

As part of a humanitarian mission, Myra is visiting a very poor village in Niger, Africa. Most of Niger lies in the Sahara Desert, and lack of rainfall makes it very difficult for the village to grow enough food to survive. Myra wants to find a variety of sorghum (a grain that can be eaten or fed to animals) that will thrive and bring it back to the village, allowing the village to increase their food and cattle production.

What trait could she look for?

**Drought Tolerance**

The Royston family owns a small farm in Illinois. Their corn usually grows well and they often have more than enough to share with their family and friends. This year, however, they are noticing small holes in the leaves of their corn. James Royston remembers a nearby farmer mentioning the same problem and saying that it happens when the larva of the European corn borer moth feed on the corn plant. If not corrected, the Royston's corn yield may begin to decrease. What trait might the Roystons look for in next year's corn to minimize this problem?

**Insect Resistance**

A startup agriculture company in California is searching for innovative ways to irrigate dry areas and reduce desertification. However, they are spending so much time pulling weeds in their soybean fields that they hardly have time for research. What trait might they look for in their next crop of soybeans to help free up time for innovation?

**Herbicide Tolerance**

Mike recently moved from Virginia to southern Texas. He brought some of his potted begonias with him, and they were doing fine for awhile. However, the entire state is experiencing higher-than-average temperatures. Now his begonias are dying. What trait could he look for next year when he plants begonias again?

**Temperature  
Tolerance**

Tanya lives in a wooded neighborhood in North Carolina. She has been trying to grow coreopsis (a plant with yellow flowers) in her house for a few years now. Every year, they don't grow well and die early. Her neighbor Mack recommended she try ivy instead. What trait might the ivy have that will allow it to thrive in Tanya's house?

**Low Light Tolerance**

Malnutrition is a challenge in many third world countries. Insufficient vitamins and minerals (such as iron, iodine, or vitamin A) can result from low quantities or poor quality food. Malnutrition can lead to many preventable diseases. What trait or traits can be improved in food crops to increase quality of life in these regions?

**Improved  
Nutrient Content**