**Natural Selection of “Strawfish” Activity**

Data Table

**Test 1: Preferential Predation -** In this test, the predators discover that the yellow allele made a sour-tasting protein.

 Which fish contain the yellow allele? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Which fish will the predators prefer to eat? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  | **# of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** | **Total** |
| **1 (control)** |  |  |  |  |
| **2** |  |  |  |  |
| **3** |  |  |  |  |
| **4** |  |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Alleles** |
| **Generation #** | **Blue** | **Yellow** | **Total**  |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Frequency of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Allele Frequency** |
| **Generation #** | **Blue** | **Yellow** |
| **1 (control)** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |

 

Analysis Questions:

1. Did the frequency of each color change much from generation to generation in this test? Explain.
2. Did the allele frequency change much over the 4 generations in this test? Explain
3. What is causing this change (or lack of change) in allele frequency?
4. What do you think will eventually happen to the frequency of each allele in this population?
5. What type of selection pattern or trend does this simulation represent (directional, stabilizing, or disruptive)?

**Natural Selection of “Strawfish” Activity**

Data Table

**Test 2: Preferential Predation -** In this test, the predators discover that the blue allele made a sour-tasting protein.

 Which fish contain the blue allele? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Which fish will the predators prefer to eat? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  | **# of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** | **Total** |
| **1 (control)** |  |  |  |  |
| **2** |  |  |  |  |
| **3** |  |  |  |  |
| **4** |  |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Alleles** |
| **Generation #** | **Blue** | **Yellow** | **Total**  |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Frequency of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Allele Frequency** |
| **Generation #** | **Blue** | **Yellow** |
| **1 (control)** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |

 

Analysis Questions:

1. Did the frequency of each color change much from generation to generation in this test? Explain.
2. Did the allele frequency change much over the 4 generations in this test? Explain
3. What is causing this change (or lack of change) in allele frequency?
4. What do you think will eventually happen to the frequency of each allele in this population?
5. What type of selection pattern or trend does this simulation represent (directional, stabilizing, or disruptive)?

**Natural Selection of “Strawfish” Activity**

Data Table

**Test 3: Preferential Predation -** In this test, the predators discover that the green fish are particularly flavorful.

 Which alleles will a green fish have? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Which fish will the predators prefer to eat? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  | **# of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** | **Total** |
| **1 (control)** |  |  |  |  |
| **2** |  |  |  |  |
| **3** |  |  |  |  |
| **4** |  |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Alleles** |
| **Generation #** | **Blue** | **Yellow** | **Total**  |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Frequency of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Allele Frequency** |
| **Generation #** | **Blue** | **Yellow** |
| **1 (control)** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |

 

Analysis Questions:

1. Did the frequency of each color change much from generation to generation in this test? Explain.
2. Did the allele frequency change much over the 4 generations in this test? Explain
3. What is causing this change (or lack of change) in allele frequency?
4. What do you think will eventually happen to the frequency of each allele in this population?
5. What type of selection pattern or trend does this simulation represent (directional, stabilizing, or disruptive)?

**Natural Selection of “Strawfish” Activity**

Data Table

**Test 4: Heterozygote Advantage -** In this test, the predators discover that the green fish are camouflaged.

 Which fish will the predators prefer to eat? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  | **# of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** | **Total** |
| **1 (control)** |  |  |  |  |
| **2** |  |  |  |  |
| **3** |  |  |  |  |
| **4** |  |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Alleles** |
| **Generation #** | **Blue** | **Yellow** | **Total**  |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Frequency of Surviving Fish** |
|  **Generation #** | **Blue** | **Green** | **Yellow** |
| **1 (control)** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |

|  |  |
| --- | --- |
|  | **Surviving Allele Frequency** |
| **Generation #** | **Blue** | **Yellow** |
| **1 (control)** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |

 

Analysis Questions:

1. Did the frequency of each color change much from generation to generation in this test? Explain.
2. Did the allele frequency change much over the 4 generations in this test? Explain
3. What is causing this change (or lack of change) in allele frequency?
4. What do you think will eventually happen to the frequency of each allele in this population?
5. What type of selection pattern or trend does this simulation represent (directional, stabilizing, or disruptive)?