Gene-edited bananas move toward UK sale

LEVEL B2


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I. WARM-UP

1. How do you stop cut fruit from going brown?
2. What foods do you throw away most often? Why?
3. Would you try gene-edited fruit? Why or why not?

II. KEY VOCABULARY

biotechnology
The use of living things and science to make new products, often in farming.

precision-bred
Produced with targeted genetic changes that could also happen through selective breeding.

enzyme
A protein in plants or animals that speeds up chemical reactions.

emissions
Gases released into the air, often linked to climate change.

supply chain
All the steps that move a product from farm to factory to shop and customer.

regulatory
Related to official rules and government approvals.

authorise
To give official permission for something to be sold or used.

bruise
A dark mark on fruit or skin caused by minor damage without breaking the surface.

III. READING

Bananas that resist browning after peeling could soon reach UK shops. Tropic, a Norwich-based biotechnology company, says its gene-edited fruit keeps taste and texture but stays yellow and appetising for an extra day or two, especially if chilled.

That could make it easier to add bananas to prepacked fruit salads and cut waste. Last week Defra approved a marketing notice confirming the bananas' precision-bred status, one of two steps before sale. The Food Standards Agency must still review safety. Prof Cathie Martin said the timing is unclear.

Tropic used Crispr-Cas9 to alter all three copies of one gene and reduce polyphenol oxidase, the enzyme that causes browning. The company says this could cut food waste and CO2-equivalent emissions along the supply chain by over 25%, or more than 9m tonnes a year in the banana export market.

A government study found 1.4m edible bananas are thrown away each day, and 30% of consumers discarded one for a minor bruise or black mark. Regulations for precision-bred plants apply only to England, and no precision-bred organisms have been authorised there yet.

Tropic says it has regulatory approval in 10 countries, including Japan, Brazil and the Philippines, and the fruit is already grown in Latin America.

Reading text adapted from reporting by **The Guardian***: "Gene-edited bananas that don't go brown...". Original article linked at theenglishwire.com.*

IV. COMPREHENSION QUESTIONS

1. What problem do these bananas aim to solve?
2. Which UK department confirmed the precision-bred status?
3. What must the Food Standards Agency do next?
4. Which enzyme did Tropic reduce to slow browning?
5. How many edible bananas are thrown away each day in Britain?

V. DISCUSSION

1. Should UK shops prioritise foods that reduce waste? Why or why not?
2. Do you trust biotechnology in everyday food products? Explain.
3. Are different rules across UK nations helpful or confusing for shoppers?
4. Would you pay more for fruit that stays fresh longer?

VI. GRAMMAR FOCUS

Used to / would

Both describe past habits. Only 'used to' can describe a past state — a situation rather than an action. 'The building used to be a cinema' is correct; 'would be' is not.

*"Farmers **used to sell** ripe bananas at local markets."*

*"When I was young, my mother **would slice** bananas into our cereal."*

VII. GRAMMAR EXERCISE

Complete each sentence using 'used to' or 'would'.

1. At my old school, we (get) ___ a free banana at lunch. _____
2. As a girl, my grandmother (hate) ___ brown bananas. _____
3. When we lived in Spain, we (have) ___ a banana tree. _____
4. When I was small, we (throw) ___ away bruised bananas. _____
5. As teenagers, we (take) ___ bananas on long bike rides. _____

Teacher's Notes

TEACHERS ONLY

These notes are designed to help you get the most out of this lesson. Please do not share this page with students.


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I. LESSON GUIDE

- Timing: 8–10 minutes warm-up, 10 minutes vocabulary, 12–15 minutes reading and comprehension, 8–10 minutes grammar, 10 minutes discussion.
- Pre-teach or concept-check: gene-edited vs precision-bred, enzyme, emissions, supply chain, authorise.
- Run the reading in two passes: gist first, then detail (names, numbers, claims). Check that students know minor here means small or slight.
- Differentiate: stronger students map the approval pathway (Defra → FSA → authorised); others match claims to sources (company, Defra, FSA) before discussing waste impacts.

II. DISCUSSION FACILITATION TIPS

1. Poll the room first, then ask pairs to list two concrete benefits and two risks.
2. If answers stall at yes/no, prompt with taste, price, labels and long-term effects.
3. Split groups by nation (England/Scotland/Wales/Northern Ireland) and compare shopper impact.
4. Have students set a personal price limit and justify it with shelf life and waste saved.

III. EXTENSION ACTIVITIES

Debate: In teams, prepare 2-minute statements for or against selling precision-bred bananas in the UK.

Writing: Write a 90-word supermarket notice explaining how the bananas reduce waste and stay fresh.

IV. ANSWER KEY OVERVIEW

Comprehension questions: short factual answers from the text.

Grammar exercise: Used to / would

Discussion: open-ended. Accept any reasonable ideas supported by examples and reasoning.

Answer Key

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These answers are for teachers only. Please do not share this page with students.


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IV. COMPREHENSION QUESTIONS

1. What problem do these bananas aim to solve?
   Browning soon after peeling or slicing.
2. Which UK department confirmed the precision-bred status?
   Defra.
3. What must the Food Standards Agency do next?
   Review the bananas' safety before sale.
4. Which enzyme did Tropic reduce to slow browning?
   Polyphenol oxidase.
5. How many edible bananas are thrown away each day in Britain?
   About 1.4 million.

V. DISCUSSION

Open answers. Accept any reasonable ideas supported by examples and reasoning.

VII. GRAMMAR EXERCISE

Complete each sentence using 'used to' or 'would'.

1. At my old school, we ___ a free banana at lunch.
   used to/would get
2. As a girl, my grandmother ___ brown bananas.
   used to hate
3. When we lived in Spain, we ___ a banana tree.
   used to have
4. When I was small, we ___ away bruised bananas.
   used to/would throw
5. As teenagers, we ___ bananas on long bike rides.
   used to/would take

VI. GRAMMAR FOCUS

Key point: Both describe past habits. Only 'used to' can describe a past state — a situation rather than an action. 'The building used to be a cinema' is correct; 'would be' is not. (Examples constructed.)

> *"Farmers* **used to sell** *ripe bananas at local markets."*
>
> *"When I was young, my mother* **would slice** *bananas into our cereal."*