



Strawberry DNA Tests for Improving Fruit Quality and Disease Resistance

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Abstract

Developing new strawberry cultivars with improved fruit quality and disease resistance will contribute to the profitability and sustainability of the U.S. strawberry industry. In the last few years, strawberry breeders and researchers have developed modern genetic and genomic tools, including diagnostic DNA tests, to facilitate DNA-informed breeding that can improve strawberry varieties with both high fruit quality and disease resistance. DNA tests allow breeders to prioritize and select offspring with higher potential, and be more efficient with available genetic resources. Currently, DNA markers for fruit quality (fruit color, flowering habit, and flavor) and disease resistance against multiple pathogens have been used to develop new strawberry cultivars in our breeding program. Each year, about 60,000 seedlings are screened to improve disease resistance and fruit quality using high-throughput marker-assisted seedling selection. We will present the recent advances in the application of DNA tests and development of new strawberry cultivars.

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