



Disruptions to Ecosystems

EVO-1.0.1

An adaptation is a genetic variation that is favored by selection and is manifested as a trait that provides an advantage to an organism in a particular environment.

EVO-1.0.2

Mutations are random and are not directed by specific environmental pressures.



Disruptions to Ecosystems

SYI-2.A.1

The intentional or unintentional introduction of an invasive species can allow the species to exploit a new niche free of predators or competitors or to outcompete other organisms for resources.

SYI-2.A.2

The availability of resources can result in uncontrolled population growth and ecological changes



Disruptions to Ecosystems

SYI-2.B.1

The distribution of local and global ecosystems changes over time.

SYI-2.B.2

Human impact accelerates change at local and global levels—

- a. The introduction of new diseases can devastate native species.
- b. Habitat change can occur because of human activity.



Disruptions to Ecosystems

SYI-2.C.1

Geological and meteorological events affect habitat change and ecosystem distribution. Biogeographical studies illustrate these changes.



An adaptation is...

- A. Favored by selection and provides no advantage in environment**
- B. Favored by selection and provides advantage in environment**
- C. Not favored by selection and provides no advantage in environment**
- D. Not favored by selection and provides advantage in environment**

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TOPIC

8.7

An adaptation is...

B. Favored by selection and provides advantage in environment



Adaptations are characteristics of organisms that allow them to be more favorable to survive in a certain environment. These traits have been selected for by natural selection over many years.

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Why do invasive species have exponential growth?

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**Why do invasive species
have exponential growth?**



No natural predators

**Unlimited resources (no
competitors or outcompeted)**

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What is the disadvantage of adding N and P with fertilizers?

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TOPIC

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What is the disadvantage of adding N and P with fertilizers?



Run off leads to eutrophication



What is a mutation?

- A. Change in amino acid sequence**
- B. Change in cell types**
- C. Change in DNA**
- D. Change in polypeptide**

What is a mutation?

C. Change in DNA



Yes, I agree if there's a change in DNA, there will be a change in the amino acid/polypeptide. The change did not originate in the protein, so that's the result of the mutation. The official definition of a mutation is a change in the DNA.



When the mutation allows the organism to better match its environment?

- A. Adaptations**
- B. Carrying capacity**
- C. Conformer**
- D. Imprinting**

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When the mutation allows the organism to better match its environment?

A. Adaptations



Adaptations are characteristics that allow an organism to be more favorable in their environment. These adaptations result from mutations then natural selection acting on the population.



**Why are invasive species
“favorable”?**

- A. No natural predators**
- B. Unlimited resources**
- C. Uncontrolled growths**
- D. All of the above**

**Why are invasive species
“favorable”?**

D. All of the above



With no natural predators, their population is not kept in check, and they are able to undergo exponential growth.

With unlimited resources, their population does not need to compete to obtain enough resources which allows for exponential growth.

Due to the above two reasons, the population undergoes uncontrolled growths.



Which population growth curve do invasive species have?

- A. C shape**
- B. J shape**
- C. S shape**
- D. W shape**

Which population growth curve do invasive species have?

B. J shape



The J shape curve shows exponential growth. Since the invasive species has exponential growth due to absence of predators and unlimited resources, this population has a J shape growth curve.

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Invasive species can out compete native species.

A. True

B. False

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Invasive species can out compete native species.

A. True



This is one of the issues with invasive species. Due to the presence of the invasive species with unlimited resources and no natural predators, they are able to outcompete native species which changes the diversity of the ecosystem.