheatual</i> H2020 project proposal. Identification of the needs of this group and their integration in the project are considered.</p>				
Budget statement for (2014)				
Expenses				
Type	Budget	Actual	% Spent	Remarks
Organisation of Meetings	€	1990.10 €	%	
Consumables	€	0 €	%	
Travel and Subsistence	€	24522.29 €	%	
Communication	€	0 €	%	
Other Costs	€	0 €	%	
Total	36449 €	26512.39 €	73%	
Please attach the Accounts table to this report (Annex 6)				
External resources and support mobilised				
<p>We are currently supported by:</p> <ul style="list-style-type: none"> • 4 positions from INRA to URGI • 2 positions from BBSRC to TGAC • \$95k for the implementation of a wheat T3 database in Australia to host all wheat breeding data. • The US T3-wheat database development (as a part of the TCAP project) can be considered as a WheatIS contribution 				
Additional activities				
<p>We initiated and participate to networking activities with other large international consortia.</p> <p>transPLANT EU-FP7 Infrastructure project</p> <p>This project aimed at providing a trans-National (European) Infrastructure for Plant Genomic Science. Several EWG members are involved in this project and reuse some development for the WheatIS implementation.</p>				

ELIXIR

This is the European infrastructure for biological information, supporting life science research and its translation to medicine, agriculture, bioindustries and society. Several EWG members are part of this infrastructure and promote here the WheatIS developments.

EU-US Task Force on Biotechnology Research

This task force aimed at promoting information exchange and coordination between research programs funded by the European Commission and the United States government". Several EWG members participate to the "Plant bioinformatics" task force. Topics interesting the WheatIS are promoted in this working group.

Research Data Alliance - Agricultural Data Interest Group

We participate to the Wheat Data Interoperability Working Group from the Research Data Alliance initiative. We aimed at providing with web semantic experts a common framework for describing, representing linking and publishing Wheat data with respect to open standards.

ACTION PLAN FOR NEXT TWO YEARS

Priorities identified for (year 1- year 2)

Our action plan.

Short-term actions (2015)

- *WheatIS nodes network.* Enforce networking and collaboration among the nodes.
- *Building a web platform to access and exchange data.* We focus on data standards and data repository.
- *Integrated virtual portal.* A portal to access a network of DBs. Data will be searchable in a network of WheatIS nodes

Medium-term actions (2016)

- *WheatIS provide integrated DBs.* Relevant data for the wheat community are integrated in a single place.

Expected outputs and deliverables for (year 1- year 2)

2015

- Distributed search portal
- Data submission platform
- WheatIS nodes storage federation

2016

- Centralized access to integrated data in an information system

Timeline of activities for (year 1- year 2)

Additional documents

wheatIS_nodes20141216.xls - List of WheatIS nodes