

Minutes

Brassica 2014 Scientific Organising Committee Meeting, Wuhan

including MBGP updates

Date: Tuesday, April 1, 2014

Time: 7:30 pm

Location: Zhongnan Garden Hotel, Wuhan, China

Chair: Rod Snowdon, JLU Giessen, Germany

Rod Snowdon (JLU), Graham King (SCU), Isobel Parkin (AAFC), Jacqui Batley (UQ), Dave Edwards (UQ), Ian Bancroft (U. York), Kede Liu (HAU), Chris Pires (Missouri), Xiaowu Wang (CAAS), Harsh Raman (DPI, Australia), Wallace Cowling (UWA, Australia), Takeshi Nishio (Tohoku Univ, Japan), Jin Hoe Huh (Seoul Natl. Univ.), Shengyi Liu (CAAS, OCRI, Wuhan), Jeong-Hwan Mun (Myongji Univ.), Beom-Seok Park (TAGC, Korea), Jinling Meng (HAU, Wuhan), Boulos Chaloub (INRA, Évry), Fernando Branca (Univ. Catania, Italy), Yong Pyo Lim (CNU), Yongming Zhou (HAU, Wuhan)

A) Brassica 2014 Scientific Organising Committee meeting

Brassica 2014 CGW conference, Wuhan:

Jinling Meng summarised the major highlights of the Brassica 2014 CGW conference and thanked the local organising committee, the international scientific committee and all of the student helpers who made the conference a great success. The scientific committee members congratulated Jinling Meng and Yongming Zhou (Chair of Organising Committee) for the excellent organisation and a highly successful comment.

Next ISHS Brassica and CGW meetings:

The committee heard suggestions from Australia and France to host the next two Crucifer Genetics Workshop conferences.

A unanimous decision was made to hold the next Crucifer Genetics Workshop in Melbourne, Australia in September 2016. Jacqui Batley kindly offered to chair the organisation committee.

A unanimous decision was also made to hold the next joint Crucifer Genetics Workshop and ISHS Brassica meeting (Brassica 2018) in the seaside resort of St. Malo in Brittany, France, following an offer by INRA Rennes to host & organise.

B) MBGP updates

The following updates were made to the minutes from the previous MBGP meeting (PAG; Jan 2014):

1) Updates to Brassica sequencing activities

- The *B. napus* Darmor-bzh reference sequence has already been distributed to more than 30 laboratories through a research MTA and will be publicly available upon publication of the genome manuscript.
- Shengyi Liu resequencing 100 Chinese accessions, will make sequence data public but is unable to supply seeds.
- Ian Bancroft has funding for 400 additional Bn transcriptomes and will also do 100 Bol and 70 Bra (from diversity collection supplied by Guusje Bonnema).

- Guy Barker reported at the conference about Bol transcriptome data but these are not yet publicly available.
- *Raphanus sativus* genome sequence was reported at conference by Jeong-Hwan Mun.

2) Update on SNP genotyping platform

- Illumina report at conference from Cindy Lawley and Chinese colleague that 50k Infinium array will now be perpetuated until at least 2016. Possible need or wish to update content (probably cheapest via add-ons?) to 90k platform with improved C-genome coverage?

3) Followup on genome annotation discussions

Dave Edwards has continually tried and failed to get Maker running, although it works well in other places/cases (e.g. Pat Edger, *Cleome* annotation – Chris)

Discussion whether there needs to be a consensus platform: Darmor-Bzh annotation was done differently, however this was before the January suggestion to use Maker as common platform for A/C/AC genomes.

ACTION: Dave Edwards will continue to communicate with others responsible for annotations to agree on common formats. Given that some annotations are already completed or very advanced, the most acceptable compromise will probably be to standardise gene numbering across different Brassica genomes (see below).

Graham King stressed that an arbitrary gene numbering system including the version name of the reference is essential to avoid confusion amongst users. Similarly it is necessary to use a single gene number for homologs in different species or genomes. According to Xiaowu Wang the next version of the Br Chiifu reference will be updated to adopt Isobel Parkin's Bol TO1000 numbering (e.g. Bo1g001010), and Shengyi agreed to update the next Bol 0212 annotation to also adopt this numbering system. Boulos Chaloub also sees scope to do this before the public release of the *B. napus* Darmor-Bzh reference. The chair acknowledges the excellent cooperation and notes that a workable consensus on this issue would represent a notable achievement by the MBGP!

To achieve this it is necessary to agree on a suitable system that will enable consecutive numbering of paralogs over A and C genome, respectively. Ian Bancroft suggested to use diploid pan-genomes as reference for gene names. Dave Edwards suggested the use of a design which enables linking from a gene on any specific reference to its ortholog on any other reference. His group successfully uses this method to cross-reference SNPs between genomes and assemblies and expects the same approach should work for annotated genes. The advantage of this approach is it is independent of the annotation method, negating the issue of trying to compromise on an agreed annotation method.

Numbering in intervals of at least 10 digits will be needed to provide space for newly discovered genes as more genotypes are sequenced.

ACTION: Isobel Parkin, Shengyi Liu, Xiaowu Wang and Boulos Chaloub to investigate how to integrate the various current numerologies for Bol, Bra and Bna together into a single consensus numbering system.

4) Updates on international Brassica-related meetings

Glucosinolates conference in Wageningen, Oct. 12-15 2014

Clubroot Workshop at International Phytopathology Conference, September 5 in Krakow.

CGW 2016 and Brassica 2018 set for Melbourne and St. Malo, respectively (see above).

International Rapeseed Congress, Saskatoon: July 5-9, 2015.

5) International cooperations and collaborations

Suggestion from Michel Renard was discussed regarding better promotion of international research efforts in Brassica. International Wheat Initiative may not be a suitable model for Brassica but is a good example of engaging lobby groups in support of crop science. In several countries there is scope to involve such groups in research for common benefit of researchers and breeders. MBGP idea to initiate a common informatics platform for shared data resources and tools is seen as an ideal goal for such a program. Lobby and/or funding agencies and industry in several countries should have an interest in supporting such an initiative.

It was agreed that an initial network focussing on oilseed rape/canola would be most realistic at present time due to existing close cooperations. Michel Renard is preparing a questionnaire about needs and wishes for researchers and industry which can be distributed to interested parties to gauge interest. Also Rod Snowdon will draft a brief statement on behalf of the MBGP stating benefits and opportunities for industry and researchers in common international database/informatics/germplasm resources. This may be used by MBGP members to approach potential funders and interested industry partners. It was stressed that such an initiative must insist on open-source access and distribution of resources for mutual benefit for industry and research.

ACTION: Rod Snowdon will draft a motivation paper for an International Brassica Information Resource and distribute to committee for comments/suggestions. The following people have offered to approach respective national bodies to push for start-up funds and/or joint calls earmarked specifically for this purpose: Rod Snowdon: UFOP, BDP (Germany) Ian Bancroft: BBSRC (UK), Michel Renard/Boulos Chaloub (Sofieproteol, France), Graham King/Dave Edwards/Jacqui Batley: GRDC, Aus), Xiaowu Wang (? , China), Isobel Parkin: AAFC (Canada).

Meeting closed 8.45 pm, chair thanks all participants for extremely constructive and productive discussions.

Minutes: Rod Snowdon, April 3, 2014

Edits from Boulos Chaloub, Dave Edwards, Graham King