



## *Sorghum: the safe bet for the future*

# *Analyzing the genetic diversity and architecture of sorghum pollen viability under cold stress*

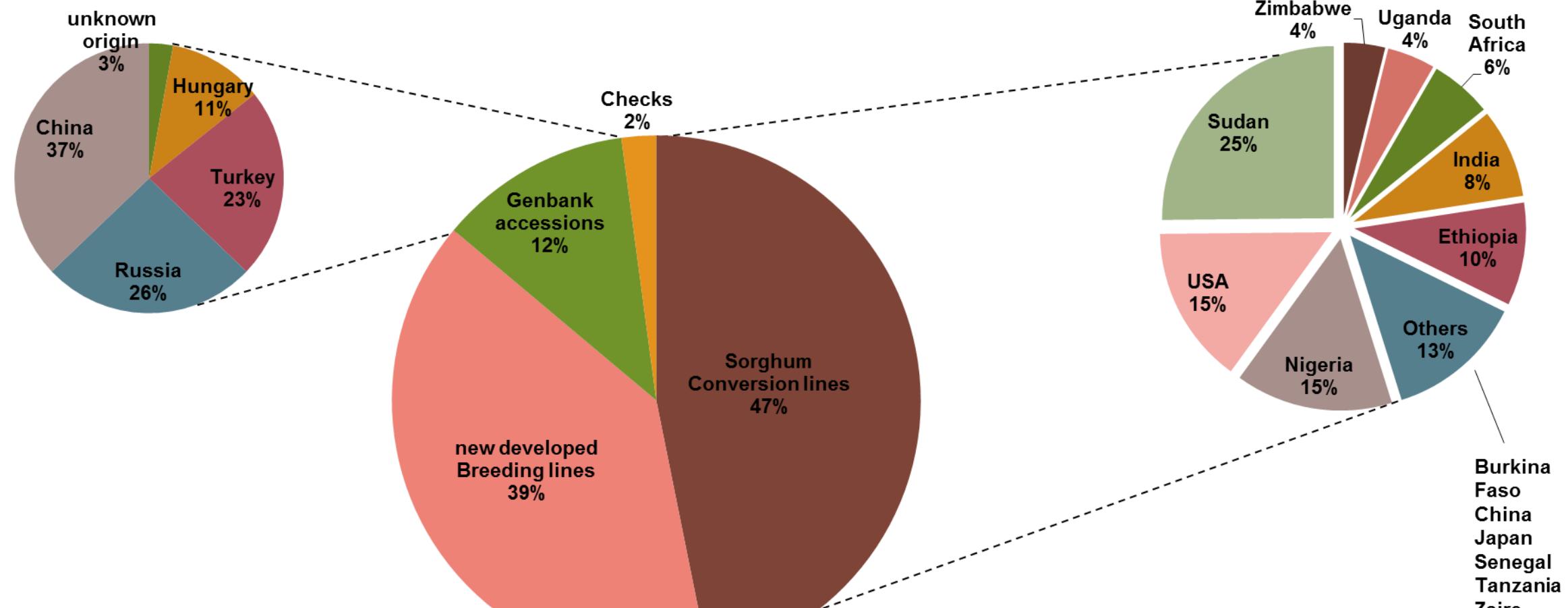
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# STRUCTURE OF THE SONABI DIVERSITY PANEL (N=328)



- Sorghum Conversion lines and breeding lines are genotyped with 3K Illumina SNP-Chip
- In the course of the SoNabi-project the whole diversity panel will be genotyped with a new 20K DArT-Chip

# SIX ENVIRONMENTS TO SCORE REPRODUCTIVE COLD STRESS



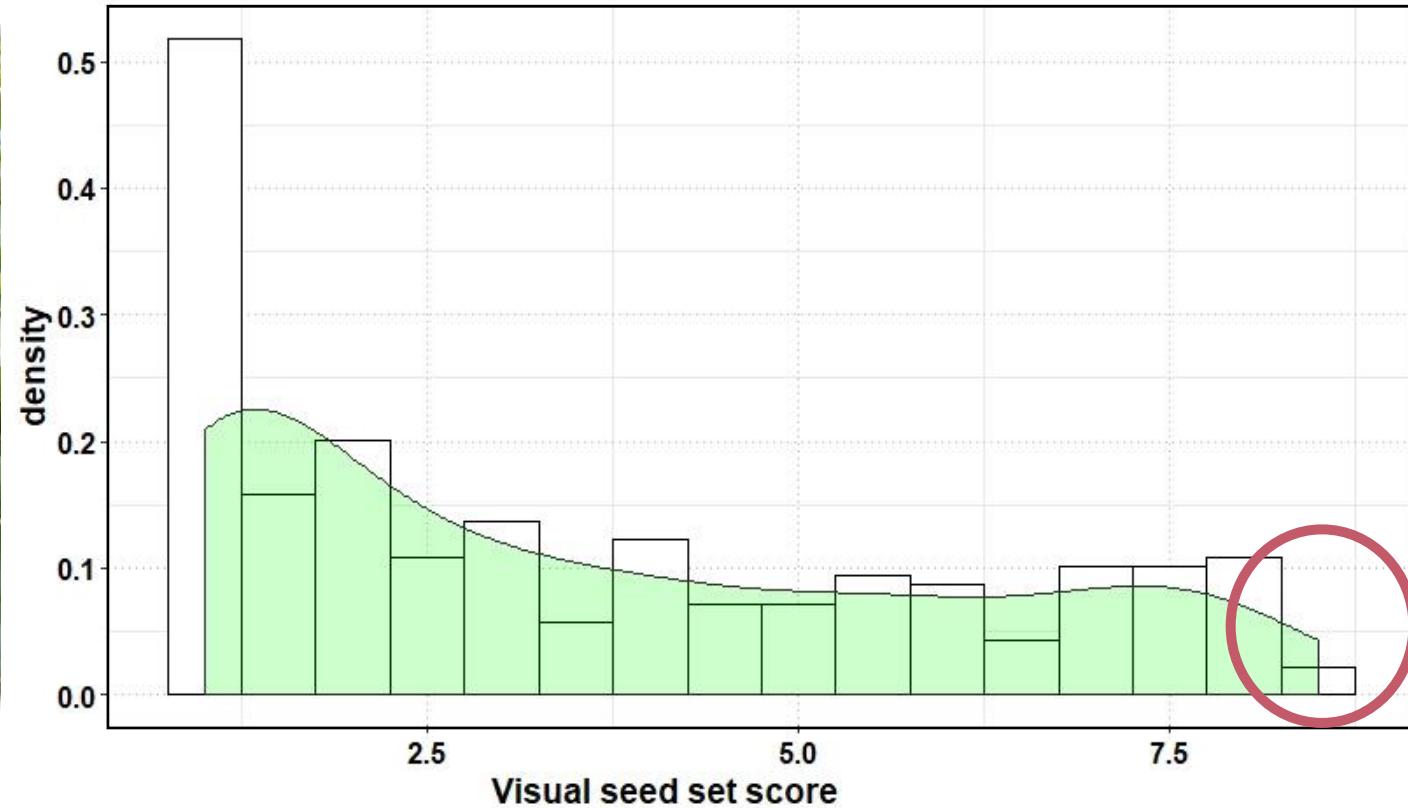
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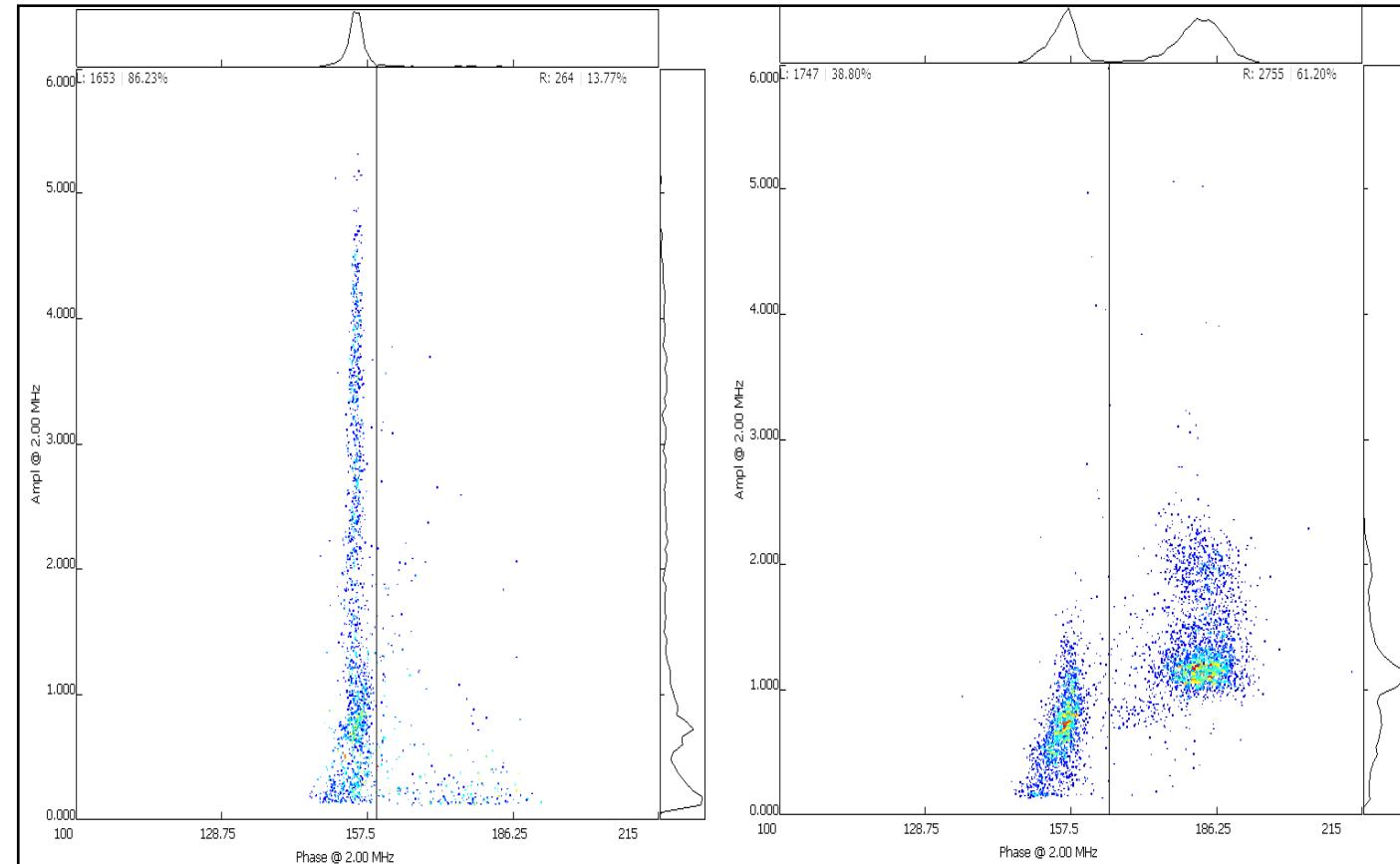
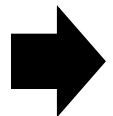
# REPRODUCTIVE COLD STRESS TOLERANCE

- Scoring seed set (visual score, Panicle Harvest Index etc.) as surrogate trait for pollen fertility
- Selecting the most tolerant lines of the diversity panel for breeding



# IMPEDANCE FLOW CYTOMETER

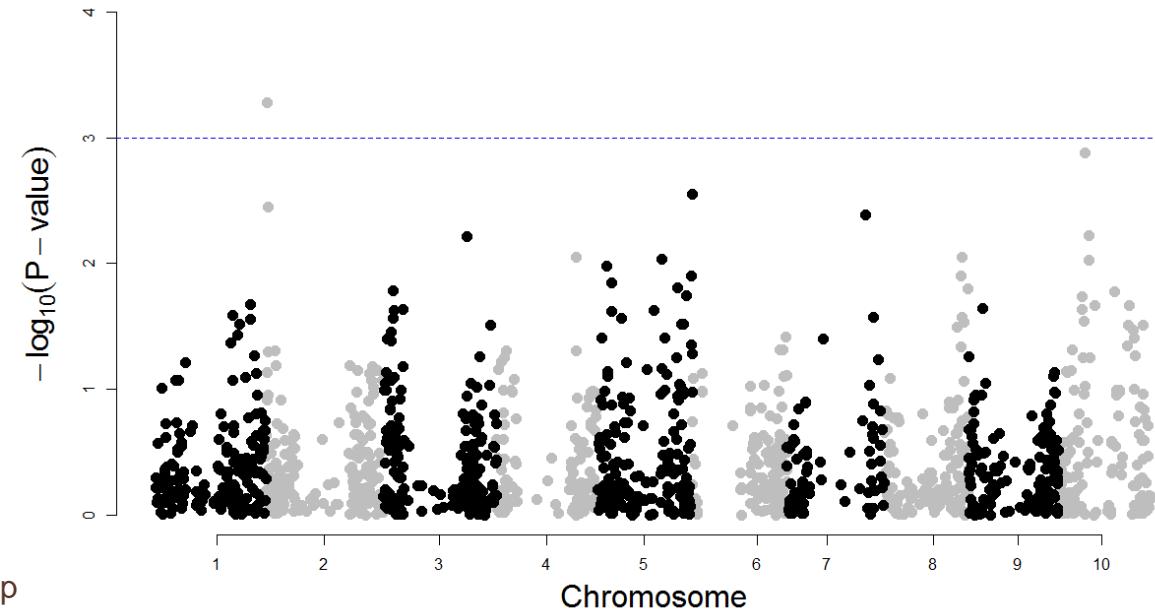
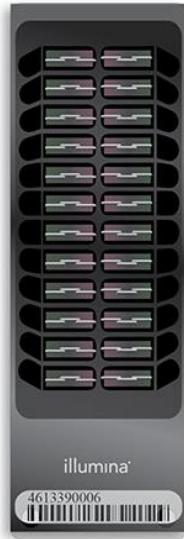
- *Verifying pollen viability under controlled and field conditions*



# OUTLOOK

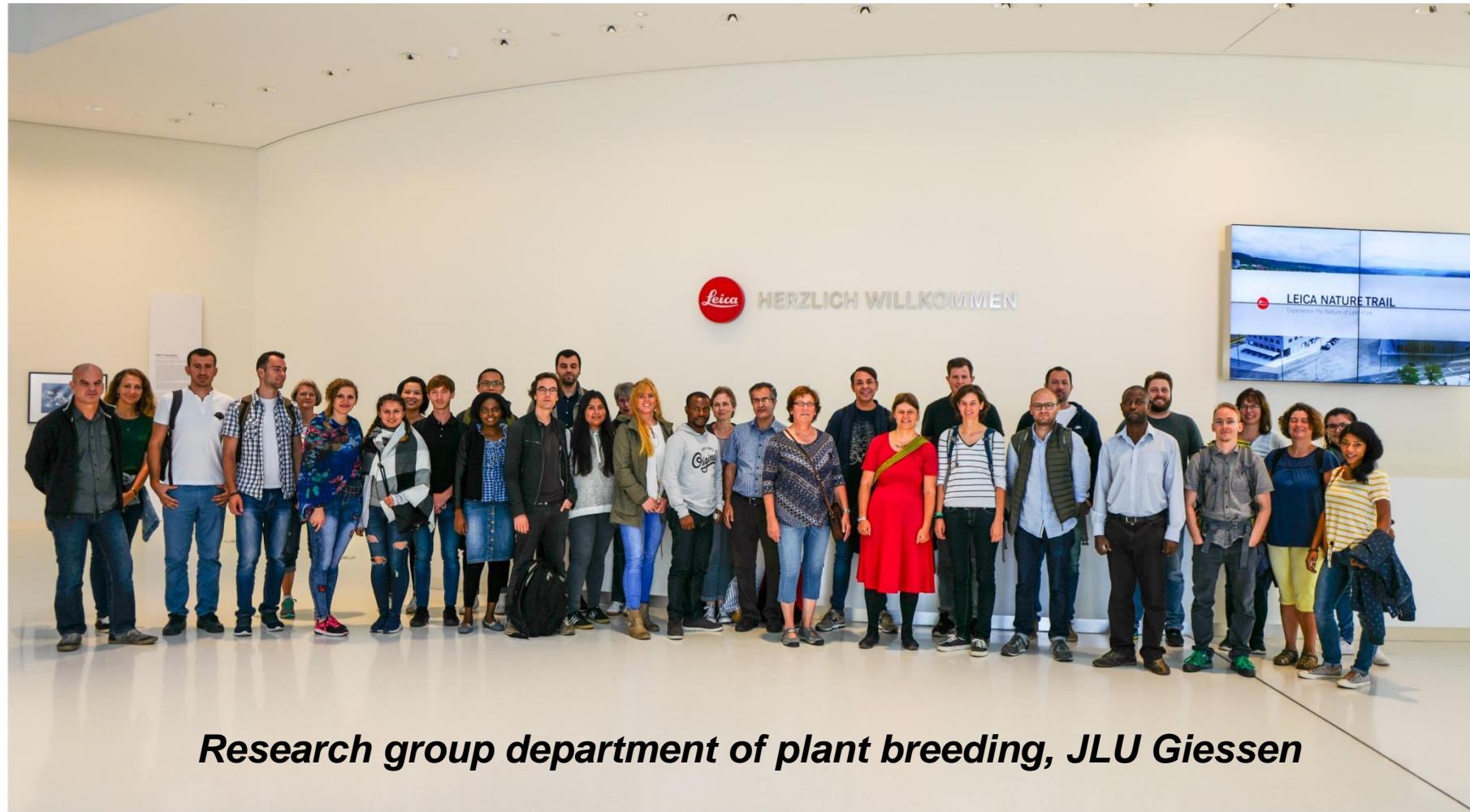
- Identification of genomic regions influencing reproductive cold tolerance and QTL-linked markers for efficient selection in breeding!

<https://www.illumina.com/products/by-type/microarray-sets/infinium-select-custom-genotyping.html>



Development of cold  
tolerant breeding lines

# ACKNOWLEDGEMENTS



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