

## Meeting Minutes

**March 12, 2015**

### **1) Meeting Opening**

Richard Trethowan, project leader for CAIGE, gave a short introduction at the start of the meeting to welcome all participants. The CIMMYT and ICARDA breeders could not make the trip to Australia due to other commitments, but it was a pleasure to welcome Dr Amer Dababat from CIMMYT-Turkey to the meeting. The invited speakers gave brief presentations about their project achievements, and upcoming project activities as required by GRDC. All presentations can be downloaded from the CAIGE website :

*caigeproject.org.au >> Events >> Annual CAIGE Meetings >> [Wheat 2015 Meeting](#)*

### **2) GRDC update – Lauren DuFall (GRDC)**

In the past months, Lauren DuFall, has taken over the CAIGE project responsibilities at GRDC from Omid Ansari. At her first annual CAIGE meeting, Lauren introduced herself and talked about her role in liaising between GRDC and the CAIGE project management team.

### **3) US00045 project: CAIGE Suite of Projects Coordination – Sandra Micallef (University of Sydney)**

Sandra Micallef gave a summary of the project's activities over the previous 12 months including details of the imported material and where it was distributed. All data collected from the yield trials and disease screening of 2014, can be found on the CAIGE website. In 2014, there has also been an influx of additional data from other projects involving CIMMYT and ICARDA germplasm, namely the Crown Rot Initiative project, Crown Rot resistance in durum, Soil Borne Pathogens from CIMMYT-Turkey and the FIGS project.

Sandra also talked about the activities organised by the CAIGE project in 2014, including the Australian breeders' tour to CIMMYT in March, the CAIGE Yield Trials tour of the Australian sites in October and group meetings held periodically to ensure the smooth running of the CAIGE project.

[Sandra Micallef's Presentation](#)

### **4) 2014 Yield Data trials – Mark Dieters (University of Queensland)**

Dr Mark Dieters gave a presentation with results from the multi environment trials held in 2014. A total of 148 ICARDA lines and 96 CIMMYT lines were tested on 6 sites. Adjustments had to be made to the data collected to eliminate missing values or incomplete data. From the analysis it could be seen that both ICARDA and CIMMYT nurseries had material that performed well at all sites. The outstanding lines from the trials were Australian checks Mace and Emu Rock, and the CIMMYT line 56:ZWB13.

Mark also mentioned that a PhD student at the University of Queensland is doing a 5 year analysis from the CAIGE data collected, and is seeking to obtain marker data from CIMMYT for the lines tested in the field to help with the analysis. Richard Trethowan said that the data should be sent from CIMMYT in the next few weeks. However upon further investigation by Sandra Micallef about the availability of this marker data, it has been determined that it will not be

possible for the CAIGE project to have the data by the time required for the analysis, as most of the marker data available is only for landraces and not for nursery lines. CIMMYT did agree to include those materials required by CAIGE in future genotyping.

[Dr Mark Dieters's Presentation](#)

**5) CIM00015 project: Enhanced delivery of CIMMYT germplasm to Australia – Julie Nicol on behalf of Ravi Singh (CIMMYT-Mexico)**

Dr Julie Nicol delivered a presentation on behalf of Dr Ravi Singh, who could not attend the meeting. Ravi's presentation focused on how his team have met the output milestones in delivering the required material to Australia. In 2014, CIMMYT sent 311 lines for evaluation in Australia:- 166 from the international trials and nurseries, 94 lines selected by Australian breeders, 17 lines from the crossing block and 34 lines with special traits. Accompanying this material was also data collected by CIMMYT on grain yield performance from 6 environments, agronomic and phenotypic data. From the results shown, it was evident that there has been significant progress in increasing grain yields under irrigated, drought and heat stress environments.

[Dr Ravi Singh's presentation](#)

**6) Identification and utilization of novel sources of resistance to crown rot and the root lesion nematodes in adapted spring and durum wheat – Amer Dababat (CIMMYT-Turkey)**

Dr Dababat's presentation detailed the methods used in Turkey for screening of crown rot and root lesion nematodes. Between 2013 and 2014, 265 spring wheat lines and 208 durum wheat lines were screened for Cr and RLN. In addition another 30 lines from the Crown Rot Initiative project and 82 Australian varieties, were screened against Cr under different environmental conditions. The lines identified with good resistance will be sent to Australia if they haven't already been sent with other shipments. The lists of spring and durum wheat with good Cr and RLN resistance can be found on the CAIGE website under "Soil Borne Pathogens" in the PROJECTS section.

[Dr Amer Dababat's presentation](#)

**7) Spring Bread Wheat Breeding at ICARDA – Richard Trethowan on behalf of Tadesse Wuletaw (ICARDA)**

Dr Wuletaw's presentation gave an update of the activities carried out at ICARDA in 2013-2014. A total of 2000 crosses were made in Terbol (Lebanon) while yield trials were carried out in Morocco, Egypt, Lebanon and Sudan. International nurseries and yield trials were distributed to more than 40 countries in the CWANA (Central and Western Asia and Northern Africa) region on request from the NARS (National Agriculture Research Systems). Tadesse's presentation also showed results from the trials in Morocco, Egypt, Sudan and Ethiopia.

[Dr Tadesse Wuletaw's presentation](#)

**8) Barley CAIGE project – Mark Dieters (University of Queensland)**

Dr Mark Dieters, who is the project leader for the Barley CAIGE project, gave a presentation with updates on the barley material received from ICARDA. The project will import up to 150 selected barley lines and landraces from the ICARDA each year, and all information and data pertaining to these lines will be made publically available through the CAIGE project website. Currently ICARDA is moving all the collection from Syria to Morocco, and is also making significant investments to upgrade infrastructure and research stations in Morocco in partnership with IRNA Morocco. In 2015, there will be 8 yield trials for the imported barley. The details of these trials will be discussed at the Barley breeders meeting on the following day. In addition to the yield trials, there will also additional phenotyping done for scald, net and spot blotch, powdery mildew and leaf rust.

A group of barley breeders visited ICARDA in Morocco in April 2014. This trip was organised and partially funded by the CAIGE project.

[Dr Mark Dieters's Presentation](#)

**9) Mining barley genetic resources and elite germplasm for useful traits – Mark Dieters on behalf of Ahmed Amri (ICARDA, Barley)**

Dr Amri's presentation listed the activities of the ICARDA barley program in Lebanon, Tunisia and Morocco. Some of these activities include evaluation and characterization of landraces, and the development of FIGS sets for drought, frost, powdery mildew and net blotch resistance. In 2014, 90 lines were selected from the barley program and sent to Australia. There are plans to genotype all the FIGS sets and breeding lines using SNPs platform, and this data will be available to the CAIGE project.

[Dr Ahmed Amri's Presentation](#)

**10) Breeders' visit to CIMMYT – Daniel Mullan (Intergrain)**

Dr Daniel Mullan from Intergrain, gave a presentation about his experience on the visit to CIMMYT in 2014. Participating in the tour were Ian Edwards, Dan Mullan, Alan Rattey, Anke Martin, Richard Trethowan, Sandra Micallef and Meiqin Lu. Unfortunately Bertus Jacobs was taken ill and could not join the tour as was planned. On the first day of the tour the Australian breeders had a look at an irrigated site, and a drought stressed site where good levels of selections were observed. In the following days, the breeders made selections from the CIMMYT fields, and also visited sites with Dr David Bonnett and Dr Matthew Reynolds. On a visit to the breeding program being run by Dr Rajaram Singh, it was noted that the material was noticeably shorter with a dominant Californian parentage. In the coming years, Rajaram will select 50 lines from his program to send to Australia. The first 50 lines have been received and will enter post-quarantine build up in 2015.

[Dr Daniel Mullan's presentation](#)

**11) Quarantine project – Greg Grimes (AWCC, DPINSW)**

Mr Greg Grimes gave a summary of the lines which are currently in quarantine, for bread wheat, durum wheat, barley and pulses including chickpeas. From now on, all material coming out of quarantine will be sent to AGG (Australian Grains Genebank) first and then sent to the breeders for seed increase. The CAIGE nurseries for wheat and durum will be sent to PBI Narrabri while the barley nurseries will be sent to Mark Dieters. All lines should be released from quarantine by the end of May and ready for distribution by mid-June.

[Greg Grimes presentation](#)**12) AGG update – Dr Sally Norton (AGG, VICDPI)**

Sally Norton introduced herself to the audience and explained the function of the AGG in the CAIGE project. The AGG will distribute material under the CAIGE project with 'new' sMTA documentation drawn up. The content of the sMTA remains the same, but will be managed by AGG. Each organisation receiving CAIGE material needs to identify an authorised signatory to sign the sMTA. The current sMTA will cover all CAIGE material imported until the end of the current CAIGE project, i.e. June 2018. This means that parties signing the sMTA will be entitled to receive any CAIGE material (even past imports) until this date. If the CAIGE project renewed after this date, a new sMTA will be drawn up to reflect the date extension. This system will avoid each recipient having to sign for each delivery of CAIGE material throughout the period covered by the sMTA. Sally stressed the point that nothing in the sMTA has changed – the only difference is that it is bound by an 'end date' which reflects the duration of the current project contracts. The sMTA documentation will be sent to all recipients ahead of seed distribution in April 2015. All parties are asked to return the signed documents as soon as possible.

[Dr Sally Norton's presentation](#)**13) Discussion****a) 2015 CAIGE Wheat Yield Trials**

The discussion session started with the topic of this year's yield trials. In 2014, the seed increase at Narrabri was very successful and produced enough seed for multiple trials with multiple replicates. However, it is important that the trials are kept at a manageable size for the breeding companies. There was a consensus by all breeders that they prefer to have a greater diversity in the trial rather than number of replicates. The outcome of the discussion was that the trial size would be limited to around 400 plots. The locations chosen by the breeders are as follows:-

- o USYD : Narrabri
- o AGT: Northstar
- o AGT: Roseworthy
- o Bayer: Horsham (Kalkee)
- o LPB: Junee
- o Intergrain: Mukinbudin
- o EdStar Genetics : Toodyay

The variety checks to be used in the trials are :

- |               |                    |
|---------------|--------------------|
| o Axe         | o Scout            |
| o Crusader    | o Suntop           |
| o EGA Gregory | o Yitpi            |
| o Emu Rock    | o Cham6            |
| o Gladius     | o Waxwing*2/Tukuru |
| o Livingston  | o Attila-7         |
| o Mace        | o Borlaug 100      |
| o Magenta     |                    |

*Dharwhar Dry was removed from list*

Bertus Jacobs made a comment that the seed packets should have the minimum identification information on the packet, as this will make it easier to read. The seed for the trials will be sent to

the breeding companies in the coming weeks.

**Action Point: Sandra Micallef, Sally Norton, Brett Lobsey**

**b) Barley Yield Trials and Disease screening for 2015**

Dr Mark Dieters, who had to step out of the meeting to attend the Barley breeders meeting, informed the group of the decisions taken by the barley breeders for the yield trials of 2015. There will be 8 trials for CAIGE barley:-

- Uni of Adelaide: 2 trials (Pinery, Geranium)
- Intergrain: 2 trials (Wongan Hills, Horsham)
- AGT: 2 trials (Roseworthy, Edgeroi)
- EdStar Genetics : 1 trial (Toodyay)
- UQ: 1 trial (Kingsthorpe)

Disease screening will be carried out by Ryan Fowler at Warwick (DAFQ). Other disease screening will be done by:-

- Scald – Hugh Wallwork
- Spotform net blotch – Mark McLean
- Rust – Davinder Singh
- Heat – Mark Dieters

**Action point: Mark Dieters, Brett Lobsey, Sally Norton**

**c) Durum**

In 2014 post-quarantine durum seed will be sent directly to the durum breeders for seed increase. (Gururaj Kadkol, Tom Kapcejevs and Jason Able). However, the individual seed increases were not successful and did not produce enough seed for trials. This year, the seed coming out of quarantine will be increased by USYD at PBI Narrabri. Tom and Gururaj who were present at the meeting, both agreed that this is a good plan.

**Action point: Sandra Micallef, Richard Trethowan to coordinate seed increase at Narrabri**

**d) SAGI – Statistical Analysis for the Grains Industry**

From this year, the yield trial designs and analysis will be done by the SAGI group led by Dr Brian Cullis. Dr Cullis was present at the meeting and gave some information about the funding from GRDC to perform the analysis. Richard Trethowan said that there are 2 levels of analysis that will be required by the CAIGE project:- 1<sup>st</sup> level is the analysis from each year's trials and the 2<sup>nd</sup> level is the analysis across the last 5 years.

A meeting between Richard and Brian will be set up to discuss the details and time frames required for the trial designs and analysis, each year.

**Action point: Richard Trethowan, Brian Cullis**

**e) Australian Breeders' tour**

Richard Trethowan asked the breeders present whether they see any value in changing the routine visit to CIMMYT in Obregon, and visit the rust nurseries in Kenya and Ethiopia instead. James Edwards asked what time of year is the best to see the rust expression in these sites. The best time would be either March or September-October. Both of these time lines are busy periods for the Australian breeders and would find it difficult to be away from their work for a length of time. Another comment was that the advantage of visiting Obregon, is meeting other international breeders who visit CIMMYT at the same time, and that there is a larger variety of germplasm to look at. The outcome of the discussion was that the breeders agreed that Obregon is still the preferred location to visit.

**f) CAIGE website**

The CAIGE website will be reorganised to reflect the inclusions of the additional crops (barley, durum and chickpeas). The main page will have 4 different icons, one for each crop. The plan is to have a relational database on the website with search tools for users. The BMS (Breeding management system) is being evaluated to confirm whether it meets the CAIGE website requirements.

**Action point: Sandra Micallef**

**g) Shipment of Australian lines to Turkey**

A shipment of Australian lines is being sent to Dr Amer Dababat in Turkey. Each time CIMMYT-Turkey receive a shipment, they have to pay a large amount of taxes/fees, so they are asking to consolidate just one shipment with all the lines that the Australian breeders want to send to Turkey, to minimise CIMMYT's importation costs. Dr Julie Nicol will coordinate the delivery of this shipment together with PBI Narrabri and the University of Sydney. An email will be sent to all breeders and prebreeders by the end of March.

**Action point: Julie Nicol, Richard Trethowan**

Julie also gave a short demonstration of the soil borne pathogen data available on the CAIGE website. She said that a lot of effort and work has gone into amalgamating data from a number of trials and disease screenings, for the set of lines identified by Dr Amer Dababat as being Cr and RLN resistant. This information is valuable and breeders should take note of it.

**h) Next Annual Meeting**

The next CAIGE annual meeting will be held in March 2016 during the Wheat Breeders' Meetings week. Location to be advised.

The meeting closed at 12.30pm.