transPLANT milestone report

MS17 (work package 6): Ephesis integrated in transPLANT portal

Like genomic or expression data, phenotypic data must be stored and kept available in the long term. Therefore, a phenotype data repository must be designed and built.

To provide trans-national access to a phenotypic data repository, the transPLANT portal includes a direct interface to Ephesis (https://urgi.versailles.inra.fr/ephesis/), a web portal dedicated to phenotype and environment experimental trials. The Ephesis portal allows users to build phenotyping datasets that cover multiple trials, potentially spanning several years across multiple locations. Datasets can be downloaded and used for metanalysis of genotype—environment interactions (G×E) or genetic association and GWAS studies.

Ephesis currently stores data for all plant species studied at INRA (http://www.inra.fr/), including annual species like wheat and barley, and perennial species like grape, oak and poplar. Scientists at INRA are involved in many collaborative European projects using Ephesis as a repository for the data produced by INRA and its partners. Ephesis is evolving into an international, distributed information system, allowing broader data integration.

The phenotype and environment data stored in Ephesis forms a dedicated module of the URGI (https://urgi.versailles.inra.fr) information system, GnpIS (https://urgi.versailles.inra.fr/gnpis/). It is highly generic and its data model has been inspired by other generic systems such as the Chado database developed by the GMOD consortium, the Genomic Diversity and Phenotype Data Model, and the International Crop Information System (ICIS).

The Ephesis web-application has been integrated into the transPLANT portal (http://transplantdb.eu/ephesis) using the HTML <iframe> element (HTML 'inline frame' element), allowing users to build and download phenotyping datasets directly within the transPLANT portal. The iframe allows one document to be embed within another HTML document, providing a seamless user experience.

Figure 1, building a phenotyping dataset using Ephisis within the transPLANT portal.

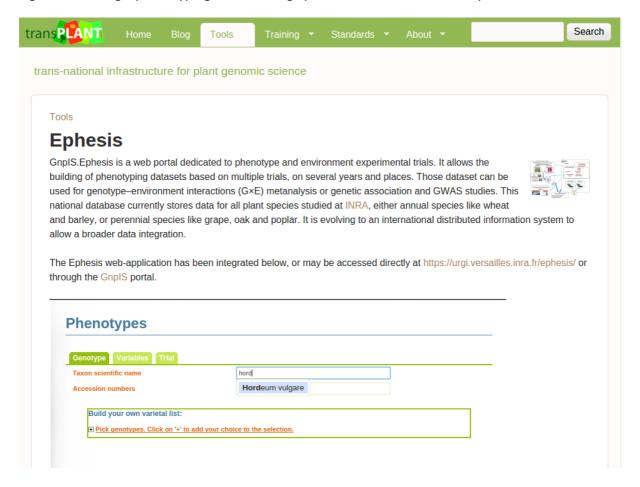


Figure 2, browsing Ephesis search results.



Figure 3, viewing a phenotyping dataset. Datasets can be downloaded in CSV or ISATAB format for offline analysis.

