RosBREED

DISEASE RESISTANCE × HORTICULTURAL QUALITY → SUPERIOR CULTIVARS

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THE OR-WA SWEET CHERRY BREEDING PROGRAM USES PREDICTIVE DNA TESTS TO DEVELOP SUPERIOR NEW CULTIVARS

Superior new sweet cherry cultivars that consistently exceed consumer expectations for fruit quality and also meet industry needs for disease resistance and productivity remain elusive. Such cultivars are possible, but only if breeders can effectively combine the right sets of attributes.

New DNA tests are now being used by the OR-WA sweet cherry breeding program to do exactly that – combining components of superior fruit quality, maturity date and productivity 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 size
- fruit firmness
- fruit color
- maturity date
- self-compatibility

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 resistance and fruit quality.

Upcoming trait targets for DNA test development include

- disease tolerance (powdery mildew – foliage)
- disease tolerance (powdery mildew – fruit)

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

RosBREED
Sweet Cherry Breeder

Nnadozie Oraguzie
Washington State University

USDA United States Department of Agriculture | 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.

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