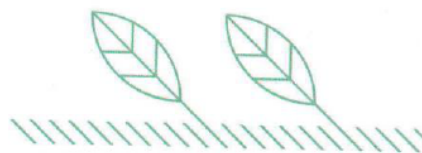




**Symposium**

**AGROBIODIVERSITY  
ALONG THE VALUE CHAIN**

December 4th - December 6th 2023



Sponsored by:



Visit the symposium website on [www.cropdivasymposium.eu](http://www.cropdivasymposium.eu).

Visit the project website on [www.cropdiva.eu](http://www.cropdiva.eu).

Dear participant,

It is our great pleasure to welcome you to Ghent (Belgium) on the occasion of the 1<sup>st</sup> international CROPDIVA symposium 'Agrobiodiversity along the value chain' (4<sup>th</sup> to 6<sup>th</sup> of December 2023). This international symposium aims to stimulate knowledge exchange and interactions between researchers and stakeholders interested in agrobiodiversity. The symposium covers a wide range of topics, organised in the following scientific sessions:

- Genetics: How they shape agrobiodiversity?
- The impact of cropping systems on agrobiodiversity
- Food and feed technology, drivers of change on agrobiodiversity
- Agrobiodiversity: the challenges and opportunities for socio-economic sciences

We are very pleased to welcome Prof Johan Six (ETH-Zürich), Prof Andreas Börner (IPK-Gatersleben) and Prof Carl Lachat (Ghent University) as keynote speakers. They will undoubtedly give inspiring lectures on the various aspects of agrobiodiversity.

We hope that this symposium will be a good opportunity to improve agrobiodiversity in the value chain.

We wish you a pleasant stay in Ghent and hope that you will enjoy not only the scientific program, but also the Belgian hospitality and the social activities we will organise.

Prof. Geert Haesaert

*Chairman of the symposium and coordinator of the CROPDIVA project*

### **Evaluation of naked (hulless) barley accessions for future breeding of healthy food barley for Europe**

**Edward Dickin**<sup>1</sup>, Ashley Roberts<sup>1</sup>, Ljiljana Brbaklic<sup>2</sup>, Radivoje Jevtic<sup>2</sup>, Susanne Vogelgsang<sup>3</sup>, Filippo Carmenati<sup>3</sup>, Matthias Hermann<sup>4</sup>, Andreas Börner<sup>5</sup>

<sup>1</sup>*Harper Adams University, Shropshire, UK*

<sup>2</sup>*Institute of Field and Vegetable Crops, Novi Sad, Republic of Serbia*

<sup>3</sup>*Agroscope, Zurich Switzerland*

<sup>4</sup>*Julius Kuhn-Institut, Quedlingburg, Germany*

<sup>5</sup>*Leibniz Institute of Plant Genetics and Crop Plant Research, 06466 Seeland, OT Gatersleben, Germany*

Naked (hulless) barley is a type of barley with free-threshing grains that is especially suited for human food. Barley is sadly overlooked as a food in Europe, despite its health properties, especially beta-glucan soluble fibre, and the barley crop needing lower inputs than wheat and its ability to grow in more marginal conditions expected due to climate change. Due to the small market for seed, naked barley has not been a priority for European plant breeders, but a wide diversity is available in the IPK genebank.

CROPDIVA partners tested 300 hulless barley accessions at three sites in Serbia, Switzerland and the United Kingdom. An augmented design was used with 10 standards - hulled and hulless barley varieties from all three countries and Germany, each replicated six times within each experimental site. Crop establishment was estimated using Canopeo at GS11, and crop biomass estimated at GS31 and GS59, also using Canopeo. Disease and lodging were scored, time to GS59 recorded, and grain yield and yield components measured. Post-harvest, beta-glucan concentration in the grain and the percentage of the grains threshing freely from the hull are the most important traits of interest.

There was a high degree of phenotypic diversity in crop height, ear type, grain colour etc. Many of the accessions were earlier heading, a potentially useful trait to cope with hotter summers. In the wet conditions in UK many accessions showed high levels of disease, especially powdery mildew, and there was some yellow rust, a disease rarely seen in spring barley due to high levels of resistance in commercial varieties. Yields were lower than the standards, showing the need for breeding to introgress the useful traits observed in this material into new food barley varieties for Europe.

Sponsored by:



**PANIFLOWER**  
Supporting Premium Bakers



**frontiers**

foto © HHG



The CROPDIVA project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°1010000847.