

# Training on organic cultivar testing, OV and OHM

Module 10: **Application of digital tools for data collection and sharing**

Unit 10.1: **Why is it important to apply digital tools for data collection and sharing?**

Author: **Gyöngyi Györéné Kis, PhD (ÖMKi)**



Co-funded by  
the European Union

Funded by the European Union, the Swiss State Secretariat for Education, Research and Innovation (SERI) and UK Research and Innovation (UKRI).



UK Research  
and Innovation

# About the module

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## Module 10: Application of digital tools for data collection and sharing

### Unit 10.1.

*This video shows*

**Why is it important to apply digital tools for data collection and sharing?**

### Unit 10.2.

SeedLinked platform overview

### Unit 10.3.

Tutorial for trial managers (and growers) on how to use SeedLinked

### Unit 10.4.

Giving example (from the USA and Italy)

### Unit 10.5.

Practical tips/ exercise how to do it

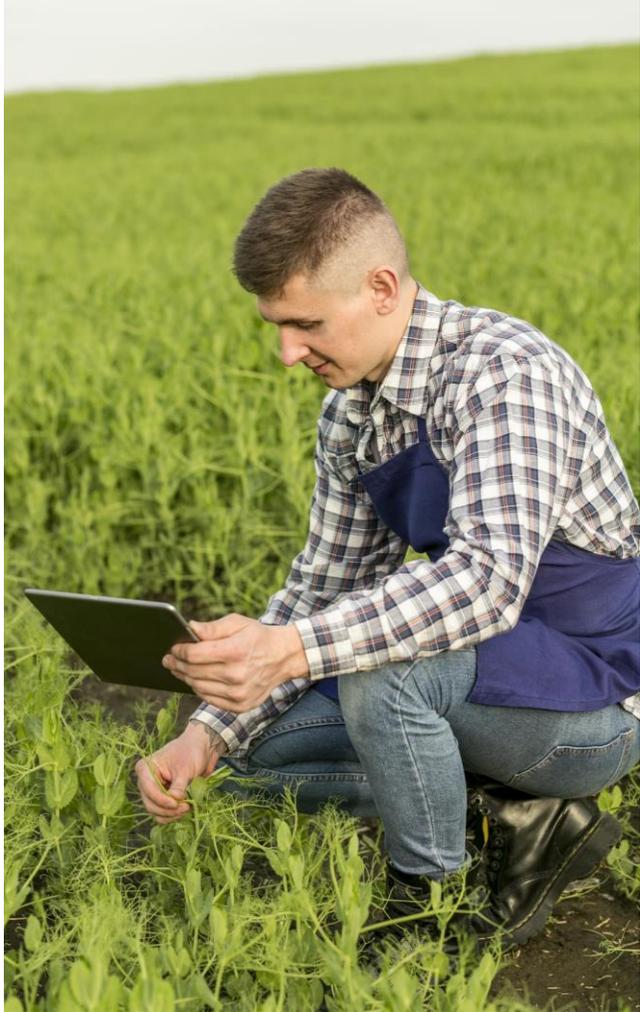
# Agenda

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1. Introduction
2. The Role of Digital Tools in Agriculture
3. Overview of Some Digital Tools
  - 3.1 *SeedLinked*
  - 3.2 *ClimMob*
  - 3.3 *iNaturalist*
  - 3.4 *Field Book*
  - 3.5 *BrAPI*
  - 3.6 *Datar*
  - 3.7 *Phenome Networks*
  - 3.8 *QuickTrials*
  - 3.9 *AgriPartner*
4. Comparative Analysis of the Tools
5. Why do we focus on SeedLinked among the other tools?
6. Challenges and Future Prospects
7. Conclusion

# 1. Introduction

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Agriculture is undergoing a digital transformation, with modern tools enhancing data collection, analysis, and sharing.

- relevant in **arable farming and horticulture**, where plant breeding, precision agriculture, and biodiversity monitoring are crucial
- **advanced digital platforms** that facilitate real-time collaboration, large-scale data analysis, and participatory research



## 2. 1 The Importance of Applying Digital Tools for Data Collection and Sharing

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1. Enhancing Efficiency and Accuracy
2. Enabling Large-Scale Data Collection
3. Fostering Collaboration and Data Sharing
4. Real-Time Data Accessibility and Decision-Making
5. Cost Reduction and Resource Optimization
6. Ensuring Data Security and Ownership
7. Overcoming Challenges and Limitations

# 3. Overview of Some Digital Tools

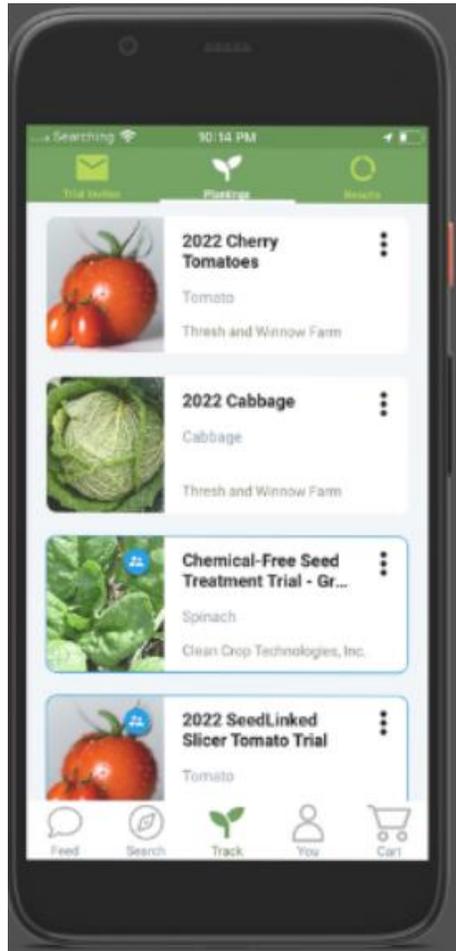
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Field Book



# 3.1 SeedLinked



## What it is:

- A participatory plant breeding and seed selection platform.

## Key Features:

- **Crowdsourced seed trials** where farmers and researchers provide real-world performance data.
- **Mobile and web applications** for easy data entry and visualization.
- **Social networking features** to help communication within a collaborative trial.

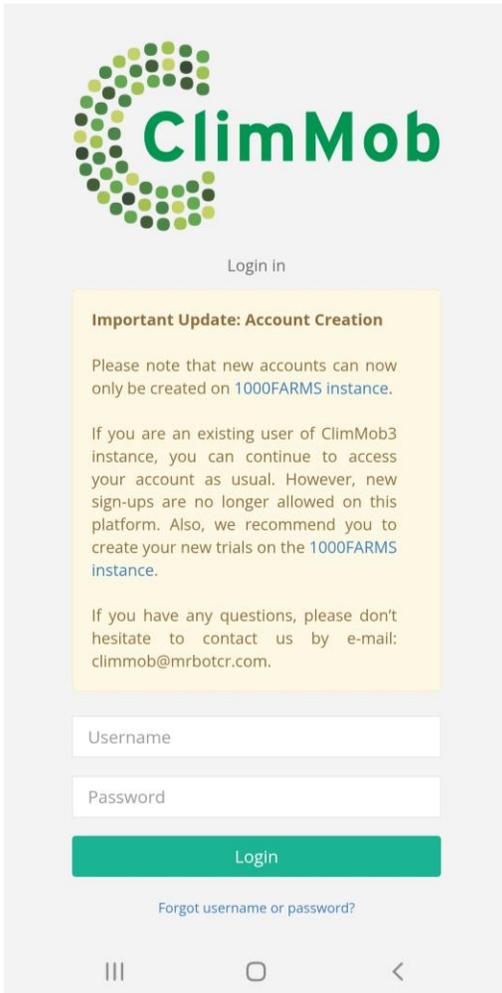
## Benefits:

- Enhances **crop diversity** by identifying well-performing varieties.
- Helps farmers make **informed seed choices** based on localized data.
- Encourages **sustainable farming** by promoting climate-adapted seeds.

## Availability:

- Website: <https://www.seedlinked.com>

# 3.2 ClimMob



## What it is:

- A platform for farmer-led, decentralized crop trials.

## Key Features:

- **Mobile data collection** to assess different crop varieties.
- **Automated statistical analysis** for comparing results.
- **User-friendly dashboards** to visualize trends.

## Benefits:

- Enables **on-farm experiments**, making trials more **relevant** to real conditions.
- Farmers **actively contribute** to research.
- Accelerates **varietal selection and adoption**.

## Availability:

- Website: <https://climmob.net>

# 3.3 iNaturalist



## What it is:

- A **global citizen science platform** for tracking **biodiversity**, including **agricultural pests and pollinators**.

## Key Features:

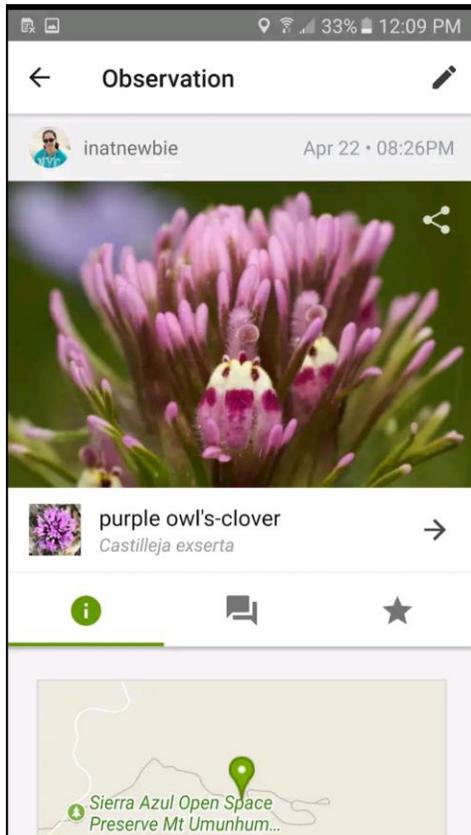
- AI-assisted **species identification** through photos.
- **Community-driven data validation** with expert contributions.
- **Integration with scientific databases** like GBIF.

## Benefits:

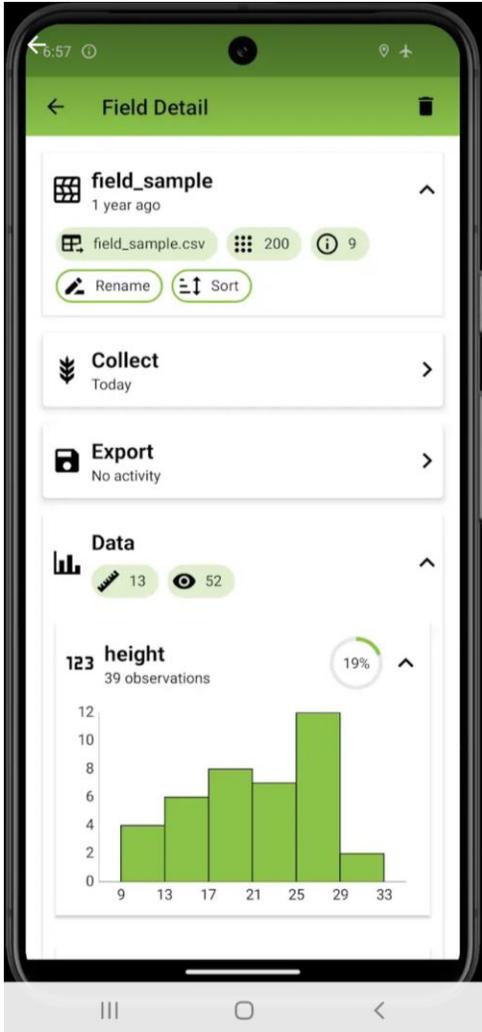
- Farmers can **identify pests, beneficial insects, and weeds**.
- Supports **data-driven conservation** efforts.
- Encourages **collaboration between farmers, scientists, and nature enthusiasts**.

## Availability:

- Website: <https://www.inaturalist.org>



# 3.4 Field Book



## What it is:

- A mobile app for agricultural field research.

## Key Features:

- **Customizable** for various crop traits and plot layouts.
- Works **offline**, allowing data collection in remote areas.
- **Exportable data** for easy integration with research software.

## Benefits:

- **Reduces errors** in field data collection.
- Improves **research efficiency** by digitizing manual processes.
- Supports **breeding programs and agronomy trials**.

## Availability:

- Website: <https://fieldbook.phenoapps.org/#/>

# 3.5 BrAPI (Breeding API)



## BrAPI V2

### Working Group New Concept Preview

This set of documentation shows the new concept ideas being developed by BrAPI community working groups.

This set of documentation is subject to change without warning until it is formally released

Details

### V2.1

Latest Stable Release

Released on July 1, 2022. This version is the

## What it is:

- An **open-source application programming interface (API)** for plant breeding data.

## Key Features:

- **Standardized data exchange format** for interoperability.
- Compatible with **multiple breeding databases**.
- Supports **machine learning** applications in breeding.

## Benefits:

- Facilitates **data sharing between breeding programs**.
- Enables **automation** of breeding workflows.
- Improves **efficiency and scalability** of breeding data analysis.

## Availability:

- Website: <https://brapi.org>

# 3.6 Datar



## What it is:

- A cloud-based platform for agricultural data management.

## Key Features:

- **Centralized database** for storing experimental data.
- **Analytical tools** for visualization and statistical analysis.
- **Collaboration features** for research teams.

## Benefits:

- Enhances **data security and accessibility**.
- Improves **efficiency in research data handling**.
- Enables **better decision-making** through integrated analytics.

## Availability:

- Website: <https://www.datar-par.org/>

# 3.7 Phenome Networks



## What it is:

A SaaS platform for plant breeding & variety testing, offering end-to-end solutions from crossing to analytics for seed companies and research institutions

## Key features:

- PhenomeOne web app: Manages genetics, germplasm, trial design, pedigree, inventory, barcodes, analysis, reports
- PhenoTop mobile app (iOS/Android, offline): field-level capture of traits and photos
- PhenoGene genomics module: Optimal breeding design based on alleles and genealogy
- Rich analysis: R-based stats (ANOVA, clustering, heritability, etc.)

## Benefits:

- Integrated workflow from field to analytics with traceable data.
- Offline mobile capture enhances field efficiency.
- Advanced analytics and genomics support better breeding decisions.
- Scalable, secure (ISO-certified), and customizable SaaS globally

## Availability:

- Global SaaS product with branches in Israel (HQ), Netherlands, USA, South America, India Demo/book a trial via website.
- Link: <https://phenome-networks.com/en/>

# 3.8 QuickTrials



Login العربية English



## What it is:

A comprehensive SaaS for agronomic field-trial planning, execution, data capture, and analysis used by enterprises, NGOs, and governments

## Key features:

- Web portal: trial design, staff management, dashboards
- Mobile apps (iOS/Android, offline): geo-tagged trait capture & photos
- Real-time validation & BigQuery-backed data warehouse
- Experimental-design templates, APIs, and integrations

## Benefits:

- Better data quality and compliance with in-field validation.
- Speedier insights → faster decision-making.
- Centralized data reduces manual effort.
- User- and partner-friendly pricing model

## Availability:

- Swiss-based SaaS, globally available.
- Mobile apps recently updated (June 2025).
- Free trial/demo via website.
- Link: [quicktrials.com](https://quicktrials.com)

Agronomic Field Trial Management

The advertisement features a background image of a man in a plaid shirt looking at a field of green plants. The text is overlaid on the left side of the image.

Data collection and analysis software

4.9

★★★★★ 5/5

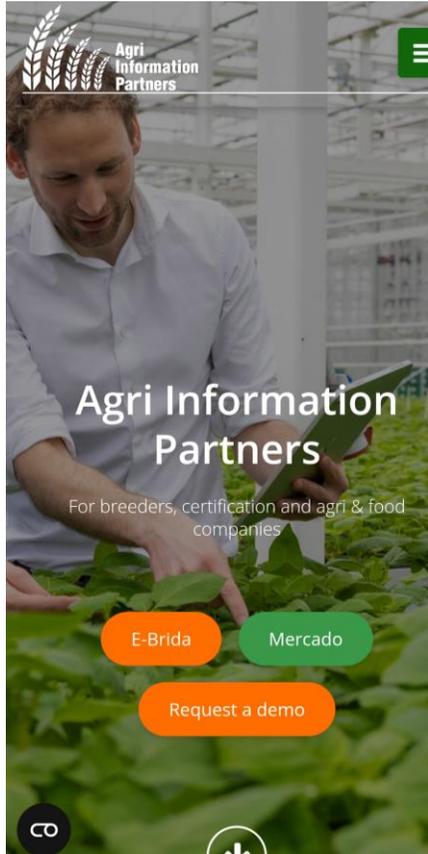
C2 Review

REQUEST DEMO

FREE TRIAL ACCOUNT



# 3.9 Agri Information Partners



## What it is:

A Dutch IT firm offering twin platforms:

**Mercado:** Variety/product trial management

**E-Brida:** Breeding operations software

## Key features:

- Mercado: Product catalog, variety trials, online/offline scoring & photo uploads
- E-Brida: Breeding workflows (crosses, selection, pedigree, barcoding) Mobile data input via desktop, tablet, smartphone—offline capable Integrations with labs, drones; data export to BI tools

## Benefits:

- Streamlines variety and breeding process end-to-end.
- Minimizes admin, boosts data accuracy and traceability.
- Barcode/QR labelling; tailored support & updates included

## Availability:

- Based in Wageningen, NL; serves breeding, certification, agri-food sectors globally
- Demos via Teams or in-person; mobile apps available on Google Play

Link: [agripartner.com](https://agripartner.com)

# 4. Comparative Analysis of the Tools

<i>Tool</i>	<i>Purpose</i>	<i>Best For</i>	<i>Main Benefits</i>	<i>Ease of Use</i>
<b>SeedLinked</b>	Crowdsourced seed selection	Farmers & breeders	Enhances varietal selection	Easy
<b>ClimMob</b>	On-farm trials	Researchers & farmers	Decentralized data collection	Moderate
<b>iNaturalist</b>	Biodiversity tracking	Farmers & conservationists	Identifies pests & pollinators	Easy
<b>Field Book</b>	Field data collection	Agronomists & breeders	Reduces data entry errors	Moderate
<b>BrAPI</b>	Data standardization	Plant breeders	Enables interoperability	Hard
<b>Datar</b>	Research data management	Scientists	Centralized data storage	Moderate
<b>Quick Trial</b>	On-farm trial management	Breeders & researchers	Simplifies trial planning & data management	Moderate
<b>AgriPartner</b>	Data integration & management	Researchers & institutions	Customized solutions for agricultural data	Hard
<b>Phenomne Network</b>	Phenotyping & data sharing	Scientists & phenotyping teams	Promotes collaboration and data sharing	Moderate

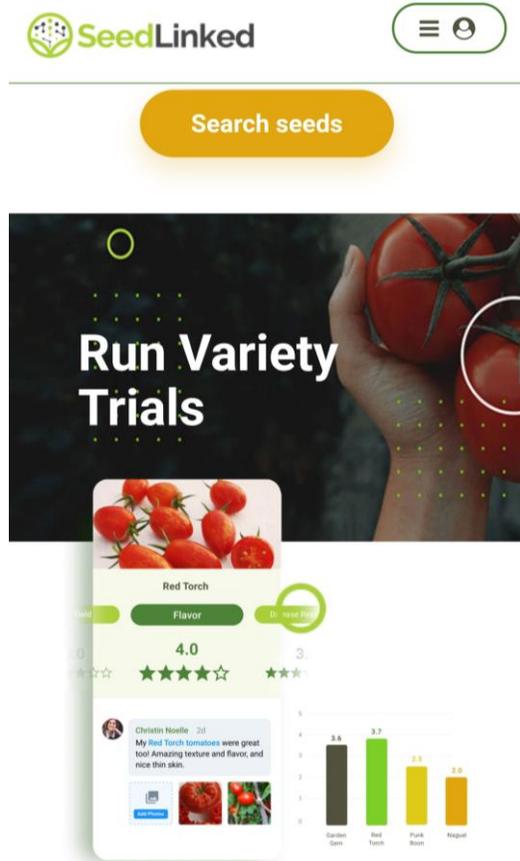
# Key Highlights

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- **SeedLinked** excels at community-driven variety trials and acts as a marketplace fueled by grower-generated data .
- **iNaturalist** stands out for biodiversity reporting: easy to use, backed by AI-based species gizmos, and robust data sharing.
- **BrAPI** is strictly a technical API—called “ease of use” only for developers integrating between systems.
- **Phenome Networks**, **QuickTrials**, and **AgriPartner** each support offline-capable mobile + web platforms for fields and labs, but vary in focus: end-to-end breeding, agronomic trials, and regulatory/commercial breeding operations, respectively.

# 5. Why do we focus on SeedLinked among the other tools?



Focusing on **SeedLinked** ensures that **organic and participatory breeding** addresses **three interconnected needs** that the other tools cannot fully combine:

- **Agronomic performance** → how varieties grow under real farm conditions
- **Organoleptic & nutritional quality** → how they taste and fit into diets
- **Socio-economic relevance** → what farmers, consumers, and markets actually value

By using SeedLinked, you **create a participatory, transparent, and market-aware breeding system**, which is essential for sustainable seed systems and resilient food networks.

# 6. Challenges and Future Prospects

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- **Challenges:**
  - **Limited internet access** in rural areas, but some apps have offline mode as well.
  - **Adoption barriers** due to lack of training, but it depends on the app type.
- **Future Prospects:**
  - AI-driven **decision-support systems**.
  - **Blockchain** for transparent seed trials.
  - **Greater integration** between digital tools.

# 6. Conclusion

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Systematic adoption of these technologies will help ensure more sustainable, efficient, and productive farming.

For training videos, or brochures check:

1. [SeedLinked Tutorial](#)

2. [ClimMob Tutorial](#)

3. [iNaturalist Guide](#)

4. [Field Book](#)

5. [BrAPI](#)

6. [DATAR](#)

7. [PhenomeOne](#)

8. [Quick Trials](#)

9. [Agri Partners](#)



# Let's fill in the quiz!

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*Are you ready to see how well you've understood the main points?*

 *Take a few minutes to complete the short quiz for this unit before moving on → Link:*  
<https://forms.gle/caUPrcYeuaYCYsE68>



If you have any questions for the lecturer, please contact him at the following email address:  
[gyongyi.kis@biokutatas.hu](mailto:gyongyi.kis@biokutatas.hu)



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Thank you for your attention!

