



President: Professor Peter Shewry BA, BSc, PhD, DSc

Crop Breeding over 10,000 Years; Lessons for current and future challenges

**A one day conference at the
NIAB Innovation Farm, Cambridge
on 7 October 2013**

Programme and Booking Form

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The evolution of crops reflects the evolution of human cultures and their responses to new environments and new edaphic and climatic challenges. The consequent changes in crop genomics is of considerable interest, but of further interest is whether we can utilise this knowledge to assist in overcoming current and future problems of coping with edaphic and climatic changes, whilst achieving greater sustainability commensurate with diminishing resources, for example of water and nutrients.

A greater understanding of past changes in crops and how they occurred may help modern researchers source cropping lineages and develop strategies to assist in these aims.

PROGRAMME

Monday 7 October

09:00 Conference Registration & Coffee

09:45 **Introduction**
HUW JONES (NIAB, Cambridge)

09:50 **Genetic diversity and environmental niche modelling of wild barley in the Fertile Crescent and Central Asia**
JOANNE RUSSELL (The James Hutton Institute, Dundee, UK), MAARTEN VAN ZONNEVELD (Bioversity International, Regional Office for the Americas, c/o CIAT, Cali, Colombia), IAN K DAWSON, ALLAN BOOTH, ROBBIE WAUGH (The James Hutton Institute, Dundee, UK) & BRIAN STEFFENSON (Dept of Plant Pathology, University of Minnesota, St. Paul, MN, USA)

10:10 **Nutrient content in wheat and the NAM-B1 gene – A story of domestication and crop improvement**
MATTI W LEINO (Nordiska museet/Swedish Museum of Agriculture, Julita, Sweden; IFM-Biology, Linköping University, Linköping, Sweden)

10:30 **Historical analysis of the effects of breeding on the height of winter wheat (*Triticum aestivum*)**
SARAH KENDALL (ADAS Gleadthorpe, Mansfield, Notts, UK), PETE BERRY (ADAS High Mowthorpe, N Yorks, UK) & SIMON GRIFFITHS (John Innes Centre, Norwich, UK)

10:50 COFFEE

- 11:20 **Food Globalization in Prehistory: Adaptation and Spread of Cereals across East-West Contact Routes**
HARRIET HUNT, DIANE LISTER, JAMES COCKRAM, HUW JONES & MARTIN JONES
(NIAB, Cambridge)
- 11:40 **Beans There. Do that: (A little less perhaps than the full 10,000 Years): From Landraces or Ecotypes of *Phaseolus vulgaris* to modern use-determined varieties**
COLIN LEAKEY FSB (Visiting Professor, The University of Lincoln and Chairman Peas and Beans Ltd, Lincoln, UK)
- 12:00 **Adaptation to cultivation in a Swedish climate - a study of landrace field pea**
JENNY HAGENBLAD (IFM Biology, Linköping University, Linköping, Sweden)
- 12:20 **DISCUSSION**
- 12:30 **LUNCH**
- 13:00 **AGM OF THE ASSOCIATION OF APPLIED BIOLOGISTS**
(AAB Members and their guests)
- 13:45 **Ideas on how to engage with early-career scientists**
DISCUSSION WITH MEMBERS OF THE AAB COUNCIL
- 14:00 **We're to blame; The farmer as evolutionary force in weed communities**
DENISE GINSBURG & SARAH COOK (ADAS Boxworth, Cambs, UK)
- 14:20 **Has intensive breeding resulted in changes in the health benefits of wheat?**
PETER SHEWRY, JANE WARD, SAM REYNOLDS TILL PELLNY (Rothamsted Research, Harpenden, Herts, UK), MEHMET ULKER (Yuzuncu Yil University, Agricultural Faculty, Van, Turkey) & ALISON LOVEGROVE (Rothamsted Research, Harpenden, Herts, UK)
- 14:40 **Title to be confirmed**
R G ALLABY (University of Warwick, Gibbet Hill, Coventry, UK)
- 15:00 **TEA**
- 15:30 **Effect of breeding on pattern of phenotypic plasticity in two *Amaranthus caudatus* cultivars**
WISDOM SOHUNAGO JAPHET & OBINNA JESSICA CHINENYE (Department of Biological Sciences, Ahmadu Bello University, Zaria, Nigeria)

Poster

Old World grain legume crop breeding over the last ten millennia

ALEKSANDAR MIKIĆ (Institute of Field and Vegetable Crops, Maksima Gorkog, Novi Sad, Serbia)