



Big Data
in Agriculture

A decorative graphic on the left side of the slide consists of a dark grey, curved path that winds from the top left towards the bottom right. Along this path, several grey circles of varying sizes are connected by thin, light grey lines, resembling a network or data flow diagram.

Harmonizing data collection for maximum interoperability

Led by



Medha Devare
Sr. Research Fellow, IFPRI
Big Data Platform Module Lead

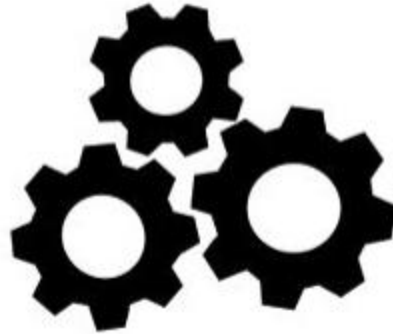
December 10, 2018

Findable

Accessible

Interoperable

Reusable



Why AgroFIMS, why data harmonization via Agronomy Ontology (AgrO)?

The image shows a screenshot of the GARDIAN website. At the top left, there are social media icons for Twitter, Facebook, LinkedIn, RSS, Instagram, and YouTube. The GARDIAN logo, featuring a shield with a plant and a stylized figure, is centered at the top. Below the logo, the text "GARDIAN" is displayed in a large, bold, sans-serif font. Underneath, the full name "Global Agricultural Research Data Innovation & Acceleration Network" is written in a smaller font. A search bar is present, containing the text "search GARDIAN" and the URL "http://gardian.bigdata.cgiar.org/". Below the search bar, the text "enabling discovery of agricultural data and publications across the CGIAR system and beyond" is displayed. Two main categories are highlighted: "PUBLICATIONS 94051" and "DATASETS 2103". At the bottom, the CGIAR logo is shown alongside the text "Platform for Big Data in Agriculture". A scroll bar is visible at the bottom center.

social media icons:      

GARDIAN
Global Agricultural Research Data Innovation & Acceleration Network

search GARDIAN <http://gardian.bigdata.cgiar.org/> 

enabling discovery of agricultural data and publications across the CGIAR system and beyond

 **PUBLICATIONS**
94051

 **DATASETS**
2103

 **CGIAR** | Platform for Big Data in Agriculture

scroll  down

CGIAR logo: 

Platform for Big Data in Agriculture

AgroFIMS – user-tested; to be field-tested in Spring 2019



HIDAP
AgroFIMS

Hello, Guest
○ Not connected

Login

Fieldbook <

Single Trial Analysis <

Documentation

Help

About

HIDAP AgroFIMS

Agronomy Field Management System



HIDAP AgroFIMS v0.0.17

The Agronomy Field Information Management System (AgroFIMS) has been developed on CGIAR's [HiDAP](#) (Highly-interactive Data Analysis Platform created by CGIAR's International Potato Center, [CIP](#)). AgroFIMS draws fully on ontologies, particularly the Agronomy Ontology and the Crop Ontology. It consists of modules that represent the typical cycle of operations in agronomic trial management, and enables the creation of data collection sheets using the same ontology-based set of variables, terminology, units and protocols. AgroFIMS therefore:

- Standardizes data collection and description for easy aggregation and inter-linking across disparate datasets;
- Allows easy integration with HIDAP breeding data, or any other ontology-based datasets;
- Functions as a data staging repository, allowing data uploads with view/edit permissions;
- Enables data quality checks, statistical analysis of the data collected, and the generation of sophisticated statistics reports;
- Aligns a priori with CGIAR's CG Core metadata schema;
- Enables easy upload to the institutional repositories, and much more.

Funding for AgroFIMS was provided by the Bill and Melinda Gates Foundation's Open Access, Open Data Initiative, and the [CGIAR Big Data Platform](#).

Country name

Morocco

First-level administrative division

Rabat - Salé - Zemmour - Zaer

Marrakech - Tensift - Al Haouz

Meknès - Tafilalet

Oriental

Rabat - Salé - Zemmour - Zaer

Souss - Massa - Draâ

Tadla - Azilal

Tanger - Tétouan

Taza - Al Hocelma - Taounate

Rabat Hassan

Fifth-level administrative division

Guich

Nearest populated place

Site elevation (meters)

Map view type

Default Street map Geo map



Site latitude (in decimal degrees)

34.0181221

Site longitude (in decimal degrees)

-6.8253022

Create

Cancel

110 000 11100 001100
100011000 000 100
011011100 110 00/ 0
01010 00 10 011
010 011 11 011
000 100 01 010
1000000 0000100
00001101 0111000



- > Create fieldbook
- Single Trial Analysis <
- Documentation
- About
- Account <

Irrigation Mulching and residue Soil fertility Weeding

Irrigation details

Number of irrigations

Application #1

Start date

End date

Irrigation source distance

Unit

Irrigation technique

Irrigation amount

Unit

Localized irrigation technique

- Bubbler irrigation
- Drip irrigation
- Mist irrigation
- Pitcher irrigation
- Subsurface drip irrigation
- Subsurface textile irrigation
- Other

Notes

Irrigation source distance

Unit

Crop measurement

Please, select measurement by click.

Show entries

Select all

Search:

	Crop	Group	Subgroup	Crop measurement	Scale
1	Wheat	General	Timing	Date	yyyy/mm/dd
2	Wheat	Biomass	Harvest	Area harvested	m2
3	Wheat	Biomass	Grain	Fresh weight	g
4	Wheat	Biomass	Grain	Subsample fresh weight	g
5	Wheat	Biomass	Grain	Subsample dry weight	g
6	Wheat	Biomass	Grain	Moisture content	%
7	Wheat	Biomass	Grain	Dry weight	g
8	Wheat	Biomass	Grain	Dry matter yield	kg/ha
9	Wheat	Biomass	Spike	Fresh weight	g
10	Wheat	Biomass	Spike	Subsample fresh weight	g
11	Wheat	Biomass	Spike	Subsample dry weight	g
12	Wheat	Biomass	Spike	Moisture content	%
13	Wheat	Biomass	Spike	Dry weight	g
14	Wheat	Biomass	Spike	Dry matter yield	kg/ha



	A	B	C	D	E	F	G	H	I	
1	PLOT	BLOCK	TREATMENT	Irrigation_Number of irrig	Weeding_Weeding techni	Land preparation_Technic	Wheat-Timing-Date-yyyy/mm/dd	Wheat-Harvest-Area harvested-m	Wheat-Grain-Fresh weight-g	Wheat
2		1	1_4_Chemical_No-till	4	Chemical	No-till				
3		2	1_4_Manual_No-till	4	Manual	No-till				
4		3	1_8_Manual_No-till	8	Manual	No-till				
5		4	1_4_Chemical_Conventional till	4	Chemical	Conventional till				
6		5	1_8_Chemical_Conventional till	8	Chemical	Conventional till				
7		6	1_4_Manual_Conventional till	4	Manual	Conventional till				
8		7	1_8_Manual_Conventional till	8	Manual	Conventional till				
9		8	1_8_Chemical_No-till	8	Chemical	No-till				
10		9	2_4_Chemical_Conventional till	4	Chemical	Conventional till				
11		10	2_4_Chemical_No-till	4	Chemical	No-till				
12		11	2_8_Manual_No-till	8	Manual	No-till				
13		12	2_4_Manual_No-till	4	Manual	No-till				
14		13	2_8_Chemical_Conventional till	8	Chemical	Conventional till				
15		14	2_8_Chemical_No-till	8	Chemical	No-till				
16		15	2_8_Manual_Conventional till	8	Manual	Conventional till				
17		16	2_4_Manual_Conventional till	4	Manual	Conventional till				
18		17	3_4_Manual_No-till	4	Manual	No-till				
19		18	3_8_Chemical_Conventional till	8	Chemical	Conventional till				
20		19	3_4_Chemical_Conventional till	4	Chemical	Conventional till				
21		20	3_8_Manual_Conventional till	8	Manual	Conventional till				
22		21	3_4_Manual_Conventional till	4	Manual	Conventional till				
23		22	3_8_Chemical_No-till	8	Chemical	No-till				
24		23	3_4_Chemical_No-till	4	Chemical	No-till				
25		24	3_8_Manual_No-till	8	Manual	No-till				

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011011111111111111110111
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10110000100100100
00001101011100110110011

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AgroFIMS: Key features

Standardized data collection (based on Agronomy Ontology), methodologies

Built-in metadata (mapped to CGIAR repositories) = easy upload to repos

Built-in R scripts for statistical analysis with graphs, reports generated

Easier data integration = enhanced cross-regional, cross-disciplinary learning

Plug-n-play with Big Data platform's analytical, modeling, visualization tools

Ease of use (computer & mobile-based)



AgroFIMS has been developed with input from many!

Ivan Perez (CIP)

Omar Benites (CIP)

Vilma Hualla (CIP)

Jazmin Molano (CIP)

Raul Eyzaguirre (CIP)

Elisa Salas (CIP)

Raul Arias (CIP)

Balwinder Singh (CIMMYT)

Peter Craufurd (CIMMYT)

Richard Ostler (Rothamsted)

Celine Aubert (Bioversity)

Brian Lowe (Ontocale Inc)

Andrei Tudor (Ontocale Inc)

Robert Hijmans (UC Davis)

Chris Villalobos (University of Florida)

Jeroen Huising (IITA)

Pieter Pypers (IITA)

Cheryl Porter (University of Florida)

Sylvain Delerce (CIAT)

Elizabeth Arnaud (Bioversity) ++

Please send us a message if you'd like to be involved in testing AgroFIMS!

Email:

Celine Aubert: c.aubert@cgiar.org
(cc) Medha Devare: m.devare@cgiar.org



Thank you!



Platform for
Big Data
in Agriculture

bigdata.cgiar.org

