



## Revolutionizing Vegetables with Plant Skin Grafts

### Description

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A new method mixes fruit and vegetable traits to make them stronger against bugs and dry weather. Usually, plants are grafted to combine different features. Sometimes, new shoots grow that have a mix of both plants – a graft chimera. These can be grown from cuttings or tubers, making them easier to produce.

KeyGene, a company in the Netherlands, has found a way to create graft chimeras reliably. They have made many mixes from potatoes, tomatoes, aubergines, and peppers. They have even patented a potato with Pimpernel skin and Bintje flesh, showing it could be a good business.

The company plans to make graft chimeras with bug resistance by transferring traits like trichomes. This could help farmers tomorrow without changing how they grow plants. Scientists are impressed with KeyGene's work, as stable graft chimeras are hard to make.

This new method could lead to better crops that are easier to grow and protect. It's a big step in plant breeding.

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## Vocabulary List:

1. **Grafted** /'græf.tɪd/ (verb): To join a part of one plant to another in order to grow as a single plant.
2. **Chimera** /kaɪ'mɪərə/ (noun): An organism containing cells with more than one genotype.
3. **Traits** /treɪts/ (noun): Characteristics or features of an organism.
4. **Resilience** /rɪ'zɪliəns/ (noun): The ability to recover quickly from difficulties; toughness.
5. **Patented** /'pæt.ənt.ɪd/ (verb): To obtain a patent for an invention or process.
6. **Stable** /'steɪ.bəl/ (adjective): Not likely to change or fail; firmly established.

## Comprehension Questions

### Multiple Choice

1. What is the purpose of the new method mentioned in the text?  
Option: To mix fruit and vegetable traits for improved bug resistance and drought tolerance  
Option: To create new plant species by mixing different traits  
Option: To develop plants that grow faster  
Option: To reduce the need for watering plants
2. How are graft chimeras usually formed?  
Option: Through genetic modification  
Option: By mixing different plant seeds



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Option: By grafting plants with different features

Option: By exposing plants to certain chemicals

3. Which company has found a way to create graft chimeras reliably?

Option: KeyGene

Option: Monsanto

Option: Syngenta

Option: Bayer Crop Science

4. What trait is mentioned as being transferred for bug resistance in the graft chimeras?

Option: Chlorophyll

Option: Trichomes

Option: Stomata

Option: Root structure

5. What kind of plants have been used by KeyGene to make graft chimeras?

Option: Potatoes, tomatoes, aubergines, and peppers

Option: Cucumbers, carrots, lettuce, and radishes

Option: Apples, oranges, bananas, and grapes

Option: Wheat, corn, rice, and barley

6. Why are scientists impressed with KeyGene's work?

Option: Because it reduces the need for pesticides

Option: Because it allows for faster plant growth

Option: Because stable graft chimeras are difficult to make

Option: Because it requires less water for cultivation

### **True-False**

7. The new method mixes fruit and vegetable traits to make them weaker against bugs and dry weather.

8. KeyGene has patented a potato with Pimpernel skin and Maris Piper flesh.

9. The planned graft chimeras aim to make plants resistant to drought by transferring the trait of stomata.

10. The new method developed by KeyGene may lead to better crop protection and easier cultivation.

11. The graft chimeras created by KeyGene can only be grown from seeds.



12. KeyGene is based in the United States.

### Gap-Fill

13. KeyGene, a company in the Netherlands, has found a way to create graft chimeras reliably. They have made many mixes from potatoes, tomatoes, aubergines, and peppers. They have even patented a potato with Pimpernel skin and Bintje flesh, showing it could be a good \_\_\_\_\_.

14. The company plans to make graft chimeras with bug resistance by transferring traits like \_\_\_\_\_.

15. This new method could lead to better crops that are easier to grow and \_\_\_\_\_.

16. KeyGene has found a way to reliably create graft chimeras from \_\_\_\_\_ or tubers.

17. Scientists are impressed with KeyGene's work as stable graft chimeras are hard to \_\_\_\_\_.

18. The new method mixes fruit and vegetable traits to make them stronger against \_\_\_\_\_ and dry weather.

### Answer

**Multiple Choice:** 1. To mix fruit and vegetable traits for improved bug resistance and drought tolerance  
2. By grafting plants with different features 3. KeyGene 4. Trichomes 5. Potatoes, tomatoes, aubergines, and peppers 6. Because stable graft chimeras are difficult to make

**True-False:** 7. False 8. False 9. False 10. True 11. False 12. False

**Gap-Fill:** 13. business 14. trichomes 15. protect 16. cuttings 17. make 18. bugs

### Vocabulary quizzes

**Multiple Choice ( Select the Correct answer for each question. )**



1. What term refers to the ability of an organism to resist a particular infection or toxin?  
Option: Traits  
Option: Resistance  
Option: Potential  
Option: Stable
2. What process involves mating selected organisms to produce specific desirable traits in the offspring?  
Option: Chimera  
Option: Graft  
Option: Available  
Option: Breeding
3. What term refers to the act of committing capital to an endeavor with the expectation of obtaining an additional income or profit?  
Option: Shareholder  
Option: Benefit  
Option: Investment  
Option: Revenue
4. What term refers to the process or system that is used to achieve a particular result?  
Option: Delay  
Option: Mechanism  
Option: Shed  
Option: Intended
5. What term describes someone who is dedicated and loyal to a cause activity or goal?  
Option: Challenges  
Option: Research  
Option: Committed  
Option: Bankruptcy
6. What term describes an animal that is young or not yet fully developed?  
Option: Resign  
Option: Sensitive  
Option: Significant  
Option: Juvenile
7. What term refers to a formal arrangement in which two or more parties cooperate to manage and operate a business?  
Option: Potential  
Option: Partnership  
Option: Focus



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Option: Interest

8. What term refers to a situation when something takes longer than expected to happen or be completed?

Option: Graft

Option: Delay

Option: Revenue

Option: Available

9. What term describes something that is important or of consequence in a particular context?

Option: Shareholder

Option: Significant

Option: Restructuring

Option: Chimera

10. What term refers to the act of changing the structure or organization of something typically for better efficiency or profitability?

Option: Stable

Option: Research

Option: Restructuring

Option: Benefit

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. \_\_\_\_\_ in the project has been growing steadily since the announcement.

12. The company faced financial challenges and eventually went into \_\_\_\_\_ in 2019.

13. Is the new product model \_\_\_\_\_ for pre-order?

14. The company's \_\_\_\_\_ increased by 15% compared to the previous fiscal year.

15. Snakes \_\_\_\_\_ their skin periodically as they grow.

16. In Greek mythology a \_\_\_\_\_ is a creature with the head of a lion body of a goat and tail of a snake.

17. High customer demand resulted in a surge in \_\_\_\_\_ for the company.

18. The new research shows great \_\_\_\_\_ for the treatment of the disease.



19. We need to \_\_\_\_\_ on improving customer satisfaction to retain our clients.

20. The economy has been \_\_\_\_\_ for the past few quarters with steady growth.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. The genetic makeup of an individual that influences specific characteristics or behaviors.
22. A horticultural technique that involves joining tissues from one plant to another.
23. A mutually beneficial business agreement between two or more parties.
24. An advantage or positive outcome obtained from a course of action or a situation.
25. The state of wanting to learn more about something or being involved in an activity.
26. An individual or institution that owns shares in a corporation entitling them to dividends.
27. The total income generated by a business through its normal operations.
28. The act of concentrating time and energy on a particular task or objective.
29. The process of reorganizing a company to make it more profitable or efficient.
30. Dedicated and devoted to a cause action or relationship.

## Answer

**Multiple Choice:** 1. Resistance 2. Breeding 3. Investment 4. Mechanism 5. Committed 6. Juvenile 7. Partnership 8. Delay 9. Significant 10. Restructuring

**Gap-Fill:** 11. Interest 12. Bankruptcy 13. Available 14. Revenue 15. Shed 16. Chimera 17. Revenue 18. Potential 19. Focus 20. Stable

**Matching sentence:** 1. Traits 2. Graft 3. Partnership 4. Benefit 5. Interest 6. Shareholder 7. Revenue 8. Focus 9. Restructuring 10. Committed

## CATEGORY

1. Sci/Tech - LEVEL2

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