# PHENOVIA a field experimental platform in Burgundy for WOSR phenotyping under low chemical inputs.

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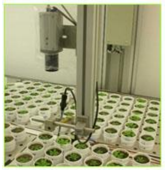
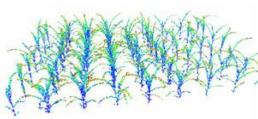
French Technical Institut for Oil Crops, pulses, and Hemp

PHENOME EMPHASIS
French Plant Phenomic Infrastructure

EMPHASIS



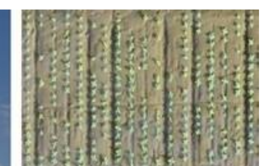
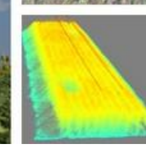
4 controled conditions

2 Omics

**National infrastructure project 2012-2024**
**11 Infrastructures**

2 field semi controled

3 field platforms

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# PHENOVIA : one of the field platform near Dijon (Burgundy)

- Located on INRA Farm of Bretenière :


- 120 ha
- 12 ha
- 4 fields
- 1000 µplots / year

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PHENOME French Plant Phenomic Infrastructure EMPHASIS

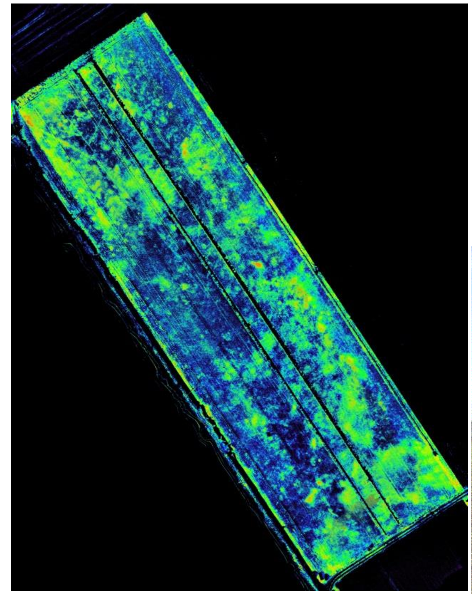
# Investments for a performing environment characterization and high throughput phenotyping tools

- **A top level Weather station**

- **Soil heterogeneity maps**
  - Resistivity,
  - Soil water content capacities
  - NDVI on non watered spring crop
  - Yield on non watered spring crop

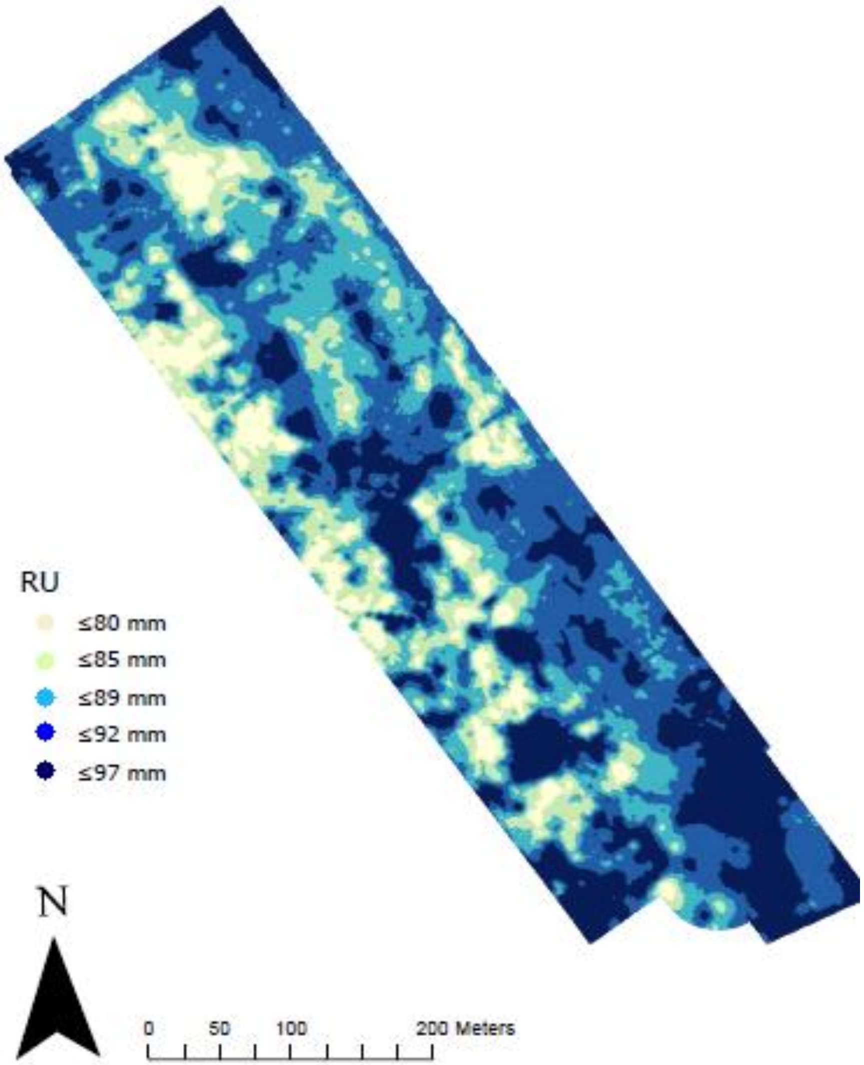
- **T°, wetness captors**
  - Soil (permanent or movable captors)
  - Canopy
  - Wireless data transmission

- **Irrigation facilities available**

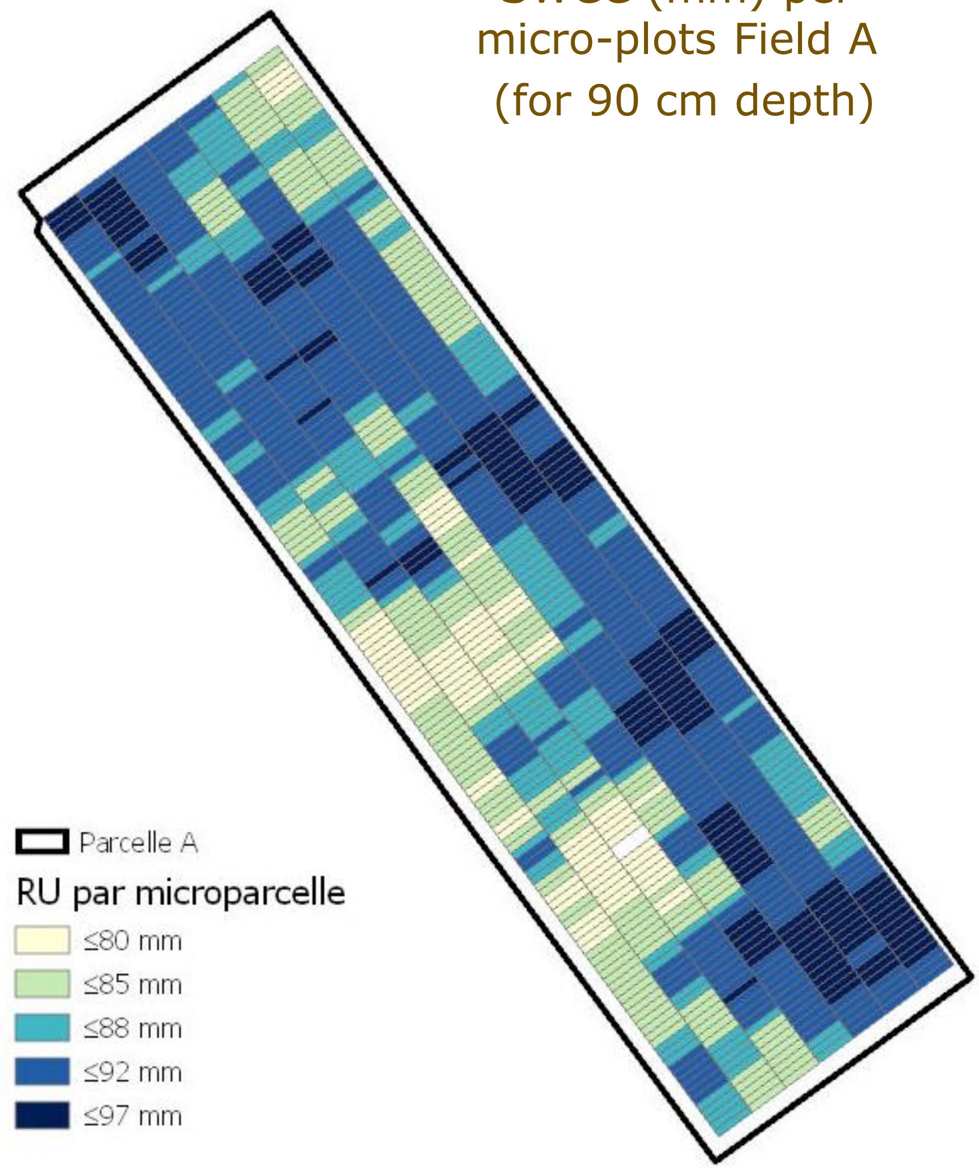


# Precise Description of soil water content capacities - Marc Janin (2018)

SWCC (mm) / Phénovia for a root system depth of 90 cm




SWCC (mm) per micro-plots Field A (for 90 cm depth)



# Phénotyping tools tested

Multiplex®

GreenSeeker®

ASD® FieldSpec 3

SunScan

RGB Sony


Caméra MS Airphen

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Infrastructure Française de Phénomique végétale

# Investments for a performing environment characterization and high throughput phenotyping tools

*Crop establishment*

- ✓ Vigour
- ✓ Speed of Soil covering
- ✓ Plant density

**Vegetative phase**

- ✓ growth
- ✓ Biomasse/ LAI

**Phenology**

- ✓ Flowering dynamic

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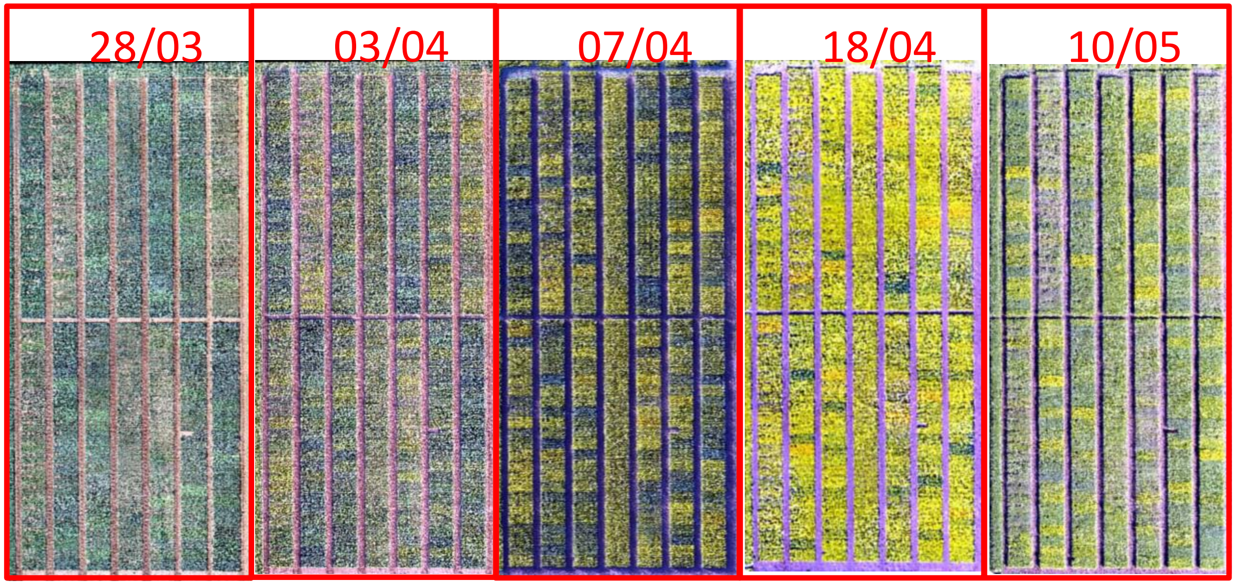
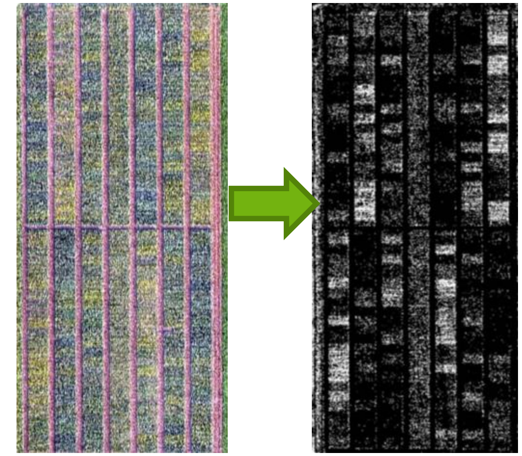
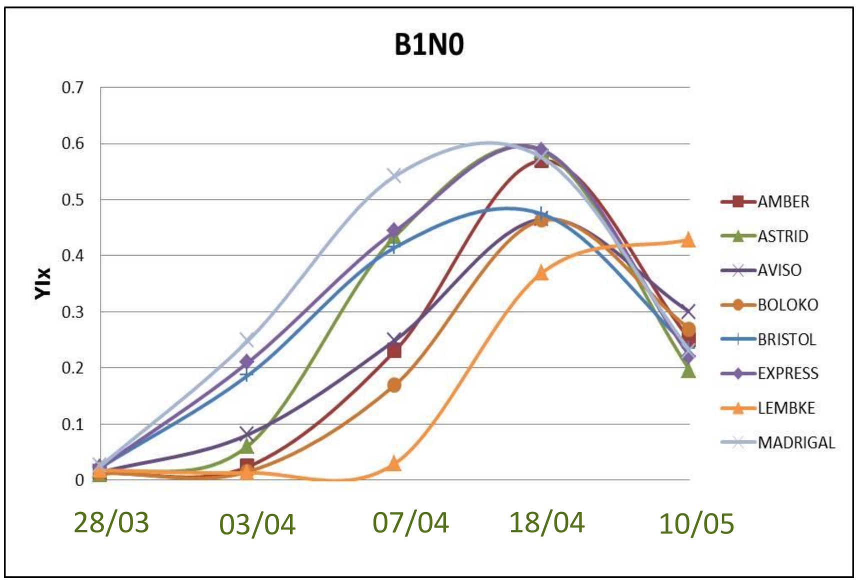
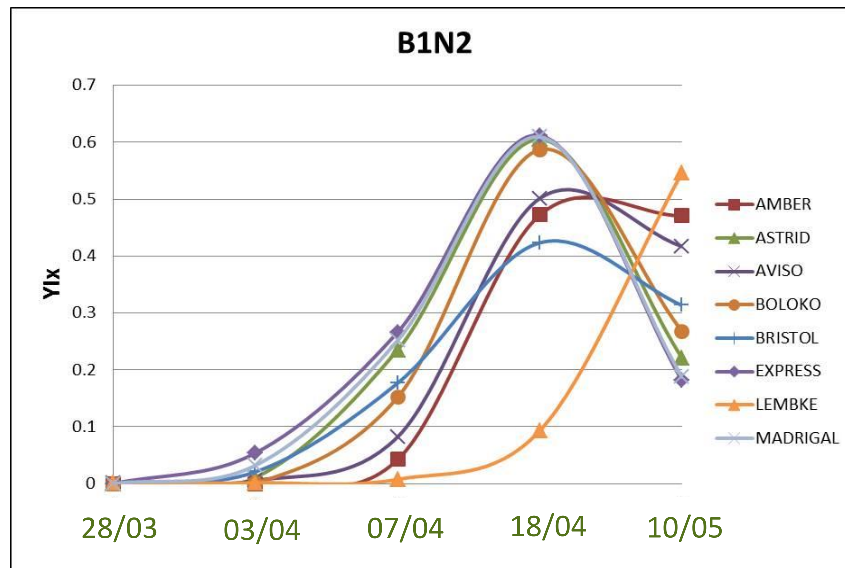



**2017**



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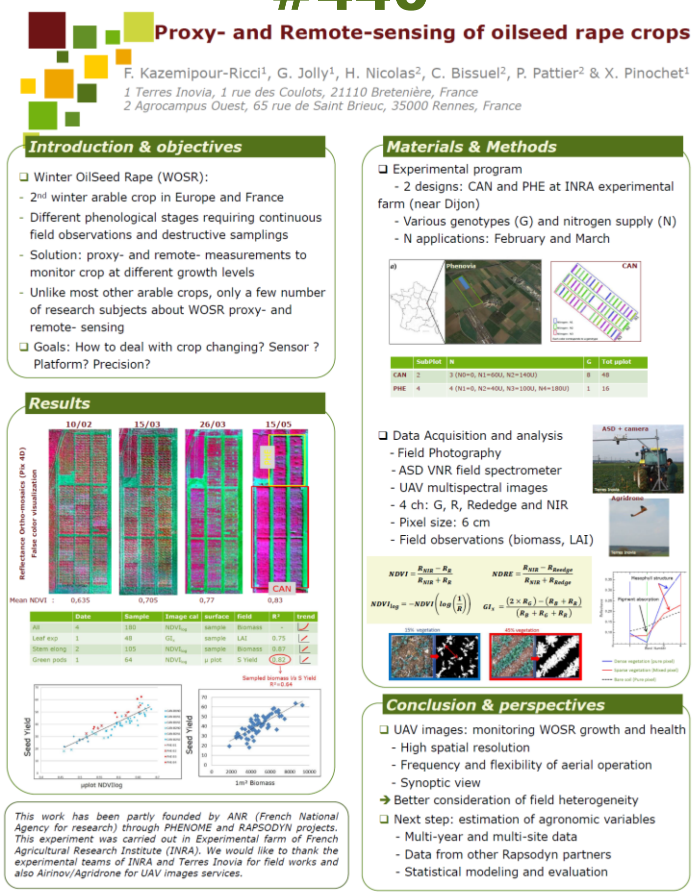
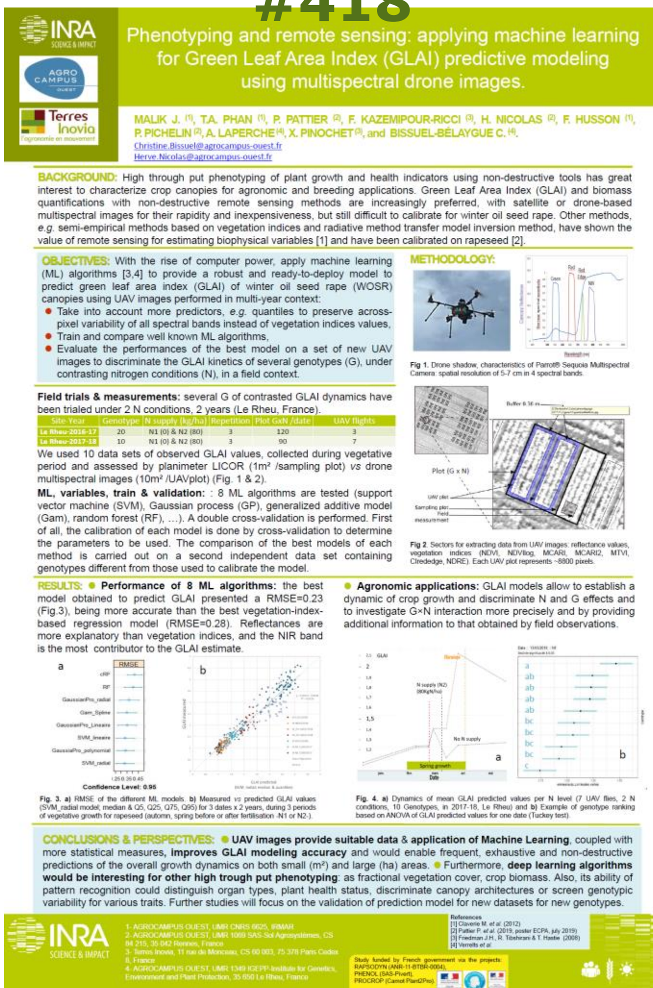
# Actually the main challenge is on data storage and processing

## Data processing in the framework of RAPSODYN project :

### #440




### #418



- **Phenovia :**

**Since 2012…**

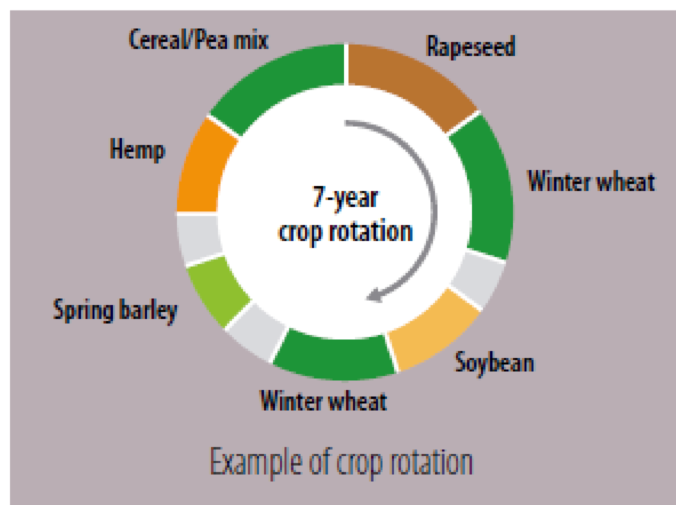
**more than 7000 µplots already done mainly for quantitative genetics**

**Oilseed rape, Soybean, Pea**

**2018 : The farm became the CA-SYS platform : Long term experimental platform on agro-ecology at various scales**

**CA-SYS : *C*o-disigned *A*groecological-*SYS*tem Experiment**

- **Multi-performant Agro- Systems**
- **Maximizing biological processes;**
- **Strong reduction of pesticides**
- **Longer rotations .**



## PHENOVIA takes the opportunity to focus on low chemical inputs plant/canopy phenotyping

- Plant nutrition /fertilization / Biostimulant expérimentations
- IPM strategies / Biocontrol of bioagressors tests
- Variety testing under low chemical inputs

- The platform is open to collaboration
  - We would be pleased to welcome your expérimentations
  - Open to collaborative projects
  - Ready to discuss your protocols

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# *Many thanks for your attention*

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