

# GENOME DATABASE FOR ROSACEAE



Resources for Rosaceae Research Discovery and Crop Improvement

July 2023

Welcome to the July 2023 issue of the GDR newsletter. This newsletter is issued to inform users about new or updated data and tools in GDR and provide a summary from the quarterly Rosaceae Executive Committee (RosEXEC) meetings.

## Summary of RosEXEC meetings!

Our newsletter now provides a summary from the quarterly RosEXEC meetings! Check page 2!

## New tutorial videos available

Two short tutorials, “[How to search traits and see associated data!](#)” and “[GWAS Search and Viewing in MapViewer!](#)” were made available. See [the manual page](#) or our [YouTube channel](#) for more.

## 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 workshop including the use case demo is available at [the presentations page in 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.

## Crop Ontology for Strawberry

Strawberry CO that we developed based on RosBreed descriptors are available from the [CO website](#).

## New rose QTL data

[New data for QTL for resistance to black spot and cercospora leaf spot \(Lau et al. 2023\)](#) are available for rose. View data in [QTL/GWAS Search](#), and in [MapViewer](#).

rose-black\_spot-Lau-2023

Project Overview	Project Overview
Contact	
Genetic Maps	
Publications	
QTL	
Traits	
Search QTL Data	
	<b>Project Name</b> rose-black_spot-Lau-2023
	<b>Project type</b> QTL
	<b>Description</b> QTL study on black spot and cercospora leaf spot resistance, along with defoliation traits, using two interconnected tetraploid garden rose F1 populations phenotyped over three years.
	<b>Crop</b> rose

Access all the data from this QTL study from [the project page](#)

## New Genome Data/Functional Analysis

- New whole genome data is available for diploid strawberry, apple, red raspberry, plum, and *Prunus mongolica*!
  - [Fragaria virginiana Genome KIB CAS v1.0](#)
  - [Fragaria chiloensis Genome KIB CAS v1.0](#)
  - [Fragaria vesca 'Hawaii 4' NAU Whole v1.0](#)
  - [Malus x domestica 'Hanfu' Whole v1.0](#)
  - [Rubus idaeus 'Autumn Bliss' NIAB v1.0](#)
  - [Rubus idaeus 'Malling Jewel' NIAB v1.0](#)
  - [Prunus salicina Lindl cv. Wushancuili v1.0](#)
  - [Prunus mongolica Whole v1.0](#)
- GDR Functional Analysis (InterProScan, Protein Homologies, and Synteny Analysis) added to the genome:
  - [Malus fusca Genome v1.0](#)
  - [Rubus idaeus 'Joan J' Genome v1.0](#)
  - [Fragaria chiloensis Genome v1.0](#)
  - [Prunus fruticosa 27e12\(2\) v1.0](#)

The Q2 U.S. RosEXEC meeting took place on July 13<sup>th</sup>, 2023. Here's a quick overview!

## Administrative

- Nominations and election time this coming fall! Yes, at RosEXEC too! We expect to replace four domestic positions and 2 international positions. Nominations begin September 5 and closing on October 13! Elections will take place between November 1<sup>st</sup> and November 17. Self-nominations are welcome! Do not hesitate in contacting [Jonathan Fresnedo Ramirez](#) with your nominations and questions.
- Tempting, isn't? If you want to learn more about the [RosEXEC member responsibilities](#), visit the [RosEXEC website](#), where [Gayle Volk](#), current Chair of RosEXEC, has delineated responsibilities, leadership roles, and election process.
- The next RosEXEC meeting will occur in mid-October 2023. If you have RosEXEC and/or GDR related businesses that need to be addressed, contact standing officers.

## GDR insights

- Clash of titans! RosEXEC is facilitating communication between GDR and USDA-GRIN. Now that GRIN is planning to link molecular databases, [Nahla Bassil](#) is enabling interaction between the two giants, so things work well from the beginning!
- As always, the folks in GDR are busy making sure everything works well. New hardware and several packages will be updated next quarter, so all the amazing features in GDR (which you can learn to use [here](#)) continue working seamlessly for all of us.

## Exciting things going on

- Time for promotions! WSU's apple [WA-64](#) is being promoted! [Kate Evans](#) expects it to be with growers in 2025 and consumers in 2028.
- [Jessica Waite](#) is coordinating to develop the gene expression atlas of Bartlett pear.
- Let's start things from starch! [Loren Honaas](#)'s team working on a starch index analysis.
- Controlled Environment Agriculture (CEA) also plays with Rosaceae! [FFAR has funded](#) research to develop tastier and more productive strawberries from CEA. [Nahla Bassil](#) and [Jonathan Fresnedo Ramirez](#) may provide more insights.

## Engagement with the Rosaceae community (What you can do? / How to get involved?)

- Additional players are joining the Rosaceae genotyping efforts. [Hélène Miranty](#) at INRAE, France is working on a multispecies array that would include between 7000 and 7500 SNPs for apple (*M. domestica* only). At RosEXEC, we are compiling a list of efforts focused on providing genotyping options for Rosaceae, so far it includes assays for apple, cherry, red raspberry, pear, and strawberry. If you know of any, share your thoughts, experience, and contact person with the RosEXEC!
- Do you have ideas for large-scale projects addressing current and future problems in/for Rosaceae while uniting and enhancing the interaction within and outside the community? Please, do not hesitate to speak your mind. RosEXEC may help you to reach the right group of people to materialize your ideas. [Per McCord](#), current RosEXEC secretary, is willing to hear ideas and lead/help planning grant proposals.
- [Stijn Vanderzande](#), WUR, is starting to coordinate efforts to advance Pedigree/Identity-by-Descent-based tools. Do not hesitate to contact him if you want to get involved.

Do you have ideas or interests that benefit the Rosaceae community? Get involved with RosEXEC and GDR and form a task force. You can contact [Gayle Volk](#), current Chair of RosEXEC, [Jonathan Fresnedo Ramirez](#), current vice-chair, or [Per McCord](#), current secretary. We are looking forward to hearing from you!