Seeds in Reserve

Use evidence to examine what a seed vault can and cannot protect.

RI.11-12.1 "Cite relevant and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two details about what the vault does, circle two details about its limits, and number two details from different paragraphs that together support an inference about protecting crop diversity.

A Backup Inside a Mountain

1 On a Norwegian island above the Arctic Circle, a concrete doorway leads into a mountain. Beyond it, the Svalbard Global Seed Vault stores backup copies of seeds from gene banks around the world. Each bank owns the seeds it deposits and controls their withdrawal. The vault keeps boxes cold and dry, slowing the changes that make seeds unable to grow. It opened in 2008 not to supply farms directly but to protect collections that researchers and farmers may need later. A single crop can have many varieties, each carrying traits that could matter as growing conditions change.

2 The vault's first withdrawal in 2015 showed why a backup matters. A research center that had stored crop seeds in Aleppo, Syria, could no longer reach its collection safely during the war. It requested duplicates it had previously deposited at Svalbard. Researchers used the withdrawn seeds to rebuild collections in Lebanon and Morocco, where plants could be grown and new seeds harvested. The vault did not stop the conflict or grow replacement crops inside the mountain. Its value was narrower and more concrete: seeds kept elsewhere allowed work on crop diversity to continue when an original collection became inaccessible.

3 Yet a sealed box is not a complete conservation plan. Seeds must sometimes be grown to produce fresh stock, and not every crop can be preserved through stored seeds. Farmers also maintain diversity by planting varieties, selecting them, and passing them on. If those practices disappear, a vault may protect genetic material while losing the knowledge of how particular varieties perform in local fields. The Svalbard project therefore offers a safeguard, not a substitute for active collections and farming. Its strongest promise is that a disrupted gene bank need not mean the permanent loss of every seed it held.

2 ANSWER WITH EVIDENCE

Use the passage

1. What is the vault designed to do rather than do directly? Cite two details from the first paragraph.

2. What does the 2015 withdrawal suggest a backup can accomplish during a crisis? Support your inference with two details from the second paragraph.

3. Why might preserving many varieties of a crop matter even when no collection is in immediate danger? Use evidence from the first and third paragraphs.

4. What does the author mean by calling the vault a “safeguard, not a substitute”? Support your explanation with details from the second and third paragraphs.

3 YOUR TURN

Your own words

Write a brief advisory note to a new gene bank about protecting its seed collection. Recommend one action involving the vault and one action outside it, support your advice with evidence from all three paragraphs, and explain one limit of storage.

ANSWER KEY

Seeds in Reserve

HIGH SCHOOL · RI.11-12.1

PART 1 · READ AND MARK

Underline two details about what the vault does, circle two details about its limits, and number two details from different paragraphs that together support an inference about protecting crop diversity. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What is the vault designed to do rather than do directly? Cite two details from the first paragraph.	**It stores backup copies of gene banks' seeds to protect collections needed later, rather than supplying farms directly.**
2	What does the 2015 withdrawal suggest a backup can accomplish during a crisis? Support your inference with two details from the second paragraph.	**A backup can help work continue when a collection becomes inaccessible: the center could not safely reach its Aleppo collection, but researchers withdrew duplicates and rebuilt collections in Lebanon and Morocco.**
3	Why might preserving many varieties of a crop matter even when no collection is in immediate danger? Use evidence from the first and third paragraphs.	**Different varieties carry traits that may matter as growing conditions change. Farmers maintain those varieties by planting, selecting, and passing them on.**
4	What does the author mean by calling the vault a "safeguard, not a substitute"? Support your explanation with details from the second and third paragraphs.	**Stored duplicates can help rebuild an inaccessible collection, as the 2015 withdrawal did, but seeds still need to be grown for fresh stock, and farming practices preserve knowledge a sealed box cannot.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Deposit backup copies at Svalbard, but keep an active collection where staff can grow seeds. The vault keeps boxes cold and dry, and each depositing bank controls its own withdrawals. When a center lost safe access to its Aleppo collection, researchers withdrew duplicates and rebuilt collections elsewhere. Your bank should also grow fresh stock and work with farmers who plant and select local varieties. Storage alone cannot preserve every crop through seeds or retain knowledge about how varieties perform in local fields. A backup reduces the risk of permanent loss, but it cannot replace people working with living plants.

Accept accurate inferences supported by the requested passage details. For the advisory note, look for two distinct actions, evidence from all three paragraphs, and a specific limit of storage.