ACPFG Annual Research Meeting Salinity
16th to 18th November 2009 Program

MONDAY 16TH NOVEMBER
FIELD AND YIELD

09:00 Welcome
09:15 Saline soils
   Pichu Rengasamy (University of Adelaide)
09:45 The economic impact of salinity
   Mike Ewing (CRC Future Farm Industries)
10:15 Salinity tolerance in barley – a breeder’s perspective
   Stewart Coventry (Barley Breeding Australia)
10:45 **Morning tea**
11:15 Breeding for salinity tolerance in barley
   Meixue Zhou (Univ Tasmania)
11:45 Field studies of salinity tolerance in wheat
   Tim Setter (DAFWA)
12:15 Field studies of salinity tolerance in Indian wheat, rice and pulses
   S K Sharma (Central Soil Salinity Research Institute, Karnal)
12:45 **Lunch**
13:45 Breeding for salinity tolerance using synthetic wheats
   Francis Ogbonnaya (ICARDA)
14:15 Large scale field selections in Dubai
   Nanduri K. Rao (International Centre for Biosaline Agriculture)
14:45 Field measurements of salinity tolerance in South Australia
   Glenn McDonald (University of Adelaide)
15:30 **Afternoon tea**
16:00 Oral Presentations
16:45 Poster session
17:30 Conclusion
18:00–19:00 Lord Mayor’s Reception, Adelaide Town Hall

TUESDAY 17TH NOVEMBER
PHYSIOLOGY & TRAIT DISSECTION

09:00 The Plant Accelerator and dissection of salinity tolerance traits
   Mark Tester (ACPFG)
09:30 Using imaging of growth and death through time to separate components of salinity tolerance
   Karthika Rajendran (ACPFG)
10:00 Interactions of salinity with waterlogging
   Tim Colmer (University WA)
10:45 **Morning tea**
11:15 Thermal imaging screening to identify variation in osmotic tolerance
   Richard James (CSIRO Plant Industry)
11:45 Na⁺ transport and tolerance in wheat
   Rana Munns (CSIRO Plant Industry)
12:15 Na⁺/B interactions
   Andre Lauchli (UC Davis)
12:45 **Lunch**
14:00 The role of Cl⁻ toxicity in wheat.
   Yash Dang (Qld DPI)
14:30 The role of Cl⁻ exclusion in salinity tolerance of Lotus species
   Natasha Teakle (University WA)
15:00 The role of root K⁺ transport in salinity tolerance of barley and wheat
   Sergiy Shabala and/or Tracey Cuin
   (University Tasmania)
15:30 **Afternoon tea**
16:00 Talks selected from posters
17:00 Conclusion
18:30 Symposium dinner – Jolley’s Boathouse for 19:00 start
WEDNESDAY 18TH NOVEMBER
GENES AND MACHINES

09:00  Genetics, genomics and gene discovery in barley
Robbie Waugh (SCRI)

09:45  Discovery of genes related to salinity tolerance in wheat
Mike Francki (DAFWA)

10:15  Water transport and control of water channels
Steve Tyerman (University Adelaide)

10:45  Morning tea

11:15  Na⁺ transporters and engineering salinity tolerance
Maris Apse (Arcadia)

11:45  Two intracellularly-localised Arabidopsis Na⁺/H⁺ antiporters act redundantly to regulate plant
development
Anthony Gendall (La Trobe University)

12:15  Epigenetic control of salinity tolerance
Anna Amtmann (Glasgow)

13:00  Lunch

14:00  Transcriptional profiling in single cell types
Alex Johnson (ACPFG)

14:30  Metabolomic profile changes in response to salt stress
Ute Roessner (ACPFG and Metabolomics Australia)

15:00  The role of Ca sensing proteins and protein phosphorylation in salinity tolerance
Sheng Luan (UC Berkeley)

15:30  Afternoon tea

16:00  A novel protein kinase involved in Na⁺ exclusion
revealed from positional cloning
Stuart Roy (ACPFG)

16:30  Concluding summary
Mark Tester (ACPFG)

17:00  Conclusion

Australian Plant Phenomics Facility Introductory Workshop

How CAN The Plant Accelerator address biological problems?
19th November 2009

The aims of this one day workshop are:

• To introduce researchers to current applications of The Plant Accelerator’s capabilities
• To develop ideas interactively for new experiments and new ways to benefit from this new facility
• To help people conceive and design experiments using The Plant Accelerator
• To encourage researchers to undertake preliminary experiments to learn the Facility’s capabilities and obtain preliminary results to support grant applications.

Ideal number of participants: A maximum of 20 participants will facilitate discussions

Target audience: Graduate students and post-docs – group leaders welcome, too!

The day will start with a small number of talks outlining:

• The overall capability of the Facility
• Some specific experiments that have been undertaken with the Facility’s equipment
• The central importance of data management and analysis

We then envisage breaking up into small groups of people with common interests and problems to ‘workshop’ ideas for a couple of hours, then groups report back to the overall group, before breaking out again for further more detailed discussions, perhaps with group compositions changing at this stage.

The day will then be pulled together to try to synthesise the outputs of the discussions and discuss plans for future work in The Accelerator.