



# Detecting drought response in Brassica crops using Solar Induced Fluorescence across scales

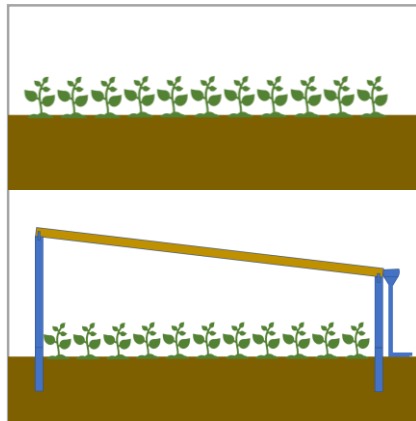
Theresa Sandmann<sup>1,2</sup>, Oliver Ihalainen<sup>3</sup>, Huaiyu Peng<sup>2</sup>, Patrick Rademske<sup>2</sup>, Agim Ballvora<sup>1</sup>,

Theresa Sandmann, Annaliese Mason<sup>1</sup>, Uwe Rascher<sup>2</sup>

<sup>1</sup>University of Bonn, Germany, <sup>2</sup>Forschungszentrum Jülich, Germany, <sup>3</sup>VTT Technical Research

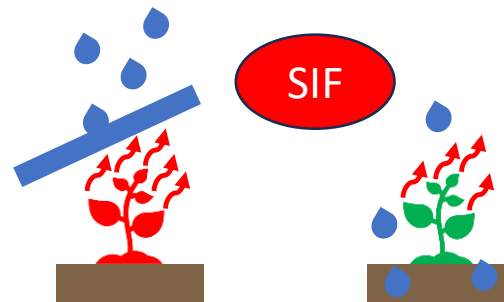
- Objective: 1. Detect early responses of reduced water availability in Brassica under field conditions  
2. Match high resolution SIF images to ground based data

## Use of five Brassica Genotypes

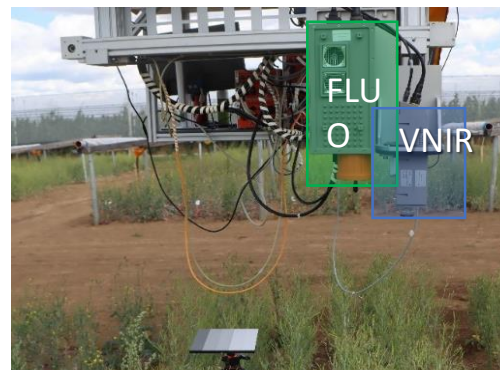


Sheltering fieldgrown plots from rainwater

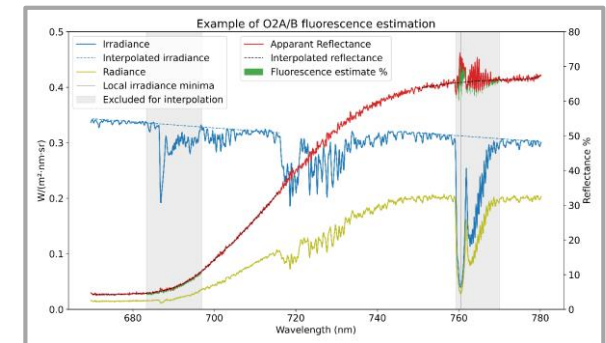
## Measuring SIF Signal under sheltered and rainfed conditions



On the ground and from an aircraft



## Estimation of SIF using the iFLD method



Sheltered Rainfed  
drought control

