

Welcome to the Maps and CMap Tutorial

Identify the location of a particular gene, trait, QTL or marker - and the grass species they have been mapped to - on genetic, QTL, physical, sequence, and deletion maps .

Use the CMap viewer to examine the co-linearity of a particular region in one chromosome or species to another; or infer which linkage group in one species is most conserved with a linkage group in another species. .

Determine which maps are the best for making comparisons.

GMOD

CMap was originally written for the Gramene project (<http://www.gramene.org/>) and is now part of the GMOD (Generic Model Organism Database) Project (<http://www.gmod.org/>).

**For more assistance on cmap, visit
<http://www.gmod.org/cmap/>**



Tutorial Help



The hand icon indicates a link that allows you to go to the same page in your web browser.



If you are viewing this tutorial with Adobe Acrobat Reader, click the "bookmarks" on the left hand side of the Reader for easier navigation.

Action Options are noted in this type of font.

Notes or comments use this style font.



Gramene Home Page

GRAMENE

A Resource for Comparative Grass Genomics

v20 (Dec 2005)

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- Gramene now has [tutorials](#) for every module.

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Quick Start

Look for [Rice](#), [Maize](#) & [Arabidopsis](#); Look for [Rice](#) [Maize](#); Search for sequence

[GO](#)

Click here to open the
Maps Home Page

al maps for [Rice](#), [Maize](#), [wheat](#), [Barley](#), [Oats](#), [Sorghum](#), and other grasses, or use the Comparative Map Viewer ([CMap](#)) to compare maps of different types and species.

 **MOLECULAR MARKERS:** Use the Simple Sequence Repeat Identification Tool ([SSRIT](#)); or search by [marker type](#) or species, including [Rice](#), [Maize](#), [Sorghum](#) and [Others](#).

Featured News

- Breaking news on genomic research
- [Rice News Worldwide](#) from IRRI
- [Gramene News Archive](#)

Visit us at

- [Plant and Animal Genome XIV Conference](#), January 14-18, 2006, San Diego, CA, USA
- [Rice Technical Working Group Meeting](#), Feb. 26-Mar. 1, 2006, The Woodlands, Texas, USA



Maps Home Page

Select “maps” to **choose a starting map**. You may later add comparative maps to the right or left.

Gramene - Maps

 [Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

Welcome to Gramene's Maps module. In addition to viewing several different types of maps from many species of cereal crops, you may use [CMap - the Comparative Map Viewer](#) to construct comparisons between species and maps.

In this release, we present five new physical maps: one from *O. glaberrima* and four from wild relatives of rice. There are also eight new QTL maps: one from barley, four from rice, two from tetraploid wheat (*Triticum turgidum*) and one from wheat. Five maps have had maintenance updates but are otherwise unchanged.

New Physical Maps

- [O. alta-OMAP FPC 2005](#)
- [O. australiensis-OMAP FPC 2005](#)
- [O. brachyantha-OMAP FPC 2005](#)
- [O. glaberrima-OMAP FPC 2005](#)
- [O. punctata-OMAP FPC 2005](#)

New QTL Maps

- [Barley-NCSL Zhed/ND//Fos QTL 2003](#)
- [Rice-CAU IRAT109/YUEFU QTL 2004](#)
- [Rice-JUT Akihi/IRAT109 QTL 2004](#)
- [Rice-LSU Caiapo/IRGC103544 QTL 2004](#)
- [Rice-MU CT9993/IR6226 QTL 2004](#)
- [Tetraploid wheat-ICARDA Omra/T.dico QTL 2004](#)
- [Tetraploid wheat-NDSU Langdon QTL 2002](#)
- [Wheat-AAFCCRC Wuhan1/ Marin QTL 2003](#)

Maintenance Updates

- [Maize-AGI FPC Oct 2004](#)
- [Maize-Curated AGI FPC Oct 2004](#)
- [Sorghum-TAMU FPC 2004](#)
- [O. nivara-OMAP O. nivara FPC 2005](#)
- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Maps: Select a Species

You need to use the “reference menu” to select a species, map set and map that you will be able to compare other maps to later

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☐ Hide Reference Menu

Ref. Species:

- Select-
- All Species
- Rice (Oryza sativa)
- Oryza sativa x Oryza eichingeri
- Oryza sativa x Oryza longistaminata
- Oryza sativa x Oryza rufipogon
- Maize (Zea mays)
- Tetraploid wheat (Triticum turgidum)
- Wild rice (Zizania palustris)
- Barley (Hordeum vulgare)
- Oat (Avena sp.)
- Wheat (Triticum aestivum)
- Rye (Secale cereale)
- Sorghum (Sorghum bicolor)
- Foxtail millet (Setaria italica subsp. italica)
- Pearl millet (Pennisetum glaucum)

Please note: Java

compare maps between and among species. See [help](#) for more information.

1. Select a species and click “Change Species”

reference map. You may continue to add additional maps as desired.



Maps: Select a Map Set

Click here for more information on map sets (see slides 32-33).

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☐ Hide Reference Menu

Ref. Species:

Ref. Set:

Ref. Map:

QTL : Rice - CNRRI Xieqingzao B/Miyang46 RI QTL 2002

QTL : Rice - CNHZAU Zhenshan97/Minghui63 RI QTL 2002

QTL : Rice - CNNJAU Taichung65/Bhadua F2 RFLP QTL 2002

QTL : Rice - CNRRI Zhenshan97B/Milyang46 RI QTL 2002

QTL : Rice - TTU IR64/O. rufipogon RI QTL 2003

QTL : Rice - JRGP Nipponbare/Kasalath RFLP QTL 2000

QTL : Rice - CIRAD IR64/Azucena DH RFLP QTL 2003

QTL : Rice - IRRI RD23/O. longistaminata F2 SSR QTL 2003

QTL : Rice - IRRI Milyang 23/Akihikari RI RFLP QTL 2003

QTL : Rice - IRRI IR64/Azucena DH RFLP QTL 2003

QTL : Rice - JNIAK Akita/Koshihikari DH RFLP QTL 2003

QTL : Rice - Cornell Jeonju/O. rufipogon BC SSR RFLP QTL 2003

QTL : Rice - IRRI Lemont/O. rufipogon RI RFLP QTL 2001

QTL : Rice - NIAS Sasashige/Bataki BCIL RFLP QTL 2003

QTL : Rice - HGP M2003

Reference Set Options will depend upon the reference species you have chosen. They are grouped by map types (sequence, genetic, etc).

2. Select a **reference map set**, and click "Show Selected Set's Maps"

Map reported by [Kurata et al. \(1994\)](#) and [Harushima et al.](#)
66 plants from a cross between the cultivars **Nipponbare**



Maps: Select a Map

☐ Hide Reference Menu

Ref. Species: Rice (Oryza sativa)

Ref. Set: QTL : Rice - JRGP Nipponbare/Kasalath RFLP QTL 2000

Ref. Map: -All-

1
2
3
4
5
6
7
8
9
10
11
12

3. Choose one or all of the **maps** from this set.

Click "Change Maps"

Reference Map Set Info

Map Set: JRGP Nipponbare/Kasalath RFLP QTL 2000 (JRGP Nip/Kas F2 QTL 2000) [[View More Info](#)]

Species: Rice (Oryza sativa) [[View More Info](#)]

Map Type: QTL (cM) [[View More Info](#)]

Description: This is an updated version of the map reported by [Kurata et al. \(1994\)](#) and [Harushima et al. \(1998\)](#). It uses an F2 population of 186 plants from a cross between the cultivars Nipponbare (japonica) and Kasalath (indica). A total of 3267 markers were located covering 1530.4 cM. Marker names ending with the letter 'S' indicate that the 3' UTR of a cDNA fragment was used as a probe rather than the whole insert. The centromere position of chromosome 10 has been updated to the estimate given by [Cheng et al. \(2001\)](#).

Germplasm(s): IRIS [Nipponbare](#)

Germplasm(s): IRIS [Kasalath](#)

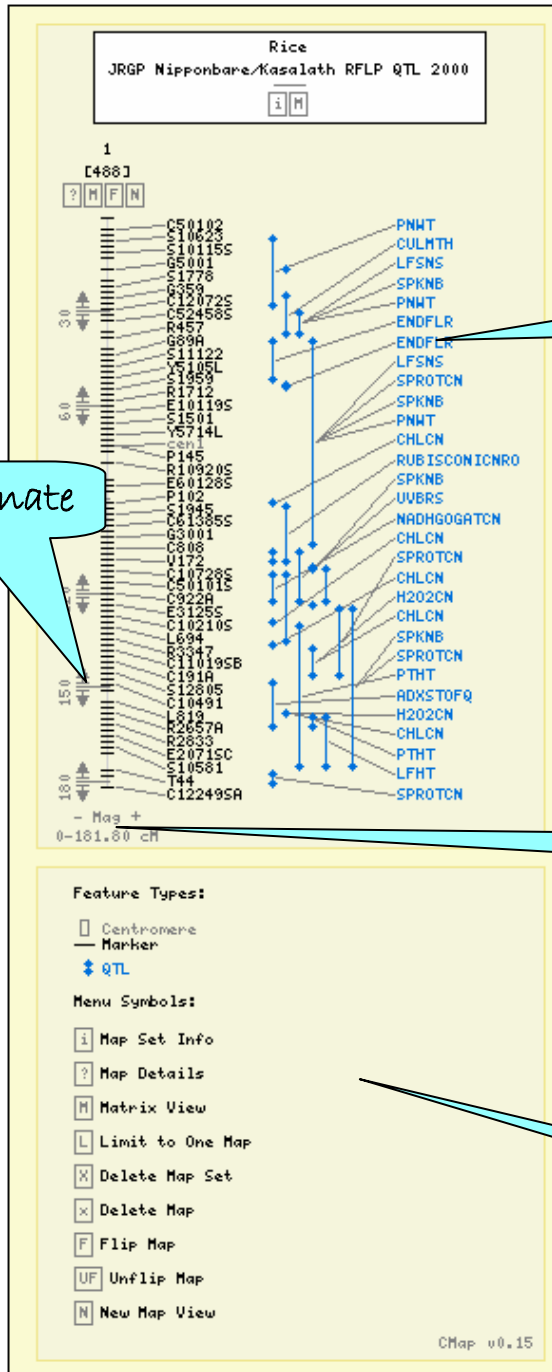
Cross-references:

- [Rice Genome Research Program, Japan](#)

Information on the **Ref. Map Set** will appear when one is selected.



Maps: Viewing a map



Map coordinate

Hover over a point for name, click for feature detail (see slide 10)

Change Magnification

Map Legend

Viewing a Map Feature Detail



[CMap Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

Feature "ENDFLR"

Feature Name: ENDFLR
Aliases: Chalkiness of endosperm [\[View Alias Details \]](#)
Accession ID: AQCV031
Feature Type: QTL [\[View Feature Type Info \]](#)
Map: Rice-JRGP Nip/Kas F2 QTL 2000-1 [\[View Map Details \]](#)
Start: 38.80 cM
Stop: 52.10 cM
Cross-references: [\[QTL Detail Page \]](#)

Correspondences

No correspondences to show.

Feature Alias Detail "Chalkiness of endosperm"

Alias: Chalkiness of endosperm
Feature Name: ENDFLR [\[View Feature \]](#)

Feature Type Info

Display: [Submit](#)
[\[View All Feature Types \]](#)
 Items 1 to 1 of 1.

Feature Type: QTL
Accession ID: qtl
Color: mediumpurple
Shape: dumbbell
Description: Quantitative Trait Locus
[\[Search for All Features of This Type \]](#)

Feature "R687"

Feature Type: Marker [\[View Feature Type Info \]](#)
Map: Rice-I-Map (FPC) [OBSOLETE]-ctg1 [\[View Map Details \]](#)
Start: 14.00 bands
Stop: 39.00 bands
Cross-references: [\[View Marker Details \]](#)
[\[View Marker Details \]](#)
[\[View Oryza sativa RFLP marker "R687" in Marker DB \]](#)
[\[View "R687" in Genome Browser \]](#)

Correspondences

Feature	Map	Map Type	Aliases	Evidence Type	Actions
R687	Rice-GR TIGR Assm IRGSP Seq	Sequence	D23969, R0687_2A, R0687_2B		[Correspondence Details] [View On Map] [Comparative View]
R687	Nip/Kas F2 QTL 2000-1	QTL	None		[Correspondence Details] [View On Map] [Comparative View]
R687	Rice-JRGP RFLP 2000-1	Genetic	None		[Correspondence Details] [View On Map] [Comparative View]

Click here for Map Details (see slide 11)

Different features may offer different information and links to detail or map pages.

Viewing a Map - Map Detail



and Features

Map Details

Map Type: [[View Map Type Info](#)]

Map Set Name: Rice - JRGP Nip/Kas F2 QTL 2000 [[View Map Set Info](#)]

Map Name: 1

Map Start: 0.00 cM

Map Stop: 181.80 cM

Features by Type: 447 [Marker](#)

40 [QTL](#)

1 [Centromere](#)

488 Total

Map Features

Restrict by Map: [--All--]

Submit

[[Download Feature Data](#)]

[[Download Feature Correspondence](#)]

Items 1 to 25 of 488.

Page of 20 | [Next](#)

Rice - JRGP Nip/Kas F2 QTL 2000 - 1 (Click headers to resort)				Comparative Maps			
Feature	Type	Position (cM)	Map	Feature	Type	Position	Evidence
R687	Marker	0.00	Rice - I-Map (FPC) 1998 - 1	R687		14.00 - 39.00 (bands)	Automated name-based
			Rice - AGI FPC 2002 (OBSOLETE) - cta1	R687		14.00 - 39.00 (bands)	Automated name-based
						0.00 (cM)	Automated name-based
						2.70 (cM)	Automated name-based
						4.00 (bands)	Automated name-based
						184.40 (cM)	Automated name-based View Maps
						208.89 (cM)	Automated name-based View Maps
			Rice - KRGRP 1998 - 1	C161		0.00 (cM)	Automated name-based View Maps
			Rice - NIAS Koshi/Kas BIL QTL 2003 - 1	C161		0.00 (cM)	Automated name-based View Maps
				C161		0.00 (cM)	Automated name-based View Maps
				C161		0.00 (cM)	Automated name-based View Maps
				C161		68.80 (cM)	Automated name-based View Maps
				C161A		146.30 (cM)	Automated name-based View Maps
				C161			
				C161			
			Rice - KRGRP Mil23/Gih QTL 1998 - 1	C161			
			Rice - I-Map (FPC) (OBSOLETE) - ctg1	C161			
			Rice - JRGP RFLP 2000 - 3	C161			
Y3664L	Marker	0.60	Rice - JRGP RFLP 2000 - 1	Y3664L			
			Rice - AGI FPC 2002 (OBSOLETE) - cta1	Y3664L			

Note: details appear at the bottom of the page, after the map

You can restrict the correspondence information in the table to a particular map or map set. Choose a map or map set from the "Restrict by Map" field at the top of the table.

Select to view the data in the table in a tab-delimited format.

There are 488 results. Results pages can be navigated by entering a page number or clicking "next".

Click on a feature name to view the "Feature Details" page (see slide 10).

Select "View Maps" to see the reference map and this comparative map in the Map Viewer with the feature correspondence highlighted.

Click hyperlinked column headings to sort table by that column.

Viewing a Map - Map Legend

Species name

Map set name

Map name

Listing of all the feature
types found on the map with
their corresponding glyphs

Legend at bottom
of map explains
options above

The screenshot displays the CMap v0.14 interface. The top section shows a map view with a yellow background. A white box in the center contains the text "Rice" and "JRGP Nip/Kas F2 QTL 2000" followed by a horizontal line and the number "1". Below this is a row of six small boxes containing the letters "i", "?", "M", "F", and "N". A callout points to the "i" box, and another points to the "M" box. Below the map view, the text "[488]" is visible. The bottom section of the interface is a legend titled "Feature Types:" and "Menu Symbols:". The "Feature Types:" section lists "Centromere" with a vertical line icon and "Marker" with a blue asterisk icon. The "Menu Symbols:" section lists six options, each with a small box containing a letter: "i Map Set Info", "? Map Details", "M Matrix View", "X Delete Map", "F Flip Map", and "N New Map View". A callout points to the "i" box in the "Menu Symbols:" section. The bottom right corner of the interface displays "CMap v0.14".

Feature Types:

- Centromere
- Marker
- QTL

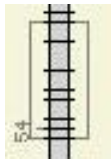
Menu Symbols:

- i Map Set Info
- ? Map Details
- M Matrix View
- X Delete Map
- F Flip Map
- N New Map View

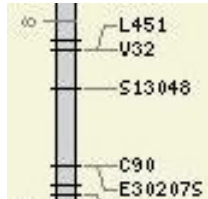
CMap v0.14

Maps: Legend - Glyphs

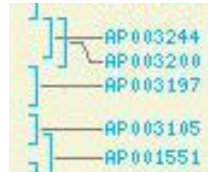
The following demonstrate some of the glyphs (shapes) that map features could appear as.



box



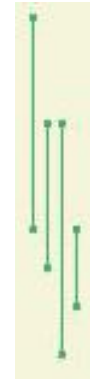
line



span



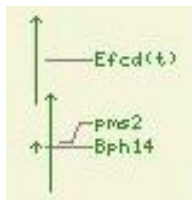
filled-box



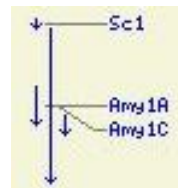
dumbbell



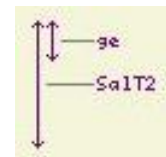
in-triangle



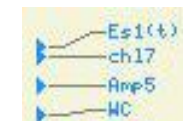
up-arrow



down-arrow



double-arrow



out-triangle

Maps: Choosing Maps to Compare

The "Start" & "End" fields allow for changing the size of the region shown.

You may determine the minimum number of correspondences that are desired from map to map.

The number in brackets indicates the number of correspondences to the reference map.

You may place maps for comparison on the left and right of the reference map (and continuing on, *ad infinitum*).

☒ Show Reference Menu
☒ Show Comparison Menu
☒ Show Options Menu
☒ Show Additional Options Menu

Redraw Map

Map Details

Click on [+] and [-] signs to collapse or expand a field

Select a map set to compare with your reference map, and click "Redraw Map"

☐ Hide Comparison Menu

Ref Map Start:

Ref Map End:

Current Map Sets: Barley-NC

Min. No. Correspondences

Min. No. Correspondences

Min. No. Correspondences

Compar

Select Map Set

No Map Set Selected

Format: Name [Total corres]

Redraw Map

Reset

☐ Hide Reference Menu

Ref. Species: (Oryza sativa)

Ref. Set: QTL: Rice - JRGP Nipponbare

☐ Hide Comparison Menu

Ref Map Start:

Ref Map End:

Current Map Sets: Rice-JRGP Nip/Kas F2 QTL (Ref.)

Min. No. Correspondences for Left Slot: 0

Min. No. Correspondences for right Slot: 0

Min. No. Correspondences for the menu:

Comparative Maps (Left):

Select Map Set

Genetic: Maize - Wm. B. Whittaker's 2002 [3]

Genetic: Maize - Cornell (Wilson) RFLP 1999 [2]

Genetic: Sorghum - Klein 2004 [2]

Genetic: Sorghum - Paterson 2003 [35]

Genetic: Pearl millet - JIC LGD1-B-10/ICMP85410 F2 RFLP 2004 [1]

Maize Bin: Maize - Maize Bins [5]

QTL: Rice - CNSIPPE Nona Bokra/Koshihikari F2 RFLP QTL 2004 [19]

QTL: Rice - CNWHU B5/Minghui63 RIL RFLP QTL 2004 [1]

QTL: Rice - CNZU Azucena/IR1552 RI RFLP AFLP SSR QTL 2004 [3]

QTL: Rice - JUT IR36/Genjah Wangkal RI RFLP SSR QTL 2004 [2]

QTL: Rice - JUT Patnai 23/Goai F2 RFLP SSR QTL 2004 [8]

QTL: Rice - TNCGEB CT9993/IR6226 DH AFLP RFLP SSR QTL 2004 [12]

QTL: Rice - CIRAD IR64/Azucena DH RFLP QTL 2003 [11]

QTL: Rice - CNZU Azucena/IR1552 RI QTL 2003 [4]

QTL: Rice - Cornell IR64/IRGC105491 (O. rufipogon) BC2F2 SSR/RFLP QTL 20

QTL: Rice - Cornell Jefferson/O. rufipogon BC SSR RFLP QTL 2003 [3]

QTL: Rice - IRRI IR62266-42-6-2/IR60080-46A BCL RFLP/SSR QTL 2003 [2]

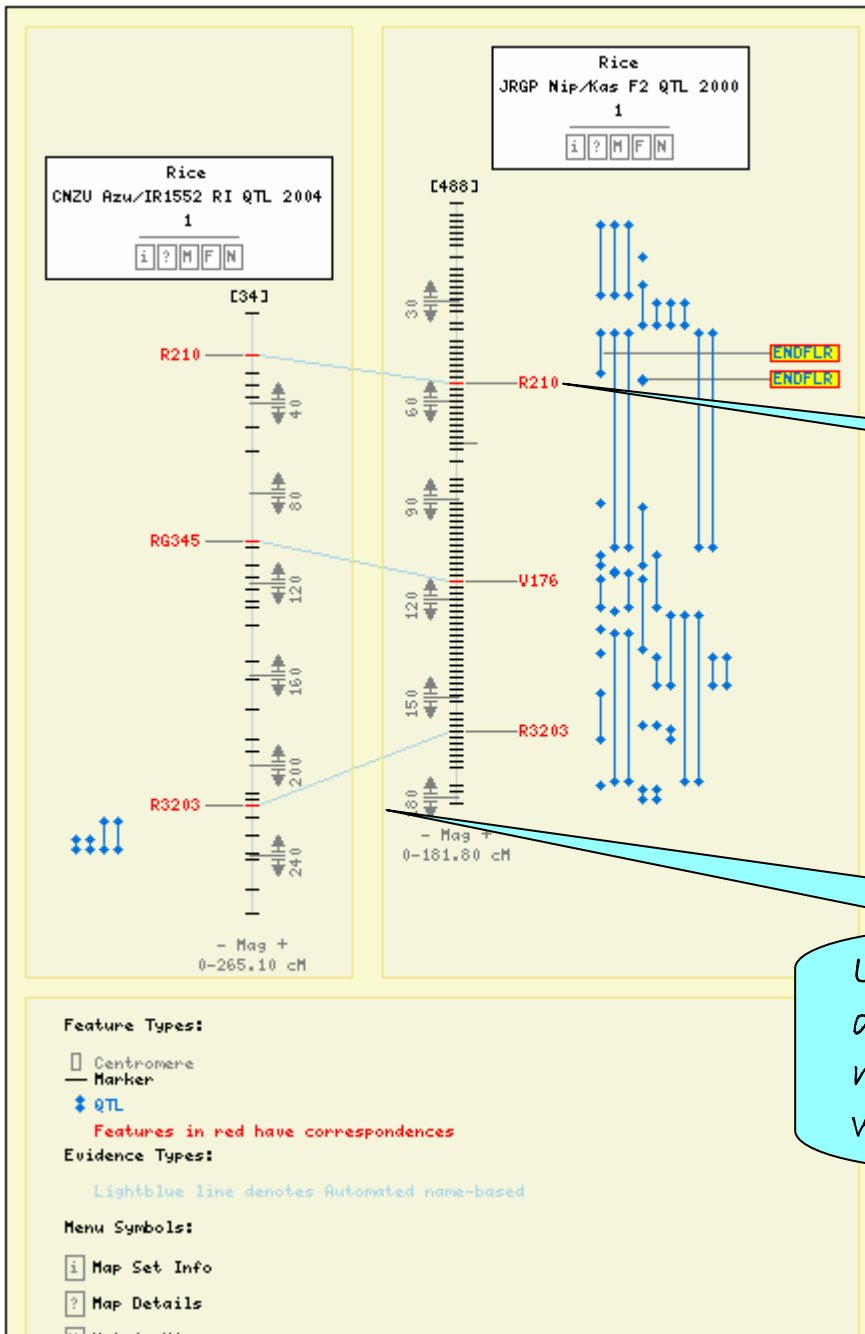
QTL: Rice - IRRI IR64/Azucena DH RFLP QTL 2003 [1]

QTL: Rice - IRRI Milyang 23/Akihikari RI RFLP QTL 2003 [14]

QTL: Rice - JNAR Akihikari/Koshihikari DH RFLP QTL 2003 [15]

QTL: Rice - NIAS Koshihikari/Kasalath RIL RFLP QTL 2003 [24]

Maps: Comparative Map Viewer



Features with correspondences appear in red (noted in legend)

Lines show correspondences. The color of the line denotes evidence type (noted in legend). When multiple evidences support a correspondence, the one with the highest rank is used to color the line.

Map options

Type in a feature name to highlight it on the map.

Determine which feature types to include on the maps, and when to display them, by checking the appropriate boxes.

The “Correspondence Type” field allows restriction of correspondences by evidence type.

Map Details

☐ Hide Options Menu

Highlight Features:

Feature Types:

Feature	Ignore	Display if Correspondence	Always Display
Centromere	☐	☐	☒
Marker	☐	☐	☒
QTL	☐	☐	☒
	Check All	Check All	Check All

Include Correspondence Types:

Evidence	Ignore	Use	Less Than Score	Greater Than Score	Score
Automated name-based	☐	☒	☐	☐	0
Insilico	☐	☒	☐	☐	0
Name-based	☐	☒	☐	☐	0
	Check All	Check All			

Aggregate Correspondences: ☒ No ☐ 1 Line ☐ 2 Lines

Total Magnification:

Maps: Configuring Additional options

The screenshot shows a web interface for configuring map options. On the left, a sidebar contains a menu with four items: 'Show Reference Menu', 'Show Comparison Menu', 'Show Options Menu', and 'Show Additional Options' (which is circled in red). Below this menu are 'Redraw Map' and 'Reset' buttons, and a 'Map Details' section. The main area displays the 'Hide Additional Options Menu' settings. These settings include: 'Image Size' (radio buttons for Small, Medium, Large), 'Font Size' (radio buttons for Small, Medium, Large), 'Image Type' (radio buttons for PNG, JPEG, GIF, SVG *), 'Show Labels' (radio buttons for None, Landmarks, All), 'Collapse Overlapping Features' (radio buttons for No, Yes), and 'Draw Maps Using Same Scale' (radio buttons for No, Yes). At the bottom of the main area are 'Redraw Map' and 'Reset' buttons, and a note: '*SVG output for high-resolution printing'. Six callout boxes provide descriptions for specific options: 'Determines the vertical height of the image' points to the 'Image Size' setting; 'Determines the size of the font' points to the 'Font Size' setting; 'Select the type of image' points to the 'Image Type' setting; 'Determines which feature labels will be shown on the map.' points to the 'Show Labels' setting; 'Determines whether to use one or multiple glyphs for features that span over the same coordinates' points to the 'Collapse Overlapping Features' setting; and 'Determines the vertical height of the image' (repeated) points to the 'Image Size' setting.

Shows Reference Menu
Shows Comparison Menu
Shows Options Menu
Show Additional Options

Redraw Map Reset

Map Details

Hide Additional Options Menu

Image Size: ☒ Small ☐ Medium ☐ Large

Font Size: ☒ Small ☐ Medium ☐ Large

Image Type: ☒ PNG ☐ JPEG ☐ GIF ☐ SVG *

Show Labels: ☐ None ☒ Landmarks ☐ All

Collapse Overlapping Features: ☒ No ☐ Yes

Draw Maps Using Same Scale: ☐ No ☐ Yes

*SVG output for high-resolution printing

Redraw Map Reset

Determines the vertical height of the image

Determines the size of the font

Select the type of image

Determines which feature labels will be shown on the map.

Determines whether to use one or multiple glyphs for features that span over the same coordinates

Maps: Displaying Different Options





Map Search

Select “map search”
to search for a
particular map by
name or by map set.

Gramene - Maps

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Maintenance Updates

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- [Maize-Curated AGI FPC Oct 2004](#)
- [Sorghum-TAMU FPC 2004](#)
- [O. nivara-OMAP O. nivara FPC 2005](#)
- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Map Search Home

Search by map name, species and/map set, if known.

[Maps Home](#) | [Maps](#) | [Map Search](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

-Select-
All Species
Rice (Oryza sativa)
sativa/eichingeri (Oryza sativa x Oryza eichingeri)
sativa/longistaminata (Oryza sativa x Oryza longistaminata)
sativa/rufipogon (Oryza sativa x Oryza rufipogon)
O. alta (Oryza alta)
O. australiensis (Oryza australiensis)
O. brachyantha (Oryza brachyantha)
O. glaberrima (Oryza glaberrima)
O. nivara (Oryza nivara)
O. punctata (Oryza punctata)
O. rufipogon (Oryza rufipogon)
Tetraploid wheat (Triticum turgidum)
Wild rice (Zizania palustris)
Barley (Hordeum vulgare)
Oat (Avena sp.)
Wheat (Triticum aestivum)
Rye (Secale cereale)
Maize (Zea mays)
Sorghum (Sorghum bicolor)
Foxtail millet (Setaria italica subsp. italica)
Pearl millet (Pennisetum glaucum)

Ref. Species: Rice (Oryza sativa)

Ref. Set: -Select-

Name (optional): -Select-

Minimum Number of Related Maps:

Sequence : Rice - Gramene TIGR Pseudomolecule Assembly of IRGSP Sequence 2005
Sequence : Rice - Cornell Class I SSR (93-11) 2005
Sequence : Rice - Cornell Class I SSR (IRGSP) 2005
Sequence : Rice - Cornell Class I SSR (TIGR) 2005
Physical : Rice - I-Map (FPC)
Physical : Rice - AGI FPC 2002
Genetic : Rice - JRGP Nipponbare/Kasalath RFLP 2000
Genetic : Rice - Cornell BS125/2/BS125/WLO2 RFLP 2001
Genetic : Rice - IRMI Integrated SSR 2003
Genetic : Rice - Cornell IR64/Azucena SSR 2001
Genetic : Rice - Hokkaido Morphological 2000
Genetic : Rice - IGCN ZhaiYeQing 8/JingXi 17 1998
Genetic : Rice - KRGRP Milyang23/Gihobyeyo AFLP-SSLP-RFLP1998
Genetic : Rice - TTU IR62266/CT9993 DH RFLP-AFLP-SSR 2000
Genetic : Rice - TTU IR58821/IR52561 RI RFLP-AFLP 2000
Genetic : Rice - Niigata Milyang 23/Akihikari F2 RFLP 2000
QTL : Rice - HNAES Milyang23/Akihikari RI RFLP QTL 2001
QTL : Rice - Aberdeen Bala/Azucena QTL 2002
QTL : Rice - TKU Integrated Population QTL 2002

[Maps](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) |

Map Search

Ref. Species: Rice (Oryza sativa)

Ref. Set: -Select-

Name (optional):

Minimum Number of Related Maps: 0

Submit

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[Statement](#)

[Back to top](#)



Map Type: Genetic (cM) [[View More Info](#)]

Description: This is an updated version of the map reported by [Kurata et al. \(1994\)](#) and [Harushima et al. \(1998\)](#). It uses an F₂ population of 186 plants from a cross between the cultivars **Nipponbare** (japonica) and **Kasalath** (indica). A total of 3267 markers were located covering 1530.4 cM.



Map Search Results

[Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Links](#) | [Help](#) | [Tutorial](#)

Data Source:

Build19

Ref. Species: Rice (Oryza sativa)

Ref. Set: Genetic : Rice - JRGP Nipponbare/Kas

Name (optional):

Minimum Number of Related Maps: 0

Submit

The results give you information about the maps, such as the number of each feature type on the map. This information is sortable by column headings.

Results 1 to 12 of 12.																
Map Name	Related Maps	Related Maps per unit	Correspondences	Correspondences per unit	Start	Stop	Low LOD marker		Marker		Gene		Interpolated Gene		Centromere	
							total	per unit	total	per unit	total	per unit	total	per unit	total	per unit
1 (spider)	372	2.05/unit	903930	4.97/m	0.00	181.80	32	0.18/unit	415	2.28/unit	0	0	33	0.18/unit	1	5.50/K
2 (spider)	355	2.22/unit	686721	4.29/m	0.00	160.20	15	93.63/K	316	1.97/unit	0	0	21	0.13/unit	1	6.24/K
3 (spider)	450	2.59/unit	739887	4.26/m	0.00	173.50	13	74.93/K	371	2.14/unit	0	0	35	0.20/unit	1	5.76/K
4 (spider)	339	2.43/unit	503494	3.61/m	0.00	139.60	29	0.21/unit	232	1.66/unit	0	0	26	0.19/unit	1	7.16/K
5 (spider)	338	2.62/unit	569779	4.42/m	0.00	128.90	17	0.13/unit	258	2.00/unit	0	0	24	0.19/unit	1	7.76/K
6 (spider)	401	2.99/unit	631120	4.71/m	0.00	134.00	32	0.24/unit	292	2.18/unit	2	14.93/K	39	0.29/unit	1	7.46/K
7 (spider)	301	2.54/unit	501015	4.22/m	0.00	118.60	17	0.14/unit	229	1.93/unit	0	0	32	0.27/unit	1	8.43/K
8 (spider)	311	2.21/unit	426571	3.03/m	0.00	141.00	17	0.12/unit	201	1.43/unit	0	0	10	70.92/K	1	7.09/K
9 (spider)	261	2.44/unit	365462	3.42/m	0.00	107.00	24	0.22/unit	156	1.46/unit	0	0	17	0.16/unit	1	9.35/K
10 (spider)	336	3.55/unit	314226	3.32/m	0.00	94.70	12	0.13/unit	151	1.59/unit	0	0	17	0.18/unit	1	10.56/K
11 (spider)	448	3.37/unit	412390	3.10/m	0.00	133.10	20	0.15/unit	216	1.62/unit	0	0	21	0.16/unit	1	7.51/K
12 (spider)	328	2.45/unit	341414	2.55/m	0.00	133.90	15	0.11/unit	183	1.37/unit	0	0	24	0.18/unit	1	7.47/K



Features

Select to **search for a particular feature** by name or accession ID, species, and feature type.

Gramene - Maps

 [Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

Welcome to Gramene's Maps module. In addition to viewing several different types of maps from many species of cereal crops, you may use [CMap - the Comparative Map Viewer](#) to construct comparisons between species and maps.

In this release, we present five new physical maps: one from *O. glaberrima* and four from wild relatives of rice. There are also eight new QTL maps: one from barley, four from rice, two from tetraploid wheat (*Triticum turgidum*) and one from wheat. Five maps have had maintenance updates but are otherwise unchanged.

New Physical Maps

- [O. alta-OMAP FPC 2005](#)
- [O. australiensis-OMAP FPC 2005](#)
- [O. brachyantha-OMAP FPC 2005](#)
- [O. glaberrima-OMAP FPC 2005](#)
- [O. punctata-OMAP FPC 2005](#)

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- [Barley-NCSL Zhed/ND//Fos QTL 2003](#)
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- [Rice-JUT Akihi/IRAT109 QTL 2004](#)
- [Rice-LSU Caiapo/IRGC103544 QTL 2004](#)
- [Rice-MU CT9993/IR6226 QTL 2004](#)
- [Tetraploid wheat-ICARDA Omra/T.dico QTL 2004](#)
- [Tetraploid wheat-NDSU Langdon QTL 2002](#)
- [Wheat-AAFCCRC Wuhan1/ Marin QTL 2003](#)

Maintenance Updates

- [Maize-AGI FPC Oct 2004](#)
- [Maize-Curated AGI FPC Oct 2004](#)
- [Sorghum-TAMU FPC 2004](#)
- [O. nivara-OMAP O. nivara FPC 2005](#)
- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Feature Search

[Maps Home](#) | [Maps](#) | [Map Search](#) | **Feature Search** | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported](#)
[Links](#) | [Help](#) | [Tutorial](#)

Data Source:
Build19

Choose a species (optional)

Feature Search

A **feature** is any element that is located on a map, either as a point or an interval.

Feature names*:

Restrict species:

–All Species–
Rice
sativa/eichingeri
sativa/longistaminata
sativa/rufipogon

Restrict feature types:

–All Feature Types–
AFLP
BAC
BAC end sequence-O. alata
BAC end sequence-O. australis

Search field:

Name

Submit

Reset

Search either the feature's
name (and aliases) or
accession ID

Separate multiple names with commas or whitespace. Use "" or "%" for wildcards. To find features with spaces in the name, surround with double quotes, e.g., "abc 123."

Indicate the feature name(s) you
wish to search for

Choose a feature type
(optional)

Click "Submit"



Feature Search Results

Found 20 features with a name or alias matching "yield" in the species "Rice."

es | Map Types | Evidence Types | Species | Imported

Data Source:
Build19

Feature Search

A **feature** is any element that can be placed on a map for an interval.

Feature names*:

Restrict species:

Search field:

Click on the column title to sort list by column.

Select to view the "Feature Details" Page for this feature (see slide 10)

for wildcards. To find features with spaces in the name, surround the name in double quotes, e.g., "abc 123."

Items 1 to 20 of 20.

Feature Name	Feature Type	Species	Map Set	Map Name	Position	Aliases
YLD	QTL	Rice	CNHZAU Zhenshan97/Minghui63 F2 QTL 1999	6	67.50-97.20 cM	Yield View on Map Feature Details
YLD	QTL	Rice	CNHZAU Zhenshan97/Minghui63 F2 QTL 1999	7	0.00-38.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	CNHZAU Zhenshan97/Minghui63 F2 QTL 1999	7	134.10-147.10 cM	Yield View on Map Feature Details
YLD	QTL	Rice	CNHZAU Zhenshan97/Minghui63 F2 QTL 1999	7	38.40-54.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	CNHZAU Zhenshan97/Minghui63 F2 QTL 1999	8	80.70-91.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	10	0.00-3.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	11	51.00-75.50 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	12	32.00-64.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	1	90.80-120.70 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	2	127.40-158.70 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	3	118.40-138.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	4	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	5	23.00-46.20 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	6	132.90-142.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	7	40.10-50.00 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	8	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	Cornell 9024/LH422 RI RFLP QTL 1996	9	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	JRGP Nipponbare/Kasalath RFLP	10	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	JRGP Nipponbare/Kasalath RFLP	11	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	JRGP Nipponbare/Kasalath RFLP	12	0.00-19.40 cM	Yield View on Map Feature Details
YLD	QTL	Rice	JRGP Nipponbare/Kasalath RFLP	13	0.00-19.40 cM	Yield View on Map Feature Details

Select to view the "Map Set Info" page

Select to view this feature highlighted on a map



Matrix

Select to link to the **Correspondence Matrix** to view the **number of correspondences** among all maps and **choose a pair to display** in the viewer, continue by adding more comparative maps.

Gramene - Maps

 [Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

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- [Tetraploid wheat-NDSU Langdon QTL 2002](#)
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Maintenance Updates

- [Maize-AGI FPC Oct 2004](#)
- [Maize-Curated AGI FPC Oct 2004](#)
- [Sorghum-TAMU FPC 2004](#)
- [O. nivara-OMAP O. nivara FPC 2005](#)
- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Correspondence Matrix

[Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | **[Matrix](#)** | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

Data Source:
Build19

Welcome to the Matrix

Each cell in the matrix shows the number of correspondences between a pair of maps. A correspondence is any relationship between two features.

Please use the form below to display the matrix. Note that not choosing any restrictions may result in a very large table.

Restrict Reference Sets By: ☐ Use Colors ☐ Hide Empty Rows

- All Map Types-
- All Map Types-
- Genetic
- QTL
- Deletion
- Maize Bin
- Sequence

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[Back to top](#)

Select a map type, species, and/or map set and map.

Click "Submit"



Matrix – for QTL Rice

Matrix restricted to “These Rice” map sets

Welcome to the Matrix

Each cell in the matrix shows the number of correspondences between a pair of maps. A correspondence is any relationship between two features.

Restrict Reference Sets By: QTL Rice --All Map Sets-- --All Maps-- ☒ Use Colors ☒ Hide Empty Rows

Reference Set	Sequence		Physical							
	Rice	Rice	Maize	Sorghum	Rice					
	Gramene TIGR Pseudomolecule Assembly of IRGSP Sequence 2005	I-Map (FPC) 2002	AGI FPC Map Oct 2004	AGI FPC Map Oct 2004	Gramene Curate Oct 2004				IGCN ZhaiYeQing 8/JingXi 17 1998	KRC Milyang23 AFLP-SSLP
AGEBC KDML105/CT9993 RI QTL 2000	125 (25)	134	114	-	-				47 (24)	44 (24)
Aberdeen Data/Edison QTL 2002	105	88	-	-	-				53 (24)	30 (24)
Brazil NRBRC RS-16/BG90-2 SSR QTL 2002									36 (12)	35 (12)
CAU IRAT109/YUEFU DH RFLP SSR QTL 2004	97 (20)								36 (19)	18 (19)
CIRAD IR64/Azucena DH RFLP QTL 2003	210 (26)				25				83 (22)	65 (22)
CNCAU Oryza rufipogon Griff./Guichao2 BC1 RFLP QTL 2001	111 (17)	10							22 (16)	4 (16)
CNHZAU 3037/02428//3037 BC1F1 RFLP QTL 1997	24 (4)	21							21 (6)	-
CNHZAU 3037/02428 F2 RFLP QTL 1997	21 (3)	19							1 (1)	-
CNHZAU 58S/1514 F2 RFLP QTL 1999	15 (5)	7							1 (1)	-
CNHZAU Balilla/Dulari/Naniina11 RFLP QTL 1998	46 (10)								4 (1)	-
									1 (1)	-
									2 (2)	3 (2)

Click on a map set name to restrict to a single reference map set either click on the map set name, or select the map set from the search menu (see slide 24).

When multiple reference sets are displayed, clicking on a number in this view will restrict the matrix to just the maps in these two map sets (see slide 26).



Matrix - QTL for a Single Map Set

Matrix restricted to "These Rice" map sets

Restrict Reference Sets By: ☒ Use Colors

Reference Set	Sequence	Physical											Dele	
	Rice	Rice		O. alta	O. australiensis	O. brachyantha	O. glaberrima	O. nivara	O. punctata	O. rufipogon	Maize	Sorghum	Wh	
QTL Rice AGEBC KDM105/CT999 RI QTL 2000	GR TIGR Assm IRGSP Seq 2005	I-Map (FPC) [OBSOLETE]	AGI FPC 2002 [OBSOLETE]	OMAP O. alta FPC 2005	OMAP O. australiensis FPC 2005	OMAP O. brachyantha FPC 2005	OMAP O. glaberrima FPC 2005	OMAP O. nivara FPC 2005	OMAP O. punctata FPC 2005	OMAP O. rufipogon FPC 2005	AGI FPC Oct 2004	Curated AGI FPC Oct 2004	TAMU FPC 2004	wES: 2003
	1a	6 (2)	5	5	-	-	-	-	-	-	-	-	-	-
	1b	8 (2)	8	8	-	-	-	-	-	-	-	-	-	-
	1c	13 (1)	11	9	-	-	-	-	-	-	-	-	-	-
	2a	7 (2)	5	5	-	-	-	-	-	-	-	-	-	-
	2b	3 (1)	5	5	-	-	-	-	-	-	-	-	-	-
	3a	7 (1)	5	5	-	-	-	-	-	-	-	-	-	-
	3b	3 (1)	3	2	-	-	-	-	-	-	-	-	-	-
	4a	2 (1)	4	4	-	-	-	-	-	-	-	-	-	-
	4b	2 (1)	2	1	-	-	-	-	-	-	-	-	-	-
	5a	5 (1)	3	3	-	-	-	-	-	-	-	-	-	-
	5b	5 (1)	4	4	-	-	-	-	-	-	-	-	-	-
	6	10 (1)	13	11	-	-	-	-	-	-	-	-	-	-
	7	6 (1)	6	6	-	-	-	-	-	-	-	-	-	-
	8	8 (2)	10	6	-	-	-	-	-	-	-	-	-	-
	9	11 (1)	15	12	-	-	-	-	-	-	-	-	-	-
	10	16 (1)	11	10	-	-	-	-	-	-	-	-	-	-
	11a	4 (2)	12	11	-	-	-	-	-	-	-	-	-	-
	11b	4 (2)	6	6	-	-	-	-	-	-	-	-	-	-
	12a	3 (2)	2	1	-	-	-	-	-	-	-	-	-	-
	12b	2 (1)	3	2	-	-	-	-	-	-	-	-	-	-
		GR TIGR Assm IRGSP Seq 2005	I-Map (FPC) [OBSOLETE]	AGI FPC 2002 [OBSOLETE]	OMAP O. alta FPC 2005	OMAP O. australiensis FPC 2005	OMAP O. brachyantha FPC 2005	OMAP O. glaberrima FPC 2005	OMAP O. nivara FPC 2005	OMAP O. punctata FPC 2005	OMAP O. rufipogon FPC 2005	AGI FPC Oct 2004	Curated AGI FPC Oct 2004	TAMU FPC 2004

Only reference maps are displayed.

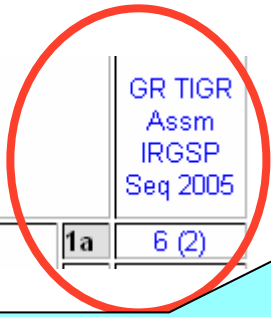
Clicking on a number in the cell will take you to the Map Viewer showing the comparisons of reference map 1a with comparison map set (see next slide).

When only one reference set is selected, the individual maps are displayed.

Clicking on a number in the cell will take you to the Map Viewer showing the comparisons of reference map 1a with comparison map set (see next slide).

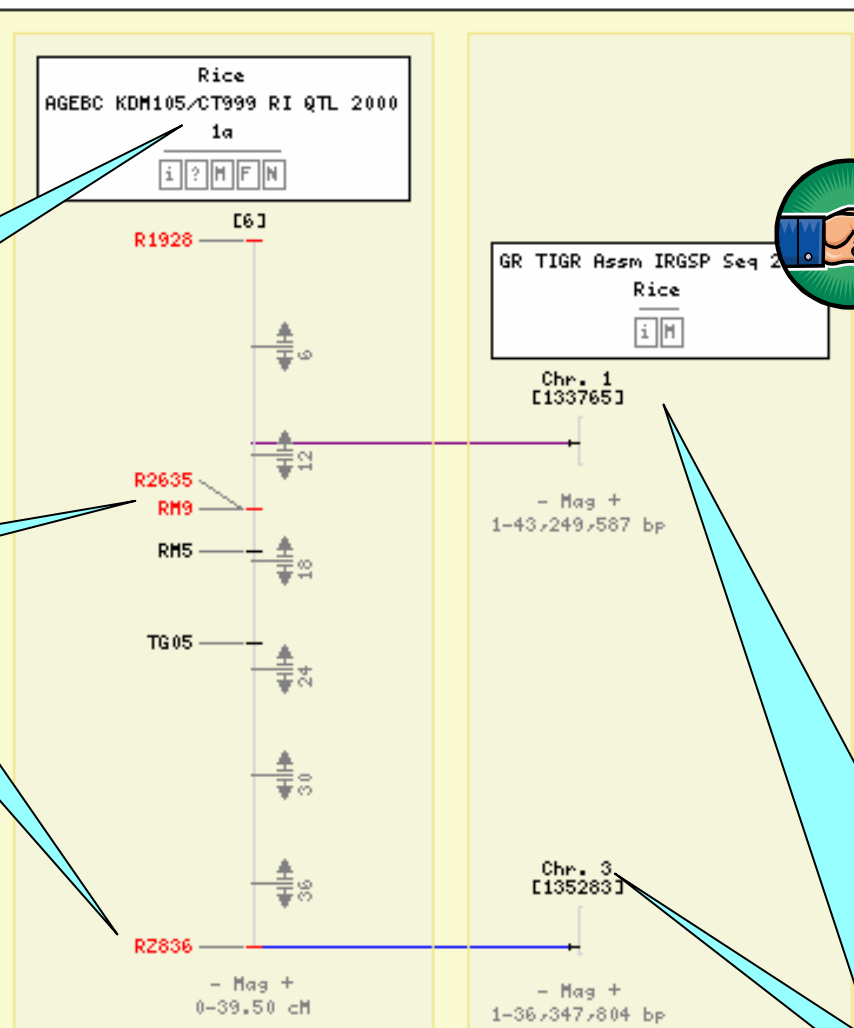
Maps for QTL for Single Map Set Comparison

Rice
KDM105/CT999 RI QTL 2000



Reference map 1a

Has 6
correspondences



Feature Types:

— Marker

Features in red have correspondences

Evidence Types:

Lightblue line denotes Automated name-based

Aggregated Correspondences Colors:

1 or fewer correspondences

2 or fewer correspondences

5 or fewer correspondences

20 or fewer correspondences

More than 20 correspondences

with 2 maps from the
GR TIGR Assm IRGSP
Seq 2005



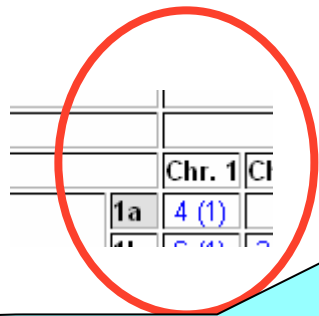
Matrix – Single Maps

Restrict Reference Sets By: –All Map Types– Rice QTL-Rice-AGEBC KDM105/CT999 RI QTL 2000 –All Maps– ☒ Use Colors Submit

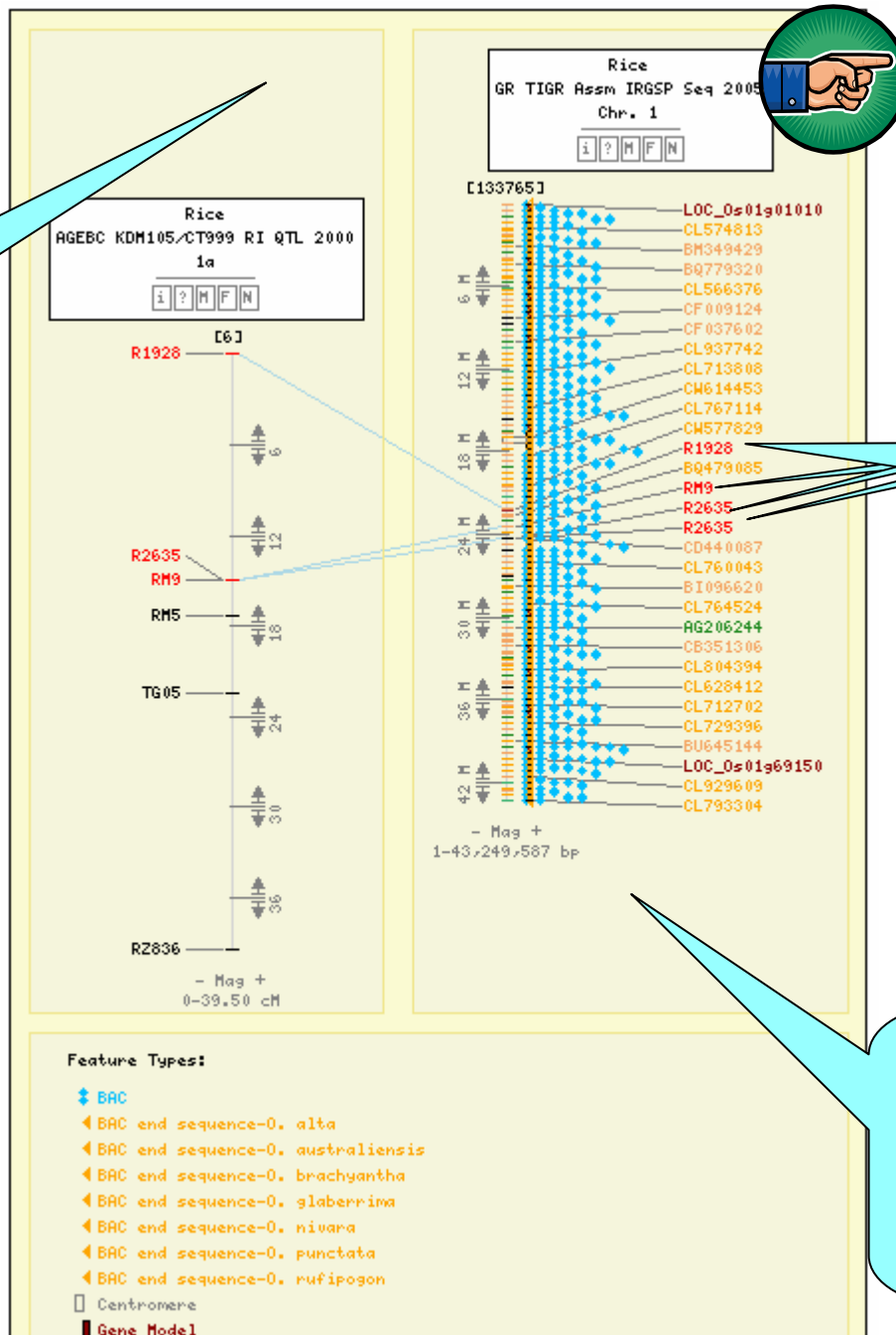
Reference Set		Sequence												Reference Set			
		Rice															
		GR TIGR Assm IRGSP Seq 2005															
		Chr. 1	Chr. 2	Chr. 3	Chr. 4	Chr. 5	Chr. 6	Chr. 7	Chr. 8	Chr. 9	Chr. 10	Chr. 11	Chr. 12				
QTL	Rice AGEBC KDM105/CT999	1a	4 (1)	-	2 (1)	-	-	-	-	-	-	-	-	1a	Rice AGEBC KDM105/CT999 RI QTL 2000	QTL	
		1b	5 (1)	2 (1)	-	-	-	-	-	-	-	-	-	1b			
		1c	3 (1)	-	-	-	-	-	-	-	-	-	-	-			1c
		2	-	3 (1)	-	-	-	-	-	-	-	4 (1)	-	-			2a
		-	-	3 (1)	-	-	-	-	-	-	-	-	-	-			2b
		-	-	-	7 (1)	-	-	-	-	-	-	-	-	-			3a
		-	-	-	3 (1)	-	-	-	-	-	-	-	-	-			3b
		-	-	-	-	2 (1)	-	-	-	-	-	-	-	-			4a
		-	-	-	-	2 (1)	-	-	-	-	-	-	-	-			4b
		-	-	-	-	-	5 (1)	-	-	-	-	-	-	-			5a
		-	-	-	-	-	5 (1)	-	-	-	-	-	-	-			5b
		-	-	-	-	-	-	10 (1)	-	-	-	-	-	-			6
		-	-	-	-	-	-	-	6 (1)	-	-	-	-	-			7
		-	-	-	-	-	-	-	-	7 (1)	-	1 (1)	-	-			8
		-	-	-	-	-	-	-	-	-	11 (1)	-	-	-			9
		0	-	-	-	-	-	-	-	-	-	16 (1)	-	-			10
		1a	-	-	-	-	1 (1)	-	-	-	-	-	3 (1)	-			11a
													3 (1)	-			11b
													2 (1)	1 (1)			12a
													-	2 (1)			12b
		Chr. 11	Chr. 12														

When both the reference and comparative maps sets are limited to one, clicking on a number in the matrix will take you to the Map Viewer showing a comparison of just two

When both the reference and comparative maps sets are limited to one, clicking on a number in the matrix will take you to the Map Viewer showing a comparison of just two maps from each set.



Reference map 1a



Maps for Single Map Comparison

Has 4 correspondences

with Map 1 from the GR TIGR Assm IRGSP Seq 2005



Map Sets

Select to Browse **Map sets**
-Optionally restricted by
species and map type

Gramene - Maps

 [Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

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- [O. nivara-OMAP O. nivara FPC 2005](#)
- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Map Set Info

Map Set Info

Restrict by Species: Restrict by Map Type:

--All Species--

--All Map Types--

Submit

Items 1 to 25 of 159.

Page

1

of 7 | [Next](#)

Map Set Name: TAMU FPC 2004

Abbreviated Name: TAMU FPC 2004

Accession ID: tamu1104a

Species: *Sorghum bicolor* (Sorghum)

Map Type: Physical

Map Units: bands

Published On: 17 November, 2004

Description: This is the fingerprint map developed by the TAMU-ARS Sorghum Genomics Project using two BAC libraries constructed from Sorghum bicolor cv. BTx623. Clones were digested with HindIII/HaeIII and assembled using a cutoff of 1e-14. Genetic markers from the high-density FPC using a cutoff of 1e-14. Genetic markers from the high-density clones using six dimensional BAC DNA pools combined with a PC

Cross-references:

- [TAMU Sorghum Genomics Project](#)
- [Klein et al. 2000. Genome Res 10: 789-807](#)
- [Menz et al. 2002. Plant Mol Biol 48: 483-499](#)
- [Klein et al. 2003. Plant J 34: 605-621](#)

[\[Show Only This Set \]](#)

[\[Download Map Set Data \]](#)

[\[View Map Set In Matrix \]](#)

[\[View Species Info \]](#)

[\[View Map Type Info \]](#)

Choose a species and/or a map type to filter your search.

This page contains information on all the map sets. There are 159 map sets.

Map Set Name: Klein 2004

Abbreviated Name: Klein 2004

Accession ID: kl2004

Species: *Sorghum bicolor* (Sorghum)

Map Type: Genetic

Map Units: cM

Published On: 17 November, 2004

Maps: LG-01 [\[Map Viewer \]](#)

LG-02 [\[Map Viewer \]](#)

LG-03 [\[Map Viewer \]](#)

LG-04 [\[Map Viewer \]](#)

LG-05 [\[Map Viewer \]](#)

LG-06 [\[Map Viewer \]](#)

LG-07 [\[Map Viewer \]](#)

LG-08 [\[Map Viewer \]](#)

LG-09 [\[Map Viewer \]](#)

LG-10 [\[Map Viewer \]](#)

[\[Map Details \]](#)

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[\[Map Details \]](#)

[\[Map Details \]](#)

[\[Matrix Viewer \]](#)

[\[Matrix Viewer \]](#)

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Follow links for more information.

[\[Display All Maps in Viewer \]](#)

Cross-references:

- [Menz, et al., 2002 Plant Mol. Biol. 48: 483-499.](#)
- [Sorghum Genomics@TAMU](#)



Features, Map Types, Evidence and Species

Select to view more info on the **Feature Types**

Select to view more info on **Map Types**

Select to view more info on the **Evidence Types**

Select to view more info on the **Species** that are mapped

Gramene - Maps

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- [O. rufipogon-OMAP O. rufipogon FPC 2005](#)



Feature Type Info

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Data Source:
Build19

Feature Type Info

Display:

Items 1 to 25 of 36. of 2 | [Next](#)

Feature Type: AFLP

Accession ID: aflp
Color: black
Shape: line
Description: Amplified Fragment Length Polymorphism
[\[Search for All Features of This Type \]](#)

Feature Type: BAC

Accession ID: bac
Color: deepskyblue
Shape: dumbbell
Description: Bacterial Artificial Chromosome
[\[Search for All Features of This Type \]](#)

Feature Type: BAC end sequence-0. alta

Accession ID: bes-oalta
Color: orange
Shape: in-triangle
[\[Search for All Features of This Type \]](#)

Feature Type: BAC end sequence-0. australiensis

Accession ID: bes-oaust
Color: orange
Shape: in-triangle
[\[Search for All Features of This Type \]](#)

Feature Type: BAC end sequence-0. brachyantha

Accession ID: bes-obrac
Color: orange
Shape: in-triangle
[\[Search for All Features of This Type \]](#)

This page shows all the feature types used to classify the map features. Each feature type has a name, a color and a shape. The curator may additionally assign other attributes (such as a “Description”) and cross-references.



Map Type Info

This page displays all the map types used to classify the maps. Each map type has a name, an accession ID, the map units used for maps of this type (e.g. “bp” for “base pair” or “cM” for “centimorgans”), an indication as to whether maps of this type are “relational,” and an indication of how maps of this are normally drawn (though this can be overridden at the map set level).

Map Type Info

Display:

Items 1 to 6 of 6.

Map Type: **Deletion**

Accession ID: deletion

Map Units: arm fraction

Is Relational Only: No

Appearance: lightgrey box

Description: The deletion-based cytogenetic map of an organism is a type of low-resolution physical map. It is constructed using a "genome deletion panel" which consists of a series (or collection) of mutant lines containing sub-chromosomal deletions and a reference wild-type line. Markers can be mapped onto the genome using this panel (by Southern hybridization or by PCR) based on the presence or absence of signal when comparing the banding pattern in the mutants lines with the pattern in the wild type. Linked markers (present in the same deleted region) share the same banding pattern (presence or absence) on the deletion panel.

[\[Show All Map Sets Of This Map Type \]](#)

Map Type: **Sequence**

Accession ID: sequence

Map Units: bp

Is Relational Only: No

Appearance: lightgrey I-beam

Description: The sequence map is a summary of the sequence of an organism in a linear map format.

[\[Show All Map Sets Of This Map Type \]](#)

Map Type: **QTL**

Accession ID: qtl

Map Units: cM

Is Relational Only: No

You may click to view all map sets of this map type



Correspondence Evidence Info

[Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | **Evidence Types** | [Species](#) | [Imported Links](#) | [Help](#) | [Tutorial](#)

Data Source:

Build19

Evidence Type Info

Display:

Items 1 to 3 of 3.

Evidence Type: Automated name-based

Accession ID: ANB

Rank: 1

Line Color: lightblue

Evidence Type: Insilico

Accession ID: INS

Rank: 3

Line Color: lightblue

Evidence Type: Name-based

Accession ID: NB

Rank: 2

Line Color: lightblue

This page contains the name of each evidence type used to support the correspondences. Each evidence has an accession ID, a rank relative to the other evidence types, and an assigned color for the line drawn on the map to differentiate the correspondence.



Species Info

[Maps Home](#) | [Maps](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Evidence Types](#) | **Species** | [Imported Links](#) | [Help](#) | [Tutorial](#)

Data Source:
Build19

Species Info

Display: Submit

Items 1 to 22 of 22.

Common Name: **Rice**

[\[Show Only This Species \]](#)

Full Name: *Oryza sativa*

Accession ID: rice

NCBI Taxon ID: 4530

NEWT Taxon ID: 4530

Gramene Taxonomy
ID: 013681

Cross-references:

- [View Species At NCBI](#)
- [View Species at NEWT](#)
- [View Gramene Taxonomy](#)

Map Sets (99):

[\[Show Map Sets From This Species \]](#)

Sequence Maps

Gramene TIGR Pseudomolecule Assembly of IRGSP
Sequence 2005

Cornell Class I SSR (93-11) 2005

Cornell Class I SSR (IRGSP) 2005

Cornell Class I SSR (TIGR) 2005

Physical Maps

I-Map (FPC)

AGI FPC 2002

Genetic Maps

JRGP Nipponbare/Kasalath RFLP 2000

Cornell BS125/2/BS125/WLO2 RFLP 2001

IRMI Integrated SSR 2003

Cornell IR64/Azucena SSR 2001

Hokkaido Morphological 2000

IGCN ZhaiYeQing 8/JingXi 17 1998

KRGRP Milyang23/Gihobyeyo AFLP-SSLP-RFLP1998

TTU IR62266/CT9993 DH RFLP-AFLP-SSR 2000

[\[View Map Set Info \]](#) [\[View Map Set In Matrix \]](#)

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Species may be filtered
by individual species.

This page contains the
species' common and full
names along with any
other attributes and cross-
references the curators
have created.

Follow links for map
information



Imported Links, Help and Tutorial

Click to View links directly **imported by others** and select the desired map. This is pretty much obsolete

Help

Click to view this **tutorial** and all other **help docs**.

Gramene - Maps

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Maps Help

When clicking on Help from the maps menu, you will be directed to the help page for the section of the Maps module that you were viewing.

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Help Sections: [Map Viewer](#) | [Map Search](#) | [Feature Search](#) | [Matrix](#) | [Map Sets](#) | [Feature Types](#) | [Map Types](#) | [Species](#) | [Map Details](#) | [Feature Details](#) | [Feature Alias Details](#) | [Evidence Types](#) | [Correspondence Details](#) | [Imported Links](#)

Species Information

This page displays each species's common and full names and any curator

For example, this page was accessed via the “species” page in the Maps module.

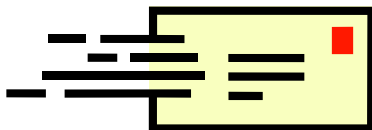
Each section of Maps has its own Help page, unlike many other modules where all sections share one page.

Contact Gramene



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