**UF Creates Trees With Enhanced Resistance to Greening**

*Read and annotate* [*the article*](http://news.ufl.edu/articles/2015/11/uf-creates-trees-with-enhanced-resistance-to-greening.php)*. Then complete the tasks that follow to support your understanding of ideas and language from the text.*

**Vocabulary**

With a partner, define the key terms below and discuss their connection to the article’s topic.

citrus resistance defend periodic destructive

crop enhanced industry strategy institution

resist organism bacteria unsuitable commercial

**Comprehension**

With a partner, check your understanding of information presented in the article by answering the following questions.

1. What type of tree was the focus of this article?
2. What is meaning of “greening” within the context of the article?
3. What industry is most affected by “greening”?
4. Which institution recently published research on these trees?
5. How did this institution genetically modify these trees?
6. What were their reasons for modifying the genes of the trees?
7. Are these genetically modified trees available to the public?
8. What do the following abbreviations from the article stand for?

UF, CREC, SAR, DNA, HLB

**Discussion**

In a small group, discuss the following questions to examine, evaluate, and expand upon key ideas presented in the article.

1. What are the potential implications of this research for citrus producers?
2. What are the potential implications of this research for citrus consumers?

**Grammatical Analysis: –s suffix**

With a partner, review the following sentences from “[UF Creates Trees with Enhanced Resistance to Greening](http://news.ufl.edu/articles/2015/11/uf-creates-trees-with-enhanced-resistance-to-greening.php).” Identify all words with an –s suffix. Discuss what this ending contributes to the meaning of the word.

1. Improvement of citrus through genetic engineering remains the fastest method for improvement of existing citrus cultivars and has been a key component in the University of Florida’s genetic improvement strategy.
2. Citrus greening threatens to destroy Florida’s $10.7 billion citrus industry.
3. The disease starves the tree of nutrients, damages its roots and the tree produces fruits that are green and misshapen, unsuitable for sale as fresh fruit or, for the most part, juice.
4. Grosser and Dutt’s research team used sweet orange cultivars Hamlin and Valencia and created plants that defend themselves against pathogens utilizing a process called systemic acquired resistance, or SAR.
5. These trees were evaluated every six months for two years for the presence of greening.
6. Neither of these lines declined in health, and both showed continued growth with periodic flushes.
7. In addition, researchers must ‘stack’ this gene with another transgene that provides resistance to the greening bacterium by a completely different mechanism.
8. The proceeds help to pay for citrus greening research at the University of Florida’s Citrus Research and Education Center and other institutions.

|  |  |  |
| --- | --- | --- |
| Plurality:  –s indicates number | Possession:  –s indicates ownership | Tense:  –s indicates 3rd person, present |
|  |  |  |