

# Fairgrounds

**Data for Science. For Sharing. For Good.**

Preparing agricultural systems with FAIR data for the modern research landscape.



# The Vision: FAIR Ag Research Ecosystem



## VISION

A FAIR agricultural research ecosystem that connects data, tools, and scientists worldwide, accelerating innovation and delivering insights that help ensure resilient, productive, and sustainable food systems for all.



## MISSION

**Address the data challenges in agricultural research by:**

- Bringing CGIAR and partner data to FAIR standards.
- Connecting researchers and data scientists in a collaborative hub.
- Fostering open access to agricultural research assets, insights, and networks, enabling stronger global collaboration and downstream impact for farmers.

# Fairgrounds Steering Team

| Steering Team Member | Organization | Functional Role |
|---|---|---|
| Young Wha Lee (Chair) | Gates Foundation | Primary Program Officer and Sponsor for AgPile |
| Ram Dhulipala | ILRI | Ad Interim for Digital Transformation Accelerator |
| Andrea Gardeazabal | CIMMYT | AoW Data Ecosystems Lead |
| Jacob van Etten | Alliance Bioversity CIAT | Director for Digital Inclusion |
| Neil Hausmann | Gates Foundation | Secondary Program Officer for Fairgrounds Grant |
| Sandra Milach | SO | Chief Scientist CGIAR |
| Stewart Collis | Gates Foundation | Ag Advisory Investments |
| Eng Hwa Ng | CIMMYT | Breeding Services Lead, Breeding for Tomorrow |
| Baboucarr Maneh | AfricaRice | Director General |
| Venu Ramaiah | IRRI | Genebank Manager, IRRI Rice Genebank |

# Fairgrounds Leadership Team



**Young Wha Lee**
Program Sponsor



**Jawoo Koo**
Program Lead



**Bishal Aryal**
PMO Lead



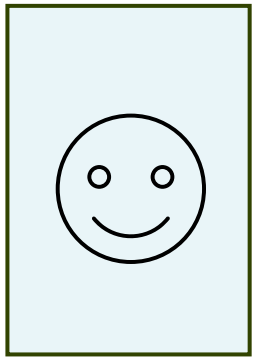
**James Clevenger**
Technology Lead



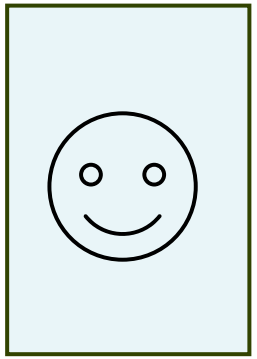
**Andre Embersics**
Digital Solutions



**Nsikak Akpakpan**
Technology Advisor



**Patrick Rasche**
Delivery Lead



**Mayur Venkateswaran**
Delivery Lead



**Steffen Weber**
Product Mgmt. Lead



**Edie Paul**
Change Mgmt. Lead



**Laura Schuchart**
Outreach Lead

# Fairgrounds: Gateway to a new world of scientific discovery

Fairgrounds will provide access to thousands of scientific research initiatives, operational systems, and public data hubs, including agronomic, climate, and genomic assets.

This collaborative platform brings CGIAR data to the world's research, and the world's research to CGIAR.



CGIAR research

- Findable
- Accessible
- Interoperable
- Reusable



Global research data external to CGIAR

# Why change is imperative

## CGIAR's current systems are fragmented and inefficient

**Historically across the CGIAR:**

- Most data and tools have been produced for specific projects at a single center
- Data often treated as a means to an end (publication)
- No system-wide data or meta-data standards, nomenclature, or governance processes in place.

**As a result:**

- Difficult or impossible to easily find, access, integrate, or reuse (the four components of FAIR) data and tools produced outside one's own team

- Prevents the application of AI methods to the significant body of CGIAR research data:
  - Time is wasted.
  - Data quality is variable.
  - Work may be repeated.
  - Progress takes longer.
  - Data/tools are not used to their full potential.

## Failure to achieve FAIR data standards puts funding at risk

**Growing internal and external pressures at CGIAR:**

- Funders are increasingly expecting and demanding that digital assets meet FAIR data standards

- To meet these expectations, and to extract the full value of CGIAR's research and innovation, organizations must adopt modern, system-wide approaches to data stewardship and collaboration.




## Data landscape is changing rapidly

**CGIAR research risks being outpaced by a fast-evolving global data landscape:**

- The volume, complexity, speed, and inter-connectedness of data are increasing.

- New tools and technologies require modern, scalable data practices.



# Fairgrounds is distinct from other CGIAR initiatives

## What is Fairgrounds?

- **Secure data platform** designed to make data accessible and power new solutions in agriculture.
- Designed for **collaboration across institutions, sectors, and disciplines**
- Supports **interoperability, security, and control** of source data

## What makes Fairgrounds different?

- Data adheres to **FAIR principles** (Findable, Accessible, Interoperable, Reusable)
- Designed for **ML readiness**: labeled, structured, interoperable formats
- Built **with** scientists **for** scientists and decision-makers



# Fairgrounds goes beyond software

| | Capability | Now (Problems to fix) | Tomorrow (Desired Outcomes) |
|---|---|---|---|
| PROCESS | Integrated **Data Stewardship Process** | No common approach to enable FAIR data | New, scalable Data Stewardship process |
| | Fairgrounds-facilitated **Data FAIR Assessment** | Lack of harmonized process to assess data against FAIR principles | New, scalable process to assess data for FAIR criteria |
| | Fairgrounds-enforced **Data Referencing** | Lack of systematic procedures to enforce data copyrights and creator referencing | New, scalable process to ensure proper referencing of data generator copyrights |
| ORGANIZATION | Integrated **Data Stewardship Roles** | No standard roles to enable FAIR data | New, universal, standardized roles for data stewardship |
| | **Digital Asset Owner Association** | No organized, routine exchange between Owners and Managers of Digital Assets | Community of Practice for sharing and federating FAIR data |
| | Fairgrounds **Platform Maintenance & User Support Teams** | Ambiguity around ownership and sustenance of Fairgrounds once it transitions from project to operation | Dedicated owner and personnel to sustain Fairgrounds |
| TECHNOLOGY | Cross-institution **Data Asset Platform** | Patchwork of siloed data sets and tools limits finding and re-using data for multi-disciplinary analysis | New One-stop shop to share, find and re-use data and tools for multi-disciplinary analysis |
| | Fairgrounds-facilitated **Search & Find** | Cumbersome to find data for multi-disciplinary analyses | Fairgrounds-facilitated searching and finding remote/external data |
| | Fairgrounds-facilitated **Data Curation & Analysis** | Cumbersome to re-use data for multi-disciplinary analyses | Fairgrounds-facilitated, AI-supported re-using of remote/external data |
| | Fairgrounds-powered **Collaboration Workspaces** | Cumbersome to collaborate online and real-time with research teams and partners on data sets | Fairgrounds-powered, AI-supported, customizable Workspaces for Research- and Decision-making teams |
| INFORMATION | Ready-to-apply **FAIR Data Standards** | Lack of data format standards | New FAIR data standards |
| | Fairgrounds-**enhanced/curated Data Sets** | Limited compatibility for AI-supported analysis of siloed data sets and tools | Enhanced and version-tracked AI-ready data sets for standard- and multi-disciplinary analysis |

# Benefits: From sharing to breakthrough

## Value of sharing digital assets on Fairgrounds
(Contributor benefits)

**1. Improve the quality and readiness of your own data**
- Better usability and clarity of structure
- Increased potential for reuse in future research
- Enhanced preparation for AI and advanced analytics

**2. Adopt stronger data management practices**
- Integrated, consistent stewardship methods
- Clearer, objective assessment against FAIR principles
- Streamlined support for curation and version control

**3. Increase the visibility and utility of your work**
- Greater recognition through citations of shared data
- Opportunities for new collaborations
- Potential to unlock additional funding avenues
- Increased appeal to partners and emerging talent

## Value of using shared digital assets on Fairgrounds
(User benefits)

**1. Save time in the research process**
- More efficient discovery, access, and integration of datasets
- Easier collaboration across research groups and disciplines

**2. Enhance their analytical capabilities**
- Access to complementary datasets and tools
- Support for visualization and interpretation (e.g., dashboards)
- Functions that enable non-specialists to apply advanced methods

**3. Gain broader research insight**
- Ability to address both specific and cross-disciplinary questions using diverse data
- Clearer understanding of the quality and provenance of remote data

## Value from the application of digital assets on Fairgrounds
(Benefits for decision-makers)

**1. Better-informed product development**
- Identification of genetic traits, components for breeding targets
- Selection of inputs for crop protection, nutrient needs, and end-use products

**2. Better-informed product placement**
- Improved understanding of which varieties work best in specific environments (TPEs)
- Clarity on how genetic material performs under local conditions

**3. Better-informed crop & farm management**

**4. Better-informed policy & investment decisions**
- Improved visibility into emerging challenges and opportunities
- Support for evidence-based strategies and long-term planning

# Fairgrounds from a user perspective




### Genebank Manager

Wants to associate Genebank passport data with breeding data

**Output**: Insight on Genebank material used in new varieties

### Ag Investor / Funder

Needs to ensure her investment is meeting farmer demand

**Output**: Breeding Impact Dashboard

### Molecular Breeder

Wants to analyze data from GIGWA and Bioflow in context with trial data to create a list of candidate genes

**Output**: List of candidate genes

### Cowpea Breeder

Validating that they're breeding to meet the TPP and make appropriate selection decisions

**Output:** Advancement list and crossing list

# Research Team Engagement

We are engaging with a wide set of crops and use cases across CGIAR centers and projects.

| Research Project/Team | Fairgrounds Engagement Status | Assets Registered in Fairgrounds |
|---|---|---|
| **Forages** | Data scientists have been onboarded | Confirmed: Drone images for forages |
| **Pheno-i** | Data scientists have been onboarded | Confirmed: Raw drone images, Pheno-I code |
| **1000 Farms** | Data scientists have been onboarded | Coming: anonymized cowpea data |
| **Artemis** | Data scientists have been onboarded | Coming: Image Safari Data, Mineral Data, Artemis 1 data. Artemis 2 data (later date) |
| **EBS** | Will begin soon | Coming soon |
| **Cassava** | Will begin soon | Coming: Cassava genomics data |

**Thank you to the CGIAR centers and teams who have contributed to Fairgrounds.**

# Roadmap: Fairgrounds Phase 1

| | Capability | 2025 Q2 | 2025 Q3 | 2025 Q4 | 2026 Q1 | 2026 Q2 | 2026 Q3 | 2026 Q4 |
|---|---|---|---|---|---|---|---|---|
| PROCESS | Integrated **Data Stewardship Process** | | ☑ | ☑☑ | | ☑☑☑ | | |
| | Fairgrounds-facilitated **Data FAIR Assessment** | | | | ☑ | ☑☑ | ☑☑☑ | |
| | Fairgrounds-enforced **Data referencing** | | | | | ☑ | ☑☑ | ☑☑☑ |
| ORGANIZATION | Integrated **Data Stewardship Roles** | | ☑ | ☑☑ | | ☑☑☑ | | |
| | **Digital Asset Owner Association** | | | | ☑ | ☑☑ | ☑☑☑ | |
| | Fairgrounds **Platform Maintenance & User Support Teams** | | | ☑ | | ☑☑ | | ☑☑☑ |
| TECHNOLOGY | Cross-institution Agriculture **Data Asset Platform** | | ☑ | | ☑☑ | | ☑☑☑ | |
| | Fairgrounds-facilitated **Search & Find** | | | ☑ | ☑☑ | ☑☑☑ | | |
| | Fairgrounds-facilitated **Data Analysis** | | (☑) | | ☑ | ☑☑ | | ☑☑☑ |
| | Fairgrounds-powered **Collaboration Workspaces** | | | ☑ | ☑☑ | ☑☑☑ | | |
| INFORMATION | Integrated Ready-to-apply **FAIR Data Standards** | | | | ☑ | ☑☑ | ☑☑☑ | |
| | **Fairgrounds-enhanced/curated Data Sets** | | | ☑ | ☑☑ | | ☑☑☑ | |

☑ Initial Implementation/ Prototype ☑☑ Operating Model Functional/ Advanced Prototype ☑☑☑ Operating Model Applied/ Scalable Solution

# Get started with Fairgrounds

We are eager to engage with early adopters!

**Get new value from your data**



### ❑ Welcome Session

Join a welcome and orientation session to:

- Understand how Fairgrounds works
- Explore real use cases
- Discover what's possible for your research when data is FAIR and AI-enabled

### ❑ See a Platform Demo

Attend a technical demo with your data managers/IT team to:

- See the platform in action
- Learn how Fairgrounds handles data federation, protection, and AI readiness

### ❑ Join Us As We Build!

Explore possibilities for getting new value from your data.

- No new data collection required
- Efficient alignment and onboarding
- Share your published data

# Thank you.



## Connect with the **Fairgrounds** team

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**Steffen Weber**, Product Management Lead, steffen@weber-fritz.com