

THE GENOMIC DIVERSITY AND PHENOTYPE CONNECTION



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<http://www.maizegenetics.net/gdpc/index.html>

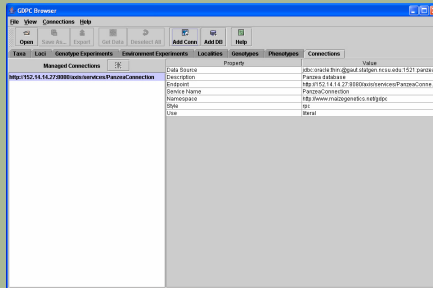
1. Why is GDPC Important?

- GDPC provides access to genomic diversity data, such as SNPs, SSRs, sequences and phenotypic data that may be collected in field, genetic, or physiological experiments.
- GDPC promotes the reuse and reanalysis of data by making it publicly available.
- GDPC users can retrieve data from multiple data sources simultaneously because all data is converted into the GDPC data elements.
- Analysis tools using the GDPC JAVA API will automatically have access to existing and future "GDPC enabled" data sources.
- GDPC integrates Genomic and Phenotypic data to promote the development of software tools that analyze this data.
- GDPC accesses data sources via XML web services.

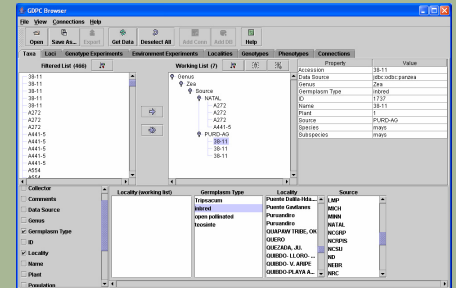
4. How can the GDPC Browser help you?

This front-end application uses the GDPC Java API to retrieve, save, export, and group genotypic and phenotypic data based on user defined filter criteria.

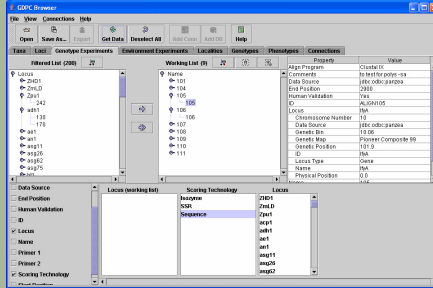
- One or more data sources can be added to the browser in preparation for data retrieval. (i.e. add the Panzea Database)



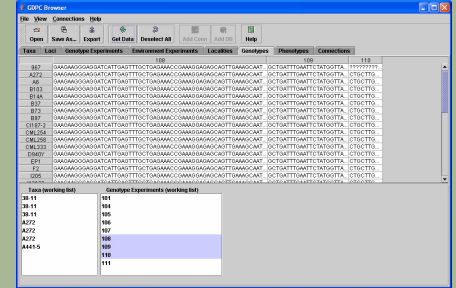
- Data can be retrieved based on selected filter criteria. (i.e. retrieve all inbred taxa)



- Data can be sorted based on property values, and a working list of relevant instances can be compiled.

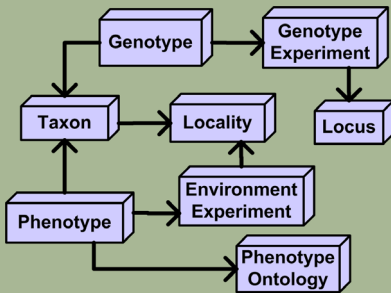


- Sequences can be retrieved for selected taxa and genotype experiments.



2. What Data can be Accessed?

This diagram shows the GDPC standardized data elements and their relationships.



- Locality** - a geographical location.
- Locus** - a region on a chromosome.
- Environment Experiment** - an experiment used to acquire phenotypic data. One of its properties is a locality.
- Taxon** - a particular seed line. One of its properties is a locality.
- Genotype Experiment** - an experiment used to acquire genotypic data. One of its properties is a locus.
- Phenotype Ontology** - a physical trait defined by a larger classification of traits.
- Phenotype** - a physical trait value for a given taxon collected by a particular environment experiment.
- Genotype** - a genotype value for a given taxon collected by a particular genotype experiment.

3. How does GDPC fit into the Big Picture?

GDPC retrieves genotypic and phenotypic data from one or more "GDPC enabled" data sources and returns it to the analysis tools.

