

**P0813****ClimBar: An Integrated Approach to Evaluate and Utilize Genetic Diversity**

Alan H. Schulman , LUKE & University of Helsinki, Helsinki, Finland
Søren K. Rasmussen , University of Copenhagen, Frederiksberg, Denmark
Menachem Mosehion , The Hebrew University of Jerusalem, The Robert H. Smith Faculty of Agriculture, Food and Environment, Rehovot, Israel
Eyal Fridman , Institute of Plant Sciences, Agricultural Research Organization (ARO), The Volcani Center, Bet Degan, Israel
Alessandro Tondelli , CRA - Genomics Research Centre, Fiorenzuola d'Arda, Italy
Luigi Cattivelli , CREA Genomics Research Centre, Fiorenzuola d'Arda, Italy
Tamas Dalmay , University of East Anglia, School of Biological Sciences, Norwich, United Kingdom
Laura Rossini , University of Milan - DiSAA, Milano, Italy
Ernesto Igartua , Estación Experimental de Aula Dei , CSIC, Zaragoza, Spain
Ana Casas , Estación Experimental de Aula Dei, CSIC, Zaragoza, Spain
Santiago Beguería , Estación Experimental de Aula Dei , CSIC, Zaragoza, Spain
Patrick Schweizer , Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Stadt Seeland, Germany
Robbie Waugh , The University of Dundee at JHI, Invergowrie, Dundee, United Kingdom
Bill Thomas , The James Hutton Institute, Dundee, United Kingdom
Joanne Russell , James Hutton Institute, Invergowrie, Dundee, United Kingdom

European agriculture anticipates an unprecedented combination of stress factors, production threats and quality needs due to climate change. Various regions of Europe will be affected differently. Barley & wheat domestication, and landrace formation in Europe, were under very different climates than those emerging now. Alleles needed for sustainable, resilient, quality yields in a changed climate are likely not combined in current haplotypes of elite barley cultivars. These alleles are likely found in diverse landraces and wild relatives in the Mediterranean basin and Fertile Crescent -- areas that prefigure expected climate change. New precision, high-throughput phenotyping tools are essential to find trait-allele associations needed for future-climate breeding. Combining genetics, genomics, modelling, molecular biology, morphology, and physiology, ClimBar takes an interdisciplinary approach to develop a strategy for breeding an increased resilience to climate change in barley. ClimBar, a new project under the framework of FACCE ERA-NET Plus Joint Programming Initiative on Climate Smart Agriculture, will identify genome regions, genes, and alleles conferring the traits needed to breed resilient barley varieties adapted to the climatic conditions predicted for 2070 in different European environments. Adapted, resilient germplasm created using ClimBar data, tools and models will provide food-chain security, economic stability and environmental sustainability.

Website: http://plen.ku.dk/english/research/plant_soil/breeding/quality/climbar/

Handouts

[ClimBar_poster_10_2015.pdf](#) (775.6 kB)

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