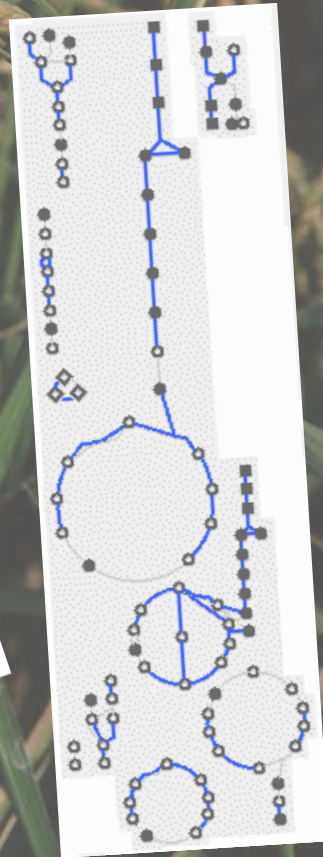
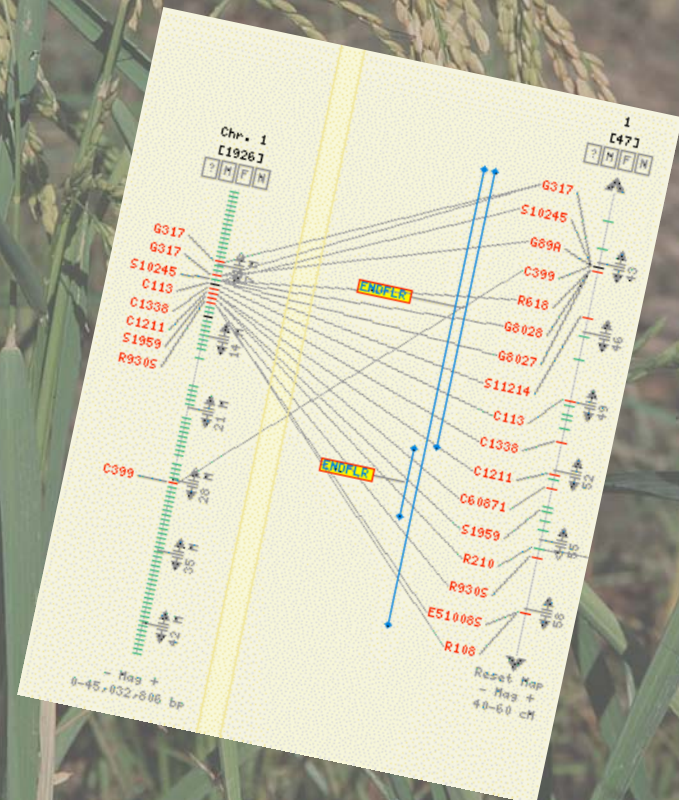


Tutorial for:

Gramene Website Navigation



Correspondences	No correspondences.
Clone	(GA)15
Repeat Motif	GAGTCGACGAGCGGCAGA
Forward Primer	CTGCGAGCGACGGTAACA
Reverse Primer	55
Anneal Temperature	
Expected PCR Product Size	112



Accessing Gramene

To access Gramene, open your internet browser (such as Netscape, IE, or Safari).

(If some website features don't work correctly, try using a different browser. We recommend a Mozilla based browser.)

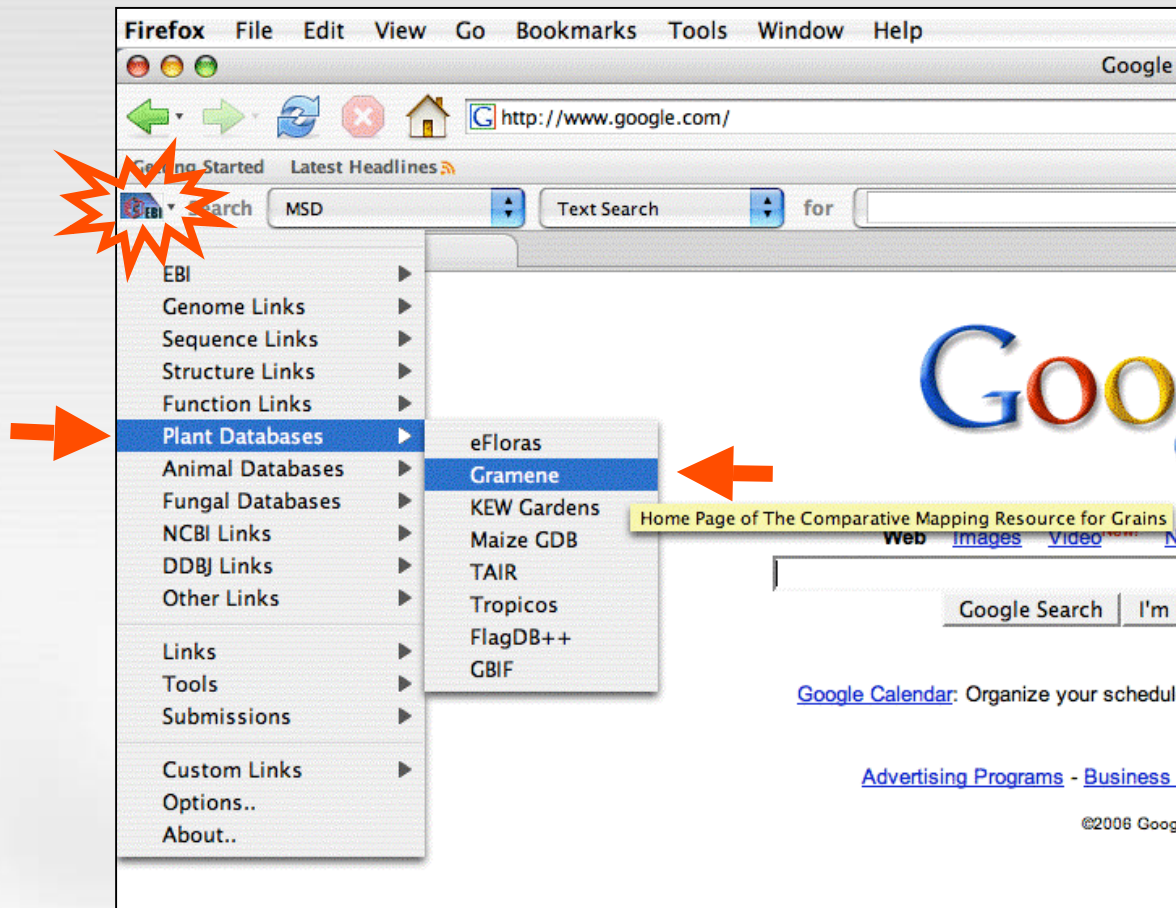
Option 1 -

- In the address bar type "www.gramene.org" and press "Enter" to open the **Gramene Home Page**.



Get Biobar at
<http://biobar.mozdev.org/>

Option 2: Access Gramene on Mozilla via Biobar



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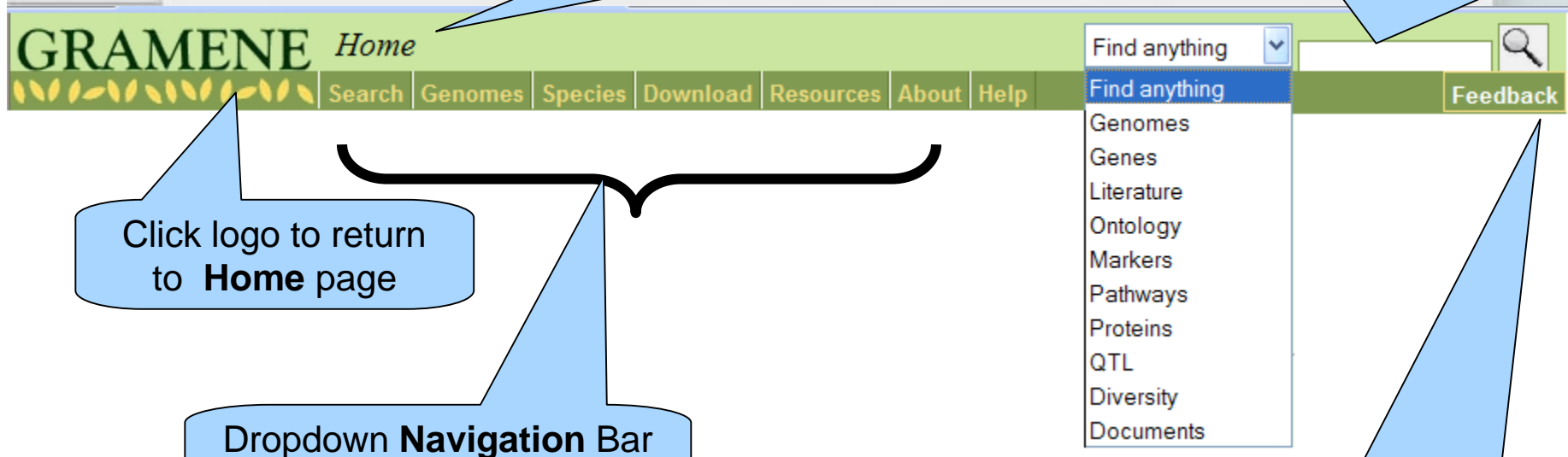
Page Navigation

www.gramene.org

*(If some website features don't work correctly,
try using a different browser)*

Title identifies the page being viewed.

Quick search, optionally select a specific database to search, enter a term to search for, and click on "search."



Click logo to return to **Home** page

Dropdown **Navigation Bar**
(see next slides)

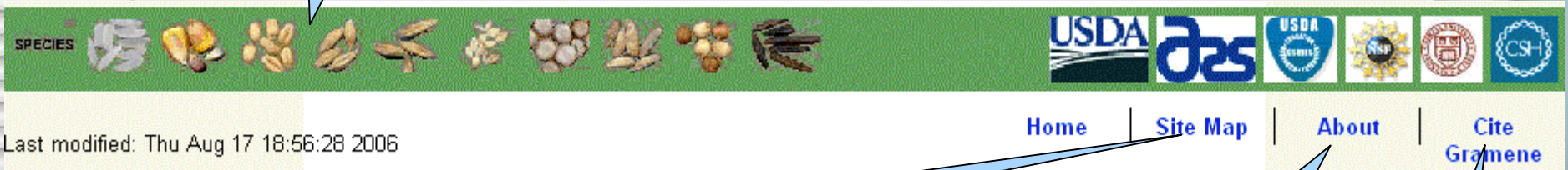
Easily accessible "**Feedback**" button on every page.

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Footer

Click "Species" or seed images to link to **species pages**

Collaborators and funding sources are linked along the bottom



Provides an **overview** of everything on the site

Gramene **purpose, history and people**

Information about **citing** Gramene

Searches

The screenshot shows the GRAMENE Home page. The navigation bar includes links for Search, Genomes, Species, Download, Resources, About, and Help. A sidebar menu on the left lists various modules: Genomes-Ensembl, Maps-CMap, Markers, QTL, Diversity, Genes, Proteins, Pathways, Ontologies, Literature, Sequences-BLAST, and All-GrameneMart. The main content area features a 'Quick Start' section with a search box and a 'Visit with us at' section with dates for workshops. A blue callout bubble points to the QTL module in the sidebar menu.

GRAMENE Home

Search Genomes Species Download Resources About Help Feedback

Genomes-Ensembl
Maps-CMap
Markers
QTL
Diversity
Genes
Proteins
Pathways
Ontologies
Literature
Sequences-BLAST
All-GrameneMart

Quick Start

genomes for *Oryza Sativa*, *Oryza rufipogon*, *Maize* & *Arabidopsis*: Look for search with Gramene

Visit with us at

- Sept 21-22 Agricultural Ontology Service (AOS) Workshop
- Jan 12-16, 2008 PAG XVI

Gramene Tip:

All visualizations in the CMap views (mapsets, maps, features, and correspondences) are generated from the Markers Module.

- [Browse All Tips](#)

Have Questions...?

Gramene Modules and tools used to **access the databases. See individual module tutorials.**

Note that you are in the QTL module

The screenshot shows the GRAMENE QTL module page. The navigation bar includes links for Search, Genomes, Species, Download, Resources, About, and Help. A module-specific navigation bar below the main navigation bar includes links for QTL Home, Simple Search, Power Search, Help, Tutorial, and FAQs. The main content area features a search box and a 'Find:' label. A blue callout bubble points to the module-specific navigation bar.

GRAMENE QTL

Search Genomes Species Download Resources About Help Feedback

QTL Home | Simple Search | Power Search | Help | Tutorial | FAQs

Gramene QTL Database

Find:

Each module has its own **module-specific navigation bar** below the main Gramene navigation bar.

Module specific searches will search **ONLY** that module

Genomes

Click Logo to return to the Home page

Select **Genomes** to access the genome browser.

Select a **genome** to view.

Rice/Maize synteny views are available from either the rice or the maize genome pages.

Rice Synteny Vs Maize FPC Map

Rice Chr 1 vs. Maize

Example Features

- ▶ Gene: [d11](#)
- ▶ Transcript: [Q6Z0E3](#)
- ▶ Contig: [AP003727](#)

GRAMENE Genome Browser

Search Genomes Species Download Resources About



Feedback

Browser Links

- Genomes Home
- Genomes Help
- Switch Species

- Oryza sativa ssp japonica
- Oryza sativa ssp indica
- Oryza rufipogon
- Zea mays (maizesequence.org)
- Arabidopsis thaliana
- Organelles

Other Poaceae

Other

Zea mays
(MaizeSequence.org)
[Collaborator web site]

Arabidopsis thaliana
[TAIR 6]

(Japanese rice)
[TIGR 5]

Oryza sativa ssp indica
(Indian rice)
[BGI 2004]

Oryza rufipogon
(red rice)
[OMAP OR_CBa]

About Gramene-Ensembl

The Gramene C... d to plant
The Browser is

Ensembl is a joint project between EMBL - EBI and the Sanger Institute to develop automatic annotation on selected eukaryotic genomes. Ensembl is primarily fund

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See [Genomes Tutorials](#)

Species

GRAMENE Species

Find anything Search

Search Genomes Species Download Resources About Help Feedback

Species | Rice | Maize | Wheat | Barley | Oats | Rice (Oryza) | Maize (Zea) | Wheat (Triticum) | Barley (Hordeum) | Oats (Avena) | Foxtail Millet (Setaria) | Pearl Millet (Pennisetum) | Rye (Secale) | Sorghum (Sorghum)

Select a **Species** from the menu or the footer.

Select to change specie.

Each species page provides information in many categories

GRAMENE Oryza

Search Genomes Species Download

Species | Rice | Maize | Wheat | Barley | Oats | Foxtail Millet | Pearl Millet

Oryza Maps and Statistics

Oryza Species Page: Introduction | Facts | Anatomy | Taxonomy | Agronomic Statistics | Research | Educational Links | Nutrition | Recipes | News | Germplasm Resources | Gramene Statistics | Gramene Queries

Figure 1^a

Rice Production 2005 (MT)

Figure 2^a

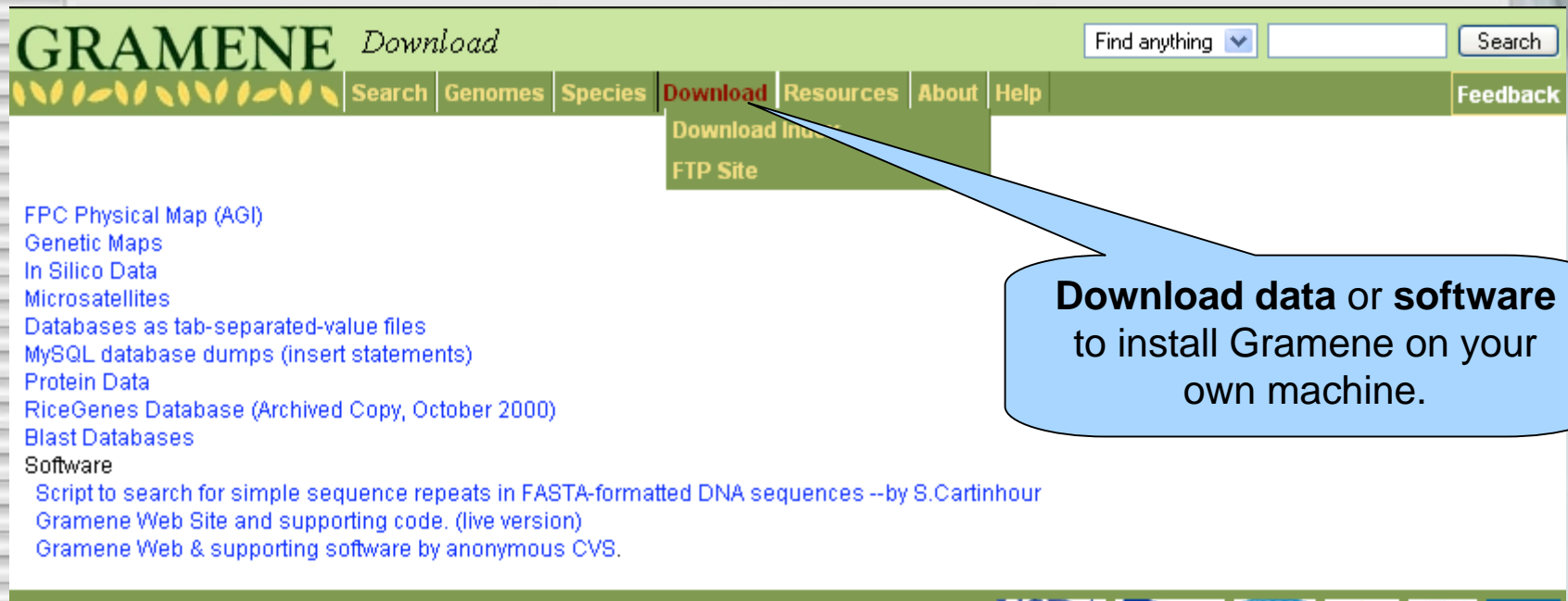
2005 Rice Production

<1,000 Metric Tonnes	1,000,000 - 9,999,999 Mt
1,000 - 99,999 Mt	10,000,000 - 49,999,999 Mt
100,000 - 999,999 Mt	50,000,000 - 100,000,000 Mt
	Over 100,000,000 Mt

SPECIES



Downloads



GRAMENE *Download* Find anything Search

Search Genomes Species **Download** Resources About Help Feedback

Download Information
FTP Site

- [FPC Physical Map \(AGI\)](#)
- [Genetic Maps](#)
- [In Silico Data](#)
- [Microsatellites](#)
- [Databases as tab-separated-value files](#)
- [MySQL database dumps \(insert statements\)](#)
- [Protein Data](#)
- [RiceGenes Database \(Archived Copy, October 2000\)](#)
- [Blast Databases](#)
- Software**
 - [Script to search for simple sequence repeats in FASTA-formatted DNA sequences --by S.Cartinhour](#)
 - [Gramene Web Site and supporting code. \(live version\)](#)
 - [Gramene Web & supporting software by anonymous CVS.](#)

Download data or software
to install Gramene on your
own machine.

Resources

Definitions of terms, abbreviations and acronyms used. Links to other on-line glossaries

Provides **links** to other websites of interest

Submit a gene or ontology term to the database

Links page of **genetic newsletters** for cereals

The screenshot shows the 'Resources' section of the Rice Genome Program website. At the top right is a search bar labeled 'Find anything'. Below it is a navigation menu with 'Resources' highlighted. A list of resource categories is displayed, including 'Cereals for Bioinformatics', 'Plant Breeding', 'Germplasm Resources', and 'Pathology'. A 'Submit a Term' button is visible. Below the menu, there are sections for 'Complete Rice (Oryza sp.) Sequences' and 'Cereal Genome Sequencing Efforts'. The 'Cereal Genome Sequencing Efforts' section includes a sub-section for 'Rice' with a bullet point for the 'International Rice Genome Sequencing Project (IRGSP)'. The IRGSP description states it was established in 1997 to obtain a high quality, map-based sequence of the rice genome using the cultivar Nipponbare of *Oryza sativa* ssp. japonica. It lists ten member countries: Japan, the United States of America, China, Taiwan, Korea, India, Thailand, France, Brazil, and the United Kingdom. It also mentions that in December 2004, the IRGSP completed the sequencing of the rice genome, and the high-quality and map-based sequence of the entire genome is now available in public databases. Below this, it lists 'IRGSP Members' and includes a sub-bullet for 'Rice Genome Program (RGP)', noting it is a joint project of the National Institute of Acrobiological Sciences (NIAS).

Find anything

load Resources About Help

Links Pages

Glossary

Submit a Term

Newsletters

Germplasm Resources

Pathology

Agriculture

Other (non-cer)

Complete Rice (*Oryza* sp.) Sequences

- [IRGSP sequences](#)
- [TIGR pseudomolecule](#)

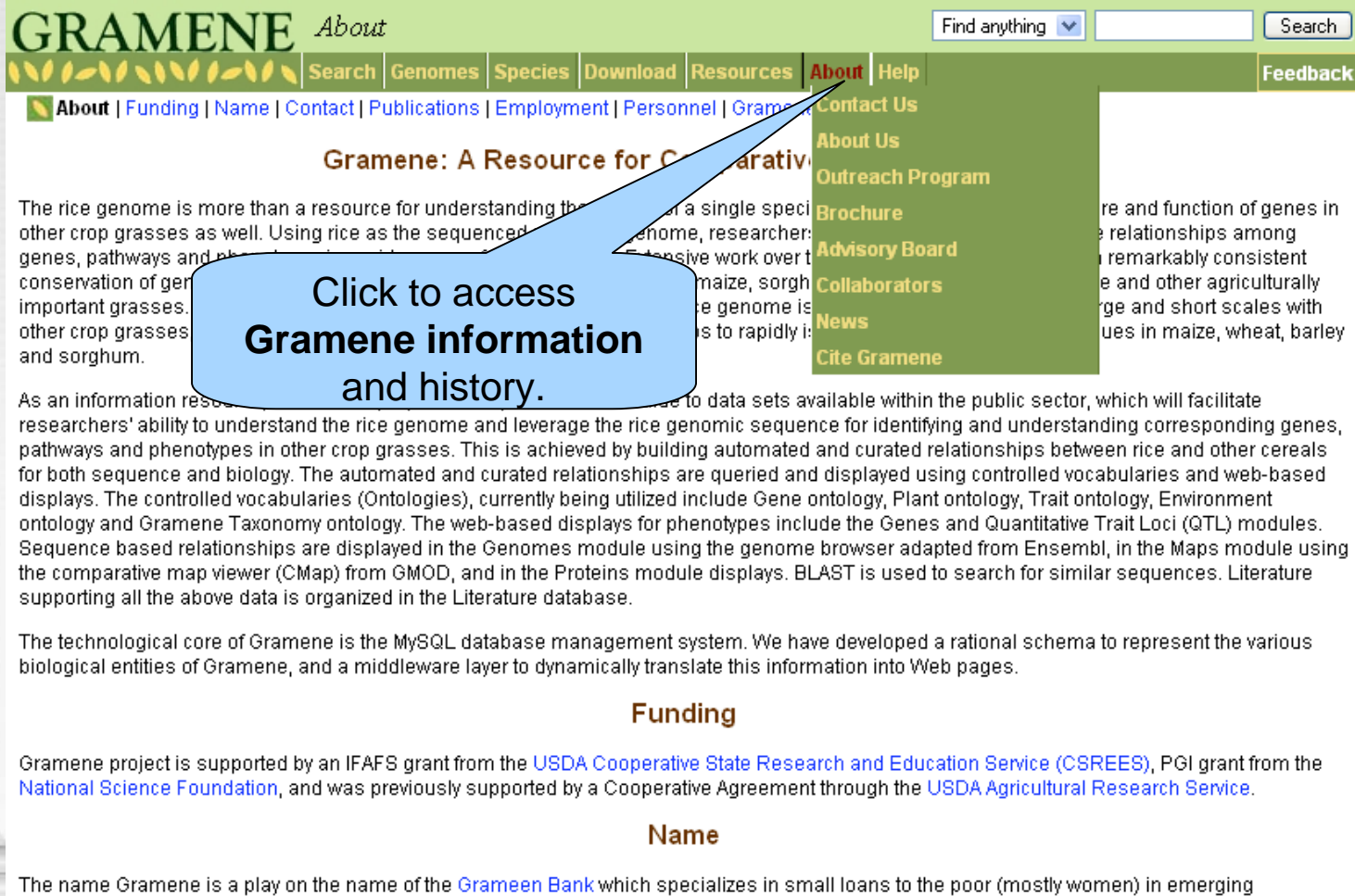
Cereal Genome Sequencing Efforts

Rice

- [International Rice Genome Sequencing Project \(IRGSP\)](#) - The International Rice Genome Sequencing Project (IRGSP), a consortium of publicly funded laboratories, was established in 1997 to obtain a high quality, map-based sequence of the rice genome using the cultivar Nipponbare of *Oryza sativa* ssp. japonica. It is currently comprised of ten members: Japan, the United States of America, China, Taiwan, Korea, India, Thailand, France, Brazil, and the United Kingdom. The IRGSP adopts the clone-by-clone shotgun sequencing strategy so that each sequenced clone can be associated with a specific position on the genetic map and adheres to the policy of immediate release of the sequence data to the public domain. In December 2004, the IRGSP completed the sequencing of the rice genome. The high-quality and map-based sequence of the entire genome is now available in public databases.
IRGSP Members:
 - [Rice Genome Program \(RGP\)](#). Japan RGP is a joint project of the National Institute of Acrobiological Sciences (NIAS)

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About



GRAMENE *About* Find anything Search

[Search](#) [Genomes](#) [Species](#) [Download](#) [Resources](#) **About** [Help](#) [Feedback](#)

[About](#) | [Funding](#) | [Name](#) | [Contact](#) | [Publications](#) | [Employment](#) | [Personnel](#) | [Gramene](#)

Gramene: A Resource for Comparative Genomics

The rice genome is more than a resource for understanding the genome of a single species. It is a resource for understanding the genomes of other crop grasses as well. Using rice as the sequenced reference genome, researchers are identifying genes, pathways and phenotypes in other crop grasses. This is achieved by building automated and curated relationships between rice and other cereals for both sequence and biology. The automated and curated relationships are queried and displayed using controlled vocabularies and web-based displays. The controlled vocabularies (Ontologies), currently being utilized include Gene ontology, Plant ontology, Trait ontology, Environment ontology and Gramene Taxonomy ontology. The web-based displays for phenotypes include the Genes and Quantitative Trait Loci (QTL) modules. Sequence based relationships are displayed in the Genomes module using the genome browser adapted from Ensembl, in the Maps module using the comparative map viewer (CMap) from GMOD, and in the Proteins module displays. BLAST is used to search for similar sequences. Literature supporting all the above data is organized in the Literature database.

As an information resource, Gramene provides access to data sets available within the public sector, which will facilitate researchers' ability to understand the rice genome and leverage the rice genomic sequence for identifying and understanding corresponding genes, pathways and phenotypes in other crop grasses. This is achieved by building automated and curated relationships between rice and other cereals for both sequence and biology. The automated and curated relationships are queried and displayed using controlled vocabularies and web-based displays. The controlled vocabularies (Ontologies), currently being utilized include Gene ontology, Plant ontology, Trait ontology, Environment ontology and Gramene Taxonomy ontology. The web-based displays for phenotypes include the Genes and Quantitative Trait Loci (QTL) modules. Sequence based relationships are displayed in the Genomes module using the genome browser adapted from Ensembl, in the Maps module using the comparative map viewer (CMap) from GMOD, and in the Proteins module displays. BLAST is used to search for similar sequences. Literature supporting all the above data is organized in the Literature database.

Funding

Gramene project is supported by an IFAFS grant from the [USDA Cooperative State Research and Education Service \(CSREES\)](#), PGI grant from the [National Science Foundation](#), and was previously supported by a Cooperative Agreement through the [USDA Agricultural Research Service](#).

Name

The name Gramene is a play on the name of the [Grameen Bank](#) which specializes in small loans to the poor (mostly women) in emerging

Click to access Gramene information and history.

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Help

The screenshot shows the GRAMENE Documentation website. At the top, there is a navigation bar with the logo 'GRAMENE Documentation' on the left, a search box with the text 'Find anything' and a 'Search' button on the right, and a menu with items: Search, Genomes, Species, Download, Resources, About, Help, and Feedback. The 'Help' menu is expanded, showing a list of links: Site Map, Help Documents, Release Notes, Tutorials, FAQs, Workshop Exercises, Mailing Lists, Rice Gene Nomenclature, and Ask Us. The main content area contains several sections: 'Web Site Help' with sub-links for Genomes, BLAST, and Maps; 'Glossary'; 'Rice Gene Nomenclature' with a sub-link for Document; 'External Use' with sub-links for Linking and Installing Gramene; 'FAQs' with a sub-link for Rice Gene Nomenclature; and 'Exercises' with a sub-link for RiceCAP 2006 Workshop (6/06) Conducting searches, QTL and markers. Introduction to. At the bottom, there is a section for 'Select your preferred format' with links for Gramene, PowerPoint, and Adobe PDF.

Gramene help docs and documentation

Searchable Frequently Asked Questions about Gramene, curation, and database modules.

Link to info on Rice gene nomenclature

E-Lists for discussion and for announcements

Contact Gramene

GRAMENE Home

Find anything



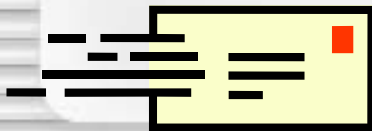
Search Genomes Species Download Resources About Help

Feedback

Get contact info

Use the feedback button, located at the top of every page, to provide **feedback** or to ask **questions** about Gramene.

or



Email Gramene at gramene@gramene.org

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