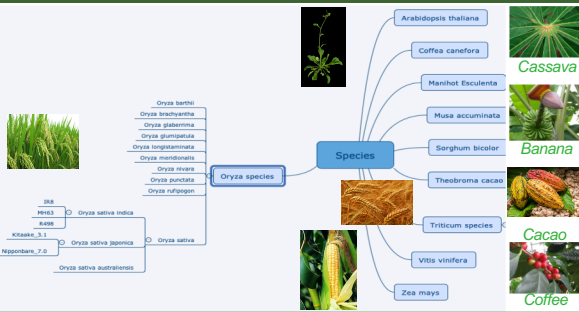


# The AgroLD project : A Knowledge Graph Database for plant functional genomics

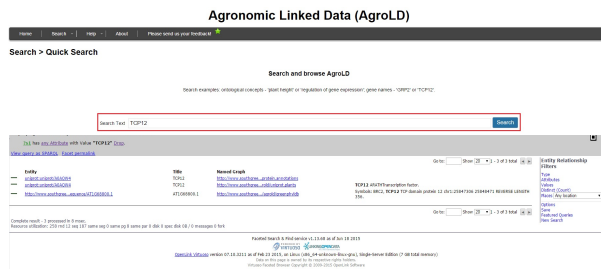
Pierre Larmande<sup>1,3</sup>, Bertrand Pitollat<sup>2,3</sup>, Ndomassi Tando<sup>1,3</sup>, Valentin Guignon, Mathieu Rouard, Gaetan Droc<sup>2,3</sup> and Manuel Ruiz<sup>2,3</sup>

<sup>1</sup> UMR DIADE IRD/UM/CIRAD, Univ. Montpellier France <sup>2</sup> UMR AGAP CIRAD/INRAE/SupAgro, Univ. Montpellier France <sup>3</sup> South Green Bioinformatics Platform, Bioversity, CIRAD, INRAE, IRD

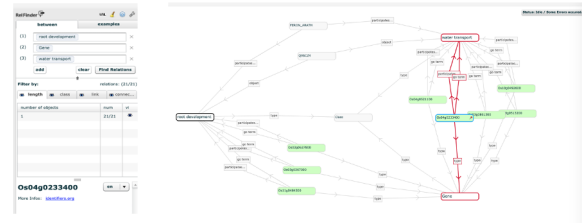
## Species available



## AgroLD (www.agrold.org)



**Quick search** is based on keyword search and aids in understanding the underlying knowledge.

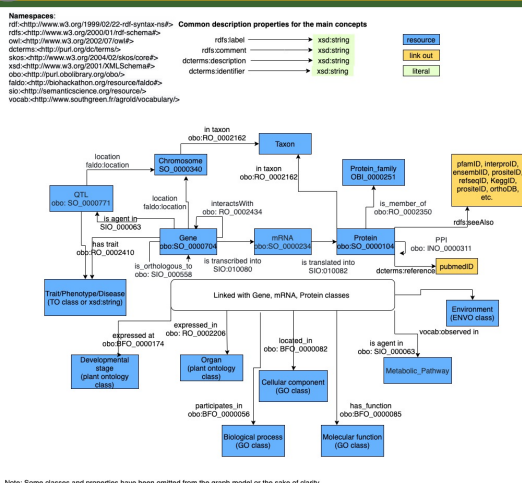


The **Explore Relationships** tool aids in exploring relationships between existing entities.

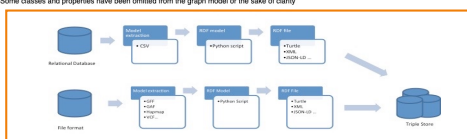


The **SPARQL Query Editor** provides an interactive environment to formulate SPARQL queries.

## AgroLD schema and ETL



## RDF Transformation workflows



## Networks and supports



The **Advanced Search** query form is based on the REST API suite, developed under the AgroLD project. The aim of this effort is to provide non-technical users with a tool to query the knowledge base.

- 1 - Barrell, D. et al., 2009. The GOA database in 2009 - An integrated Gene Ontology Annotation resource. *Nuc. Ac. Res.* 37.
- 2 - Conte, M.G. et al., 2008. GreenPhyloDB: A database for plant comparative genomics. *Nuc. Ac. Res.*, 36.
- 3 - Droc, G. et al., 2006. OryGenesDB: a database for rice reverse genetics. *Nuc. Ac. Res.* 34(Database issue), pp.D736-D740.
- 4 - Hamelin, C. et al., 2013. TropGeneDB, the multi-tropical crop information system updated and extended. *Nuc. Ac. Res.* 41(D1).
- 5 - Monaco, M.K. et al., 2014. Gramene 2013: Comparative plant genomics resources. *Nuc. Ac. Res.*, 42(D1).
- 6 - Larmande, P. et al., 2008. Oryza Tag Line, a phenotypic mutant database for the *Géoplat* rice insertion line library. *Nuc. Ac. Res.* 36.
- 7 - Venkatesan A. et al., 2018 Agronomic Linked Data (AgroLD): a Knowledge-based System to Enable Integrative Biology in Agronomy. *bioRxiv* 325423; doi: <https://doi.org/10.1101/325423>