



Venn diagram showing unique and shared gene families between and among the three sequenced grasses (maize, rice, and sorghum) and the dicot, *Arabidopsis*. (Schnable, Ware, et al., Science, 20 November 2009, 326: 1112-1115)

Germplasm

Gramene's germplasm database summarizes our known stocks for *A. thaliana*, *Tripsacum*, *Z. mays*, and several species from *Oryza*. Germplasm are linked to their experiments in the diversity module as well as associated markers and libraries.

Diversity

The Gramene Genetic Diversity module integrates genotype, phenotype, and germplasm data from rice, maize and *Arabidopsis*. The Diversity module aims to facilitate study of genetic variation within and between populations of plants, and, to

help illuminate how genetic diversity relates to observable traits and evolutionary patterns. Gramene Diversity houses a growing number of large-scale SNP chip datasets, and offers tools to query and analyze data, such as GDPC, TASSEL, and our SNP Query tool that allows mining for variation by genomic region and associated genes, QTL, traits, and ontologies.

Proteins

Gramene's protein database provides collective information on 265K Swissprot-Trembl protein entries from family Poaceae and are annotated by the Gene Ontology (GO) terms for molecular function, biological process, and cellular components.

Genes

The genes database includes descriptions of genes and alleles associated with morphological, developmental and agronomically important phenotypes, variants of physiological characters, biochemical functions and isozymes.

Markers, Sequences and Maps

Gramene holds 49M plant sequences and genetic markers from GenBank and various projects and important mapping studies in crop research. We add or update our database every release and work closely with plant researchers to publish new data in many useful formats.

Web Services

- DAS for sequence alignments
- Diversity data via TASSEL and GDPC
- Public MySQL server

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GRAMENE

An Internet resource for comparative plant genomics that offers genome browsers, genes, proteins, QTL, genetic diversity data, biological pathways, ontologies, and genetic markers and sequences in addition to BLAST, BioMart and FTP interfaces to a wealth of plant data.

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