

CITRUS GENOME DATABASE



Resources for citrus genomics, genetics, breeding and disease research

Issue 8 | July 2023

What's new in CGD?

Tool Improvements

- GWAS added to updated QTL/GWAS search
- Genotype search added

Outreach

- [GWAS Search and Viewing in MapViewer video](#) (2:23 mins)
- [How to Search Traits and See Associated Data video](#) (1:49 mins)

New Data

- *C. australis*, Eureka lemon, *C. maxima* Cupi Majiayou, and *F. hindsii* v2.0 genomes added to database and BLAST, JBrowse, Synteny Viewer, and PathwayCyc tools
- 2,249 genetic markers, 4 genetic maps, 26 QTL, and 145 GWAS added in last quarter

Viewing GWAS data

We have added the ability to search for GWAS data in the updated [QTL/GWAS Search](#). GWAS is now a data type that can be selected, and the search can be refined by organism, trait, GWAS name, genome location, gene, and publication.

And as always, the displayed results can be customized using the toolbar on the right. You can select which data fields are displayed and download the results in the CSV and TSV file formats for manipulation in Excel.

See the next page for more details.

168 records were returned

#	QTL/GWAS Label	Trait Name	GWAS Marker	Gene	Organism	Type	Dataset	Published Symbol	P value
1	<input type="checkbox"/> GWAS0000001	Apigenin concentration	AX-160026423	Ciclev10007429m.g	Citrus spp.	GWAS	Mandarin-Flavonoids-GWAS-Mattia_2022	Apigenin-peel	2.72 × 10 ⁻⁷
2	<input type="checkbox"/> GWAS0000002	Didymin concentration		.g	Citrus spp.	GWAS	Mandarin-Flavonoids-GWAS-Mattia_2022	Didymin-peel	4.94 × 10 ⁻⁸
3	<input type="checkbox"/> GWAS0000003	Diosmetin concentration	AX-159831918	Ciclev10009180m.g	Citrus spp.	GWAS	Mandarin-Flavonoids-GWAS-Mattia_2022	Diosmetin-peel	1.13 × 10 ⁻⁸
4	<input type="checkbox"/> GWAS0000004	Diosmin concentration	AX-160796087	Ciclev10029047m.g	Citrus spp.	GWAS	Mandarin-Flavonoids-GWAS-Mattia_2022	Diosmin-peel	5.87 × 10 ⁻⁷

GWAS Details and Display in MapViewer

From the GWAS details page, you can see all the details about the GWAS and see the link to MapViewer.

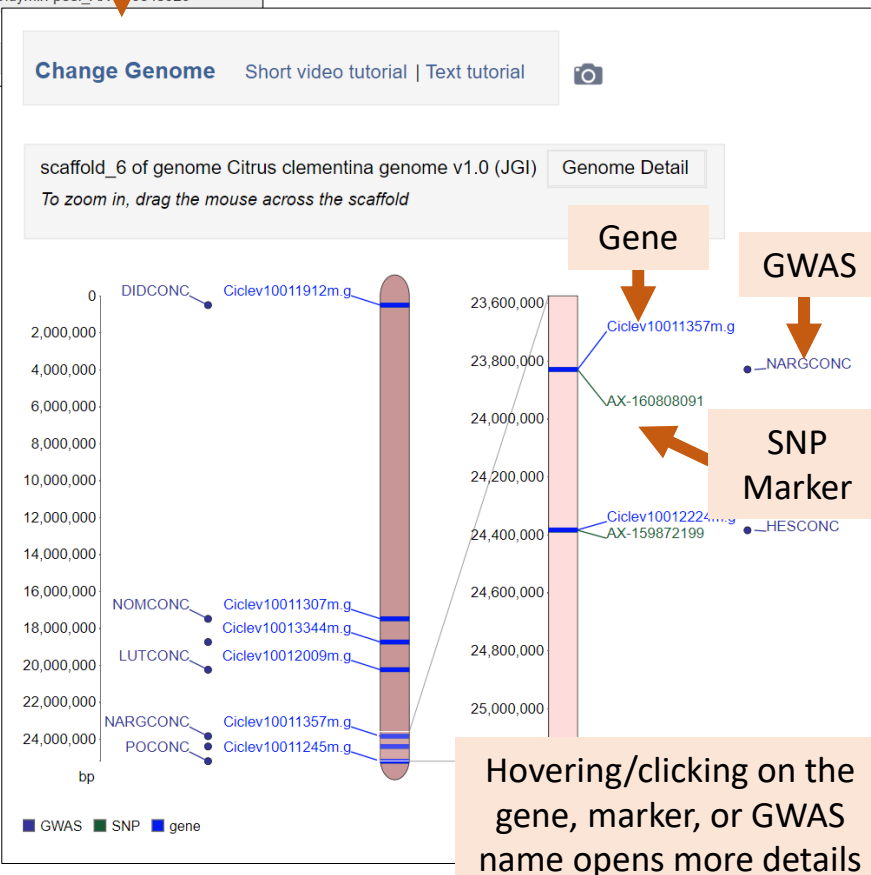
GWAS0000002	
GWAS Overview	
Genome Location	
Germplasm	
Properties	
Publications	
Terms	
GWAS Overview	
GWAS Label	GWAS0000002 [MapViewer]
Published Symbol	Didymin-peel
Trait Name	Didymin concentration
Trait Alias	N/A
GWAS Marker	AX-160548920
GWAS Study	Mandarin-Flavonoids-GWAS-Mattia_2022
Genome Assembly	Citrus clementina genome v1.0 (JGI)
Statistical Method	Identity by descent EMM-X
Experimental Model	Mixed Linear Model
GWAS Panel	Mandarin-136_UCR-Citrus-Mattia2022
LOD	N/A
P Value	4.94 × 10 ⁻⁸
R2	N/A
Unique key	222-Didymin-peel_AX-160548920
PVE	0.07
Comments	N/A

BIMS Workshop at NAPB 2023!

We had a successful BIMS workshop at [NAPB 2023](#) (July 16-20, Greenville, SC)! Thank you for those who participated! The presentations for each section of the workshop, including the use case demo, is available on breedwithbims.org. Recordings will also be available when they are released.

Database Workshop at ASHS 2023!

We are hosting a workshop for specialty crop databases at [ASHS 2023](#) (July 31-August 4, Orlando, Florida)! This interactive workshop will be on Thursday, August 3, 2023 10:15 AM - 12:15 PM. This workshop unites researchers and breeders focusing on tree fruits, berries, nuts, and vegetables. Its goal is to boost research efficiency by enhancing specialty crop community databases. Participants will receive training on how to use database resources through use case demos, data submission, and contributing vital feedback for long-term sustainability.



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