

Cereal Populations: Developing and growing site-specific cereal composite cross populations for the Federal State of Hessen, Germany

Weedon, O.¹, Vollenweider, C.², Spieß, H.² and Finckh, M.R.¹

¹University of Kassel, Department of Ecological Plant Protection, Nordbahnhofstr. 1a, Witzenhausen, 37213, Germany. Email: odetteweeton@uni-kassel.de

²Dottenfelder Bio-Saat GmbH, Dottenfelderhof 1, Bad Vilbel, 61118, Germany. Email: biosaat@dottenfelderhof.de

Changing and unexpected climate conditions challenge agriculture in many ways. These include extreme weather events, changing precipitation patterns and increasing biotic stresses. The conservation and development of plant genetic resources in order to cope with these stresses continues to play an increasingly important role, particularly for agriculture. The development of cereal Composite Cross Populations (CCPs) presents a novel way to improve and conserve genetic diversity at the farm level, allowing these CCPs to adapt to specific environments and their stresses.

This collaborative project is part of the agricultural European Innovation Partnership (EIP-AGRI), an initiative which aims to foster a competitive and sustainable agriculture and forestry sector in the EU at the regional level. The project is based in the Federal State of Hessen and involves Dottenfelder Bio-Saat GmbH as lead partner of the operational group, with four organic farmers, the marketing initiative MGH Gutes aus Hessen GmbH and Spielberger Miller as partners. The Department of Organic Plant Protection, University of Kassel, is involved as an associated partner. The project timeframe is from 2017 to 2021, with the first experiments to be sown in autumn of this year.

The main aims of the project are to:

1. Evaluate the suitability of winter wheat CCPs in farming systems within the Federal State of Hessen.
2. Test and improve the acceptance of products made from CCPs through the value chain involving farmers, processors, retailers, and end-consumers. In addition, a marketing concept will be developed in order to improve awareness and stimulate interest in CCPs and their novel products.
3. Improve breeding and development methods of CCPs specifically suited to agricultural conditions in the Federal State of Hessen, taking into account not only environmental and agricultural conditions, but also wider questions related to the adaptation and implementation of CCPs such as breeder compensation.