



BREEDING NEW CRISP JUICY APPLE CULTIVARS IS MORE EFFICIENT AND ACCURATE USING DNA TESTS

Superior apple cultivars that consistently exceed consumer expectations and also meet industry needs for disease resistances, productivity, and storability 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 U.S. apple breeders to do exactly that – combining traits for fruit quality 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, fructose content)
- fruit skin color
- fruit texture (firmness and crispness)
- bitter pit fruit storage disorder
- disease resistance (scab & powdery mildew)
- other fruit traits such as 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 resistance(s) and high fruit quality.



Upcoming trait targets for DNA test development include:

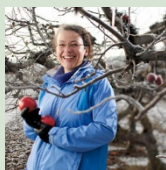
- fire blight resistance
- blue mold resistance
- soft scald incidence

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 Apple Breeders



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RosBREED

DISEASE RESISTANCE × HORTICULTURAL QUALITY → SUPERIOR CULTIVARS



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Acknowledgements:

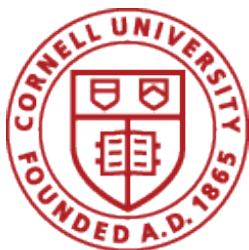
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