

### Research Data Management Toolkit (RDMkit): guidelines for plant phenotyping data management and sharing

Erwan Le Floch, Anne-Françoise Adam-Blondon, Isabelle Alic, Bert Droesbeke, Stijn Dhondt, Daniel Faria, Sebastian Beier, Pascal Neveu, Nicolas Francillonne, Célia Michotey, et al.

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# Research Data Management Toolkit (RDMkit): guidelines for plant phenotyping data management and sharing

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Efficient sharing of plant phenotyping data is a challenge that has been addressed during the last two decades by European infrastructures (ELIXIR, EMPHASIS) and international communities (CGIAR), that allowed to coordinate the effort of major institutes developing activities in the domain. 5 : VIB Agro-incubator, 9850 Nevele, Belgium

6: Forschungszentrum Jülich GmbH, Institute of Bio- and Geosciences, Bioinformatics (IBG-4), 52425 Jülich, Germany
7: LASIGE, Faculdade de Ciências, Universidade de Lisboa, 1749-016 Lisboa
8: BioData.pt, Instituto Gulbenkian de Ciência, 2780-156 Oeiras, Portugal

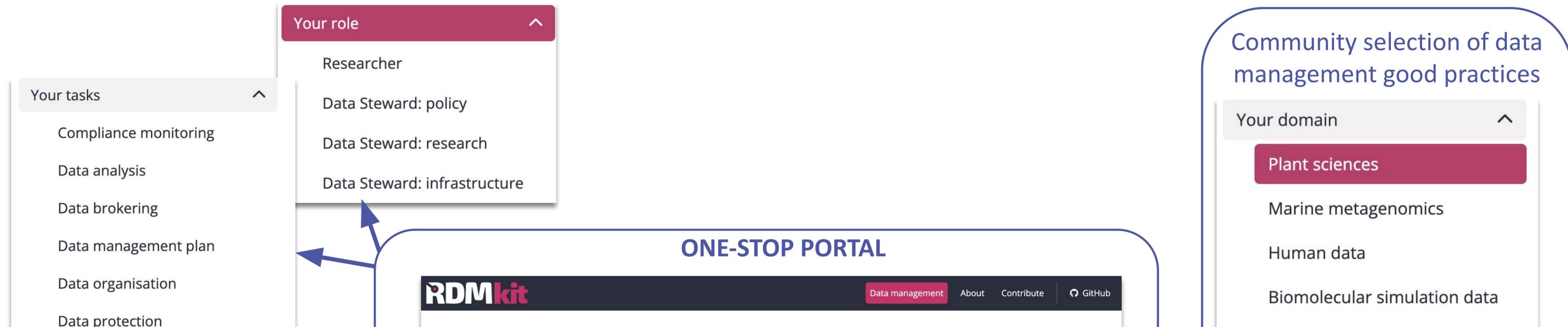
To address this issue, ELIXIR has developed in the frame of the ELIXIR-CONVERGE project a central portal of guidelines and resources supporting FAIR data management in Life Sciences: the Research Data Management toolkit (RDMkit).

RDMkit is a one stop portal that gives a general overview and understanding of the complementarity of the solutions, and links back to the extended documentation and training materials maintained for each of them. To develop and sustain this portal, ELIXIR has engaged with various communities, infrastructures and projects, among which the ELIXIR plant science community and the AGENT project.

They produced consistent and interoperable sets of resources to support plant phenotyping data management:

- data standards: Minimum Information About Plant Phenotyping Experiments (MIAPPE), and the Breeding API (BrAPI)
- databases: PIPPA, PHIS, GnpIS, e!DAL-PGP among others
- exchange file formats: MIAPPE Template, ISA-Tab

These systems and standards have been designed to be as close as possible to researchers and experimenters needs. As a consequence, important efforts have been made to ease their adoption through documentations and trainings. However all these resources remain dispersed, and it can be complicated for new users to know where to get the right information. In the RDMkit, the plant community has built a set of pages and in particular is building plant phenotyping guidelines. The present poster gives an overview of the RDMkit logic and of the solutions presented in the plant sciences pages, including the procedures and contact to submit enrichment and additional solutions.



Data publication

Data quality

Consistent groups of tools in tool assemblies

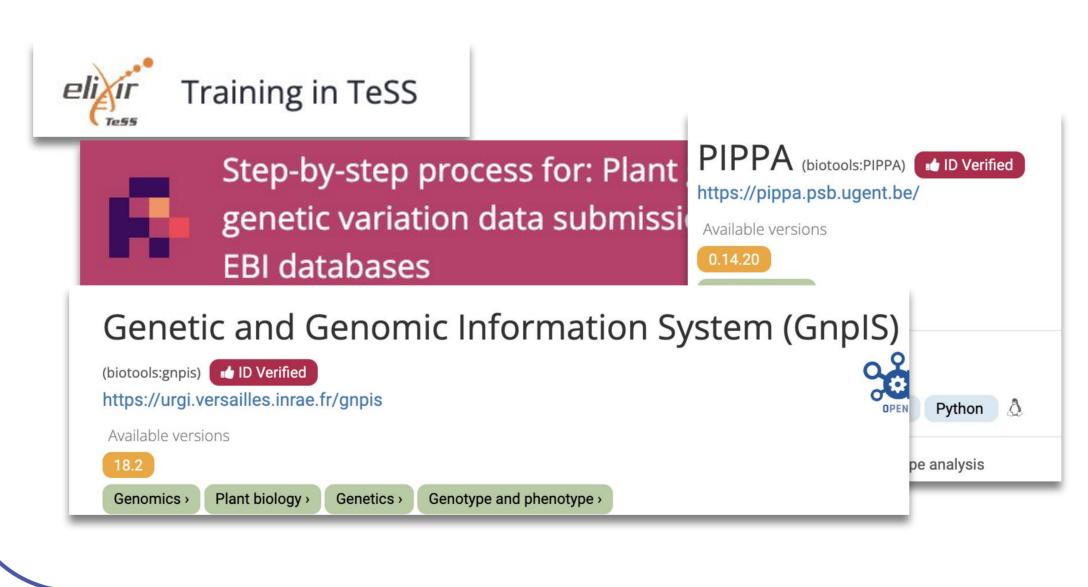
Tool assembly Plant Genomics

- What is the plant genomics tool assembly?
- Who can use the plant genomics tool assembly?
- How can you access the plant genomics tool assembly?
- For what purpose can you use the plant genomics tool assembly?
- Related pages
- More information
- Relevant tools and resources

The Research Data Management toolkit for Life Sciences Best practices and guidelines to help you make your data FAIR (Findable, Accessible, Interoperable and Reusable)

## to find guidelines, documentation and how-tos

# Tool pages and tutorials



Intrinsically disordered proteins Microbial biotechnology Epitranscriptome data Proteomics Toxicology data Bioimaging data

- Introduction
- Plant biological materials: (meta)data collection and sharing
- Phenotyping: (meta)data collection and publication
- Genotyping: (meta)data collection and publication
- Related pages
- More information
- Relevant tools and resources

Tool assembly

# Plant Phenomics 🗸

- What is the plant phenomics tool assembly and who can use it ?
- How can you access the plant phenomics tool assembly?
- The plant phenomics tools
- Related pages
- More information
- Relevant tools and resources

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Ways to contribute 🗸		
Add new tool or resource	<ul> <li>Ways of contributing</li> <li>Contributor responsibilities</li> <li>Acknowledgement of contributors</li> <li>Ownership of content</li> <li>Making a quick suggestion</li> </ul>	
Style guide		
Copyright guidelines		
Markdown cheat sheet		
Page metadata		
Editorial board guide		
Editors checklist	Ways of contributing Everyone is welcome to contribute to this site, and we've tried to male	

## Useful links:

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 Image: Contribute
 Image: C

Plant phenomics tool assembly:

AGENT project: <u>agent-project.eu</u> ELIXIR Europe: <u>elixir-europe.org</u>





RDMkit

e it as easy as possible. Cho