

In-Service Training ([IST#: 32369](#))/CEU Roundup ([FDACS Program # 39061](#))/

CCA CEU Tracking #: [FL 54737 thru FL 54742](#)

New Technology for Commercial Vegetable and Fruit Production (XIII)

Wednesday, February 26, 2025, from 8:45 to 4:00 PM

Blueberry classroom 154 (behind Fifield) & via Canvas

County: _____ City: _____ Zip code: _____

Name: _____ (Use the **same** name or symbol for pre- and post-tests)

Pre-test

Presentation Title:

Enhancing the Sweetness and Flavor of Florida Strawberries Using Modern Plant Breeding

Presenter: Dr. Seonghee Lee (813-419-6611) seonghee105@ufl.edu

- 1. Which of the following does NOT accurately describe a DNA marker?**
 - A: DNA markers are sequences of DNA used to track genetic traits or variations in an organism.
 - B: They are used in strawberry breeding to select desirable traits, such as disease resistance or fruit quality.
 - C: DNA markers assist in strawberry breeding research.
 - D: DNA markers directly modify genes to create genetically modified organisms (GMOs).
- 2. How can the use of DNA markers help improving strawberry varieties? Choose all correct answers**
 - A: DNA markers enable marker-assisted seedling selection (MAS) and allowing breeders to identify and select plants with desirable traits without relying on field phenotype.
 - B: They help accelerate breeding programs by reducing the need for extensive field trials, making the development of new strawberry varieties more efficient.
 - C: DNA markers directly alter the genetic makeup of strawberries but are used to identify genetic variations.
 - D: DNA markers assist in identifying genes associated with key traits, e.g., sweetness, flavor, and disease resistance
- 3. Why is advanced molecular breeding technology necessary in modern plant breeding? Choose all correct answers**
 - A: Molecular breeding accelerates the development of improved crop varieties by enabling early selection of desirable traits through DNA markers.
 - B: It enhances precision in breeding by reducing genetic drag and ensures that only beneficial traits are retained while minimizing unwanted traits.
 - C: Molecular breeding reduces breeding time and costs by eliminating the need for extensive multi-generational field trials.
 - D: Molecular breeding will always speed up the development of all newly bred strawberries, ensuring better taste and disease resistance.
- 4. Which of the following is NOT correct regarding CRISPR gene editing in plant breeding?**
 - A: CRISPR gene editing enables precise modifications within a plant's existing genome without introducing foreign DNA.
 - B: Regulatory agencies in the U.S. classify CRISPR-edited crops as non-GMO if no foreign genes are inserted.
 - C: CRISPR gene editing always results in genetically modified organisms (GMOs) and is regulated the same way as transgenic crops.
 - D: CRISPR allows for targeted changes similar to natural mutations, which can also occur through conventional breeding or spontaneous genetic variation.