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**WGIN management meeting**

**12th March 2009, RRes**

**MINUTES**

**Attendees:** Lesley Smart, Stephen Smith, Malcolm Hawkesford, Cristobal Uauy, (new arrival JIC),, John Snape, Neil Paveley, John Foulkes, Bill Angus, Nick Gosman, Tina Barsby, Mike Grimmer, Peter Jack, Peter Werner, Bill Hollins, Hai-Chun Jing, Peter Shewry, Kim Hammond-Kosack, Ruth Gordon-Weeks, Simon Griffiths, Neil Paveley, Elke Anzinger

**Apologies:** Thomas Jolliffe, David Feuerhelm, Andy Greenland

**Welcome – Peter Shewry**

**Kim Hammond-Kosack:**

**WGIN II**

* Content of the new proposal
* New management meeting arrangements
* Forthcoming changes to the WGIN website

*PowerPoint presentation (001 KHK WGIN February 2009 RRes)*

Content of the new proposal

The final application was sent to Kath Bainbridge at defra in January and went to peer review from there. We received the overall comments towards the end of February and have sent an amended application back to Defra.

WGIN II will include the development of tools and resources, the study of targeted traits, networking within the community and communication to stakeholders. In total we will cover 20 Objectives. All the work on tools and resources will be carried out at JIC. Management meetings will continue to be held at 4 monthly intervals, there will be the stakeholder meeting in November and a newsletter every six months.

The work on drought tolerance will be built on findings at Broom’s Barn and will be done at the University of Nottingham.

A 1 year pilot study on insect resistance which will use a Spark x Rialto mapping population from John Snape is now included.

The duration of the various field trials will be 3 – 5 years.

Rothamsted has a grain archive (- 20C) of the RRes WGIN I field trials which is underused. The next newsletter will feature this archive and will provide details of the samples held.

There has been a lot of interest in the Avalon x Cadenza population with requests for seeds. We now need to determine what results have been generated. Simon Griffiths and Neil Paveley will organise a workshop on the Avalon x Cadenza population in the next few months. Simon Griffiths will also organise a workshop on crop vernalisation - a topic which was removed from the WGIN2 proposal in favour of work on insect resistance.

Comment 1:

The Avalon x Cadenza population was used in WGIN I to study basic agronomic traits, but in WGIN II we are quite open to suggestions on the QTLs to be targeted. For example we could base the study on results generated in LINK studies.

Comment 2:

The development of the extra COS markers used in WGIN I was funded by the BBSRC.

Comment 3:

Andy Phillips has developed a hexaploid TILLING population and protocol during WGIN I. This population is now being used by Healthgrain and has been grown to the M6 stage.

Comment 4:

The Avalon x Cadenza population has been useful for studying NUE and take all inoculum buildup in the soil. This later trait could also be mapped.

Comment 5:

The Watkins and the Gediflux collections have been useful for studying drought tolerance and take all.

Comment 6:

It is important to improve networking further. The management group as it is works very well, but we should make more effort to communicate WGIN findings to other scientists and make them aware of the networking component of WGIN.

During WGIN I we organised two very successful workshops with CIMMYT scientists from which both sides have benefited. WGIN scientists also went to France for a workshop with scientists at INRA and last year there was a visit to Beijing and a joint wheat workshop.

This year there will be a workshop in Montpellier in June between INRA and RRes/JIC/other UK on grain development, architecture and milling quality. If anyone is interested to contribute to this meeting please contact Peter Shewry.

Q: Should we continue with the CIMMYT meetings?

A: Yes. Martin Parry has already put in an application with ISIS for a visit in 2010.

Comment: There is a lot of good research going on in Eastern Europe. We could organise a meeting with scientists from the Ukraine, Romania, Hungary and ex-Yugoslavia in Novi Sad.

Answer: Zoltan Bedo from Hungary could also organise this, but Novi Sad is also fine.

It was agreed that John Snape will investigate organising a meeting in Novi Sad for May 2010 or in St Petersburg in parallel with the International Wheat Congress.

In addition Tina Barsby will speak to Wayne Powell regarding organising a meeting of the Eucarpia Cereal Section.

New management meeting arrangements:

Comment 1: A smaller meeting in the afternoon makes sense. The breeders will nominate two representatives – one technology specialist and one field specialist.

Question: How will reporting work? Do you go through the whole project in each meeting?

Answer 1: So far we have covered each topic at least once a year.

Answer 2: In the new management meeting we will keep this old format for the morning meetings, but in the afternoon meetings all objectives will be covered at each meeting (Gantt charts).

Comment 2: During WGINI BBSRC and Defra representatives only attended very few management meetings. BBSRC will nominate a new representative. This is currently Andy Cureton but in future is likely to be someone from the BBSRC crop club.

Forthcoming Changes to the WGIN website

The new website will be modelled on the new OREGIN website ([www.oregin.info](http://www.oregin.info)), but we will also keep a copy of the old website online for anyone who feels more comfortable with the old version. We will give a demo of the new website in June. We will give access to the new website about 4 weeks before the June MM so that we can receive feedback based on user’s experiences.

Comment: Keith Edwards BBR project will list wheat resources on the Monogram website. Will you let Keith know of any new resources available?

Answer: We will interact with Keith and Paul Verrier to make sure information is cross-referenced and up to date. Keith is always invited to the WGIN management meetings and welcome to give a presentation at one of the next meetings.

Question: Web administration requires a lot of time. Are there enough resources for this?

Answer: Once the main new website has been put up it is quick and easy to add new information. It is actually more time consuming to chase for up to date information which can be added.

Cristobal Uauy mentioned several very useful websites with resources and will forward links to Elke to be put on the web. Everyone else is encouraged to forward links on resources plus a short description of the website to Elke to be put on the web.

**Peter Shewry: Sub-contractors projects**

* + Discussion of possible topics
	+ Tendering arrangements

We have £50.000 for sub-contracts to be spent in the first two years. Defra asked for an open discussion on the sub-contracts during the stakeholder meeting in November 2009. This will mean that the deadline for submission is the end of 2009 and that the final decision on the allocation of the sub-contract will be made in April 2010.

Comment:

Waiting until November 2009 for the initial stakeholder consultation is quite late, you would lose a year of field experiments. Instead stakeholders can be consulted via the WGIN stakeholder mailing list as soon as possible. Selected applicants can then make a presentation at the June management meeting. The sub-contracts can then be allocated by September 2009.

Reply: Defra was not happy with the selection process last time and therefore specifically asked for stakeholder consultation this time.

Comment:

Consulting stakeholders via e-mail will achieve this objective in the same way as stakeholder consultation at a meeting.

Comment: The sub-contract does not necessarily need to be a field experiment. It can be desk based as well.

**Kim Hammond-Kosack: WGIN - social and economic impact**

Discussion in the context of Defra’s main drivers for research

Everyone filled out a handout from Kim on how WGINII activities will fulfil defra objectives. Elke will carry out a statistical analysis and place it on the WGIN website.

**Hurdles to the implementation of public good science**

Discussion - on how the breeders can come on board

Comment1:

LINK is getting weaker and there is a lack of funding for projects which have traditionally been funded by Defra, but were not covered by the BBSRC or breeders.

Comment 2: We have to point out that although there are still a lot of hurdles to overcome, a lot of progress has been made over the past few years.

Comment 3:

WGIN I has been fantastic for networking and the public and the private sector are working together much better. However breeders want to participate more in the actual decision making process.

Comment 4:

Economic factors have to be considered by publicly funded research to ensure breeders will be able to include results/resources generated in their breeding programmes. There are not enough reward mechanisms for breeders to include traits that are not economically viable. Breeders cannot apply directly for public funding.

Comment 5:

It is only through breeding that objectives can be met.

Comment 6:

It is very difficult to create a product niche, and interest in niche products can disappear very quickly.

Comment 7:

The club concept of the BBSRC provides an avenue to include breeders’ concerns.

The national list is a funnel everything has to go through. We need to understand what drives farmers. For example the research on OBM has been taken up immediately, because farmers understood its value. Research of how to put farmers driving factors into the protocol has to be commissioned.

Comment 8:

It would be beneficial if Defra talked to the BSPB on how science can support plant breeders.

Comment 9:

Scientists’ drivers are different yet again. Scientists need publications to further their career.

Comment 10:

But grant funding is a reward for scientists too. Scientists are also interested in industry funded research. There is interest in more discussions with breeders.

Answer:

Breeders need to know what is expected in terms of time and resource input.

The BWB could be a platform discussion. However BWB does not include all breeders. The breeders also need to think of the future of the BSPB.

Comment 11:

The WGIN I management group has been a success, but it is a fairly closed group. We could do more to include other plants scientists and to make them aware of the networking component within WGIN.

Reply:

The Small Grain Cereal/Monogram workshops may be a a better platform for this WGIN has a more downstream format. Will these workshops continue?

Answer: There is a workshop in Bristol this April. We are planning to continue with these workshops, hopefully with financial assistance from BBSRC.

**Simon Griffiths - The new BBSRC wheat sequencing proposal** -

This is a two year project with funds of £ 1.8 M.

It will cover EST sequencing as well as the gene enriched regions of four UK varieties. These are Avalon, Cadenza, Savannah and Rialto.

Comment: I though the project will cover only genomic sequencing.

Answer: We will assess different methods for enrichment. The University of Bristol will look at SNP variation between genomes which will be put into a database.

Comment: The raw data will be entered into Genbank straight away.

The idea for this project came about at the 2008 Small Grain Cereal workshop after a talk by Neil Hall. The project was then discussed further at the WGIN management meeting in June 2008.

**Peter Shewry - EU Healthgrain** (KHK did not check this section)

G x E associations

Most health benefits in wheat come from the bran and the germ.

The second module of Healthgrain (crop improvement and biotechnology toolkit) is lead by Peter Shewry. The structure of WGIN I was the base for the setup of the second Healthgrain module.

Gilles Charmet does all the marker work.

Field trials have shown the genetic and environmental variation in chemical composition of wheat.

Understanding the properties of cell walls is of value as they are important in grain processing, they contain substances with health benefits and are also of interest to biofuel research.

Arabinoxylans can exist in soluble and insoluble form. When esterified with ferulic acid they become cross linked which leads to gel formation. Phenolic acid are transported into the colon through insoluble fibre.

β-glucans tend to be soluble, but are less soluble in wheat compared to other grains. There is less variation in fiber composition in white flour, as there is less scope for substitution in grain development.

DArT Association mapping: You can look at chromosome order of DArT markers from the Triticarte web site.

Question: What are the health properties of the high yielding varieties? What happens when varieties are grown in a non-adapted habitat?

Answer: We have seen no difference between old and new varieties.

Question: Can DaRT files be made available?

Answer: Yes- we will just clear this with Gilles Charmet

**AoB:**

A new sequencing centre for the sequencing of non-medical species is being set up at JIC in cooperation between the BBSRC, the East of England Development Agency and Norwich City Council.

There will be changes to Monogram. Tina Barsby will continue to chair the steering group, but Monogram will also hire a facilitator. The role of the facilitator will include looking after the Monogram website and to look into funding opportunities for cereal research. The post will be advertised on the Monogram website shortly. We want to continue with the Monogram/Small Grain Cereal workshop, but do not want to put in a proposal for funding.

Comment: The first few workshops were held without BBSRC funding.

Answer: We are thinking of organising the meeting ourselves and to ask the BBSRC for additional funding if necessary.

WGIN website address: [www.wgin.org.uk](http://www.wgin.org.uk)

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