

A Predictive Genetic Test for Apple “Fresh Taste” Provides Strategies for Improved Breeding and Fruit Handling



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How do we improve apple fresh taste?

Introduction: Apple fresh taste includes acidity(A), crispness(C), and juiciness(J). Apple ACJ are major consumer-relevant traits, and according to RosBREED’s socio-economics survey of breeders in 2010, apple ACJ are major target fruit quality traits for U.S. apple breeders⁽¹⁾. Apple fresh taste varies widely across cultivars and known to be under strong genetic control⁽²⁾. A specific genomic region called the *Ma* (*Malic acid*) locus, on apple chromosome 16, is highly associated with all three traits (ACJ)⁽²⁾.

Objective: Develop a genetic test for apple “fresh taste” based on the *Ma* locus that is socio-economically relevant, predictive, accurate, user-friendly, and available to WA apple industry and breeding stakeholders.

