

Name: _____ Date: _____

Fertile Minds, Activity 1: Global Farming Practices

Agricultural practices vary from country to country. Farmers not only use different farming techniques, but also grow different crops based on their climate, soil conditions and economic needs. Below, you will learn more about several crops grown in developing countries throughout the world.

Begin by matching each crop to its description below:

<p>1. I am a storage root vegetable, and over 95 percent of my global production takes place in developing countries. I am a great source of Vitamin A, which helps prevent blindness. I also supply carbohydrates and more edible energy per acre per day than most other major crops. My edible root is harvested and can be prepared in a variety of ways, including baked, fried, boiled or candied.</p> <p>Which crop am I? _____</p>
<p>2. I am the main source of food for about half of the world's population. I am cultivated in more than 100 countries on every continent except Antarctica, although 91 percent of my production is in Asia. I need nitrogen rich soil and because I am grown in shallow paddies of water, it takes more than 600 gallons of water to produce one pound of me. To cook, I should be boiled or steamed.</p> <p>Which crop am I? _____</p>
<p>3. I am the world's most important food legume and I come in several varieties. Latin America is my primary producer and Africa is considered to be a secondary center for my production. I grow on a vine or bush, and am most commonly served steamed, stir-fried, or baked in casseroles. I am nutritionally rich, especially in protein and iron.</p> <p>Which crop am I? _____</p>
<p>4. I am a versatile crop that thrives under lowland tropical, subtropical, and temperate climates. I am the world's most important cereal crop and I am grown in more countries than any other cereal crop. The U.S. produces almost half the world's harvest, mostly in Midwest states where the soil is moist and rich with nitrogen. Worldwide, varieties are consumed by both humans and livestock. I can also be processed for drug, cosmetic and industrial uses, as well as an additive for gasoline.</p> <p>Which crop am I? _____</p>
<p>5. Globally, I am the most important human food grain, and I rank second in total production as a cereal crop behind maize. Certain varieties of me can thrive in cold weather. China is my largest producer and I am becoming increasingly popular in Africa. I am a major source of fiber and energy in the human diet with a higher protein content than almost all other cereals. The greatest portion of me is used for bread making. While I require adequate levels of various nutrients, potassium is particularly important for my growth.</p> <p>Which crop am I? _____</p>



Corn/Maize



Sweet Potato



Wheat



Common Bean



Rice

Below are statements from two global farmers. Try to match the most appropriate crop with their growing conditions:

Scenario 1: I am a Bangladeshi farmer and am deciding on a new crop to plant. My soil is rich in nitrogen, but we have suffered from hunger for years because my crops are often ruined by heavy rains. What crop should I plant that would best suit my environment?

_____ Why? _____

Scenario 2: I am from northern China, near Beijing. We do not get much rain and it is cold the majority of the year; however, our soil has sufficient availability of potassium. What crop should my family grow?

_____ Why? _____

Name: _____ Date: _____

Fertile Minds, Activity 1: Global Farming Practices

Agricultural practices vary from country to country. Farmers not only use different farming techniques, but also grow different crops based on their climate, soil conditions and economic needs. Below, you will learn more about several crops grown in developing countries throughout the world.

Begin by matching each crop to its description below:

<p>1. I am a storage root vegetable, and over 95 percent of my global production takes place in developing countries. I am a great source of Vitamin A, which helps prevent blindness. I also supply carbohydrates and more edible energy per acre per day than most other major crops. My edible root is harvested and can be prepared in a variety of ways, including baked, fried, boiled or candied.</p>
<p>Which crop am I? _____ <u>Sweet Potato</u></p>
<p>2. I am the main source of food for about half of the world's population. I am cultivated in more than 100 countries on every continent except Antarctica, although 91 percent of my production is in Asia. I need nitrogen rich soil and because I am grown in shallow paddies of water, it takes more than 600 gallons of water to produce one pound of me. To cook, I should be boiled or steamed.</p>
<p>Which crop am I? _____ <u>Rice</u></p>
<p>3. I am the world's most important food legume and I come in several varieties. Latin America is my primary producer and Africa is considered to be a secondary center for my production. I grow on a vine or bush, and am most commonly served steamed, stir-fried, or baked in casseroles. I am nutritionally rich, especially in protein and iron.</p>
<p>Which crop am I? _____ <u>Common Bean</u></p>
<p>4. I am a versatile crop that thrives under lowland tropical, subtropical, and temperate climates. I am the world's most important cereal crop and I am grown in more countries than any other cereal crop. The U.S. produces almost half the world's harvest, mostly in Midwest states where the soil is moist and rich with nitrogen. Worldwide, varieties are consumed by both humans and livestock. I can also be processed for drug, cosmetic and industrial uses, as well as an additive for gasoline.</p>
<p>Which crop am I? _____ <u>Corn/Maize</u></p>
<p>5. Globally, I am the most important human food grain, and I rank second in total production as a cereal crop behind maize. Certain varieties of me can thrive in cold weather. China is my largest producer and I am becoming increasingly popular in Africa. I am a major source of fiber and energy in the human diet with a higher protein content than almost all other cereals. The greatest portion of me is used for bread making. While I require adequate levels of various nutrients, potassium is particularly important for my growth.</p>
<p>Which crop am I? _____ <u>Wheat</u></p>



Corn/Maize



Sweet Potato



Wheat



Common Bean



Rice

Below are statements from two global farmers. Try to match the most appropriate crop with their growing conditions:

Scenario 1: I am a Bangladeshi farmer and am deciding on a new crop to plant. My soil is rich in nitrogen, but we have suffered from hunger for years because my crops are often ruined by heavy rains. What crop should I plant that would best suit my environment?

Rice Why? _____

Scenario 2: I am from northern China, near Beijing. We do not get much rain and it is cold the majority of the year; however, our soil has sufficient availability of potassium. What crop should my family grow?

Wheat Why? _____

N



Gases in the earth's atmosphere are made up of about 78% nitrogen. That means there is about 75 million pounds of nitrogen in the atmosphere above every acre of land.

Like people, plants need a proper diet to be healthy. Unlike humans however, plants cannot choose what to eat. They can only take up nutrients dissolved in the soil. One example of a nutrient we both use is nitrogen.

Nitrogen (N)

Nitrogen comes from the air and is the primary building block for all life. The air we breathe is about 78 percent nitrogen, but there are very few plants that can make direct use of nitrogen in the air.

Nitrogen & Plants

Nitrogen helps make plants green, and plays a critical role in protein formation. It is also a key component of chlorophyll. Plants with adequate nitrogen show healthy vigorous growth, strong root development, dark green foliage, increased seed and fruit formation, and higher yields.

What happens without Nitrogen?

If any nutrient is missing, or present in a lesser amount than is needed, the plant suffers. The symptoms displayed vary depending on the type of plant and which nutrient is lacking.

Plants in need of nitrogen suffer from a general yellowing of the plant. The yellowing begins at the leaf tip and gradually works its way down to the base of the leaf. Older leaves will show a V-shaped yellowing of the inner leaves with the leaf edges remaining green. The plants may appear stunted and spindly.

Each year, typical North American corn crops remove more than 5.7 billion pounds of nitrogen from our soils. For healthy soils, this nitrogen is replaced by judicious application of fertilizer and manure-based nutrients.

