# ROSBREED DISEASE × HORTICULTURAL → SUPERIOR CULTIVARS



# PEACH BREEDERS USE PREDICTIVE DNA TESTS TO DEVELOP SUPERIOR NEW CULTIVARS

Superior peach cultivars that consistently exceed consumer expectations for fruit quality and also meet industry needs for disease resistances and productivity remains elusive. Such cultivars are possible, but only if breeders can effectively and accurately combine the right sets of attributes.

New DNA tests are now being used by U.S. peach breeders to do exactly that – combining components of superior fruit quality and maturity date with disease resistance. Strategic application of such DNA tests can greatly enhance traditional breeding programs without employing GMO methods.

#### These DNA tests predict levels of:

- fruit flavor (acidity, sugar)
- fruit skin color
- fruit texture
- maturity date
- disease resistance (fruit bacterial spot)
- · fruit traits such as shape and flesh color



Breeders can now more effectively determine the best parents to combine and the best seedlings to advance. This approach reduces the need to grow and sort through thousands of seedlings that are unlikely to meet requirements for both disease resistances and fruit quality.



Upcoming trait targets for DNA test development include

- foliar bacterial spot resistance
- brown rot resistance
- post-harvest fruit quality

This enhanced breeding efficiency, accuracy, speed and creativity due to strategic applications of DNA tests is enabled by the U.S.-wide RosBREED project (www.rosbreed.org).

#### **RosBREED Peach Breeders**



Ksenija Gasic, Clemson University



David Byrne, Texas A&M University



John Clark, University of Arkansas



Tom Gradziel, University of California-Davis



Bill Shane, Michigan State University



National Institute of Food and Agriculture

RosBREED is a Coordinated Agricultural Project composed of a multi-state, multi-institution, and multi-disciplinary team of scientists dedicated to the accelerated genetic improvement of U.S. rosaceous crops using diagnostic DNA tools. This project is funded through the USDA-NIFA Specialty Crop Research Initiative by a combination of federal and matching funds.

## RosBREED

**SUPERIOR CULTIVARS** 



## **Acknowledgements:**

















**University of New Hampshire** 























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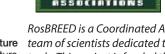




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