

ACTIVITY

Growing Cotton



REPRODUCIBLE MASTER G5-8

When you throw on your favorite jeans, do you wonder how they were made? It starts with a plant and dedicated cotton farmers.

Part 1: Read the passage below and answer the questions.



Did you know that the United States is the world's third largest producer of cotton? And that cotton is both a fiber *and* a food crop? Cotton is an important plant, and like all plants, cotton needs specific environmental conditions to grow well.

Cotton grows best in warm areas, which means that in the United States, most cotton is grown in southern states like Texas. Cottonseeds grow best in firm, warm, and moist soil. In fact, the soil should be at least 60 degrees Fahrenheit, and seeds should be planted 1 to 2½ inches below the surface of the soil.

Once planted, the seeds take about 5 days to sprout. As the cotton plant grows, it develops a long *taproot*. Some taproots can reach lengths of up to 8 feet! Flower buds called *squares* appear about two months later. These blossoms open and then shed their flower petals about a month after that. They leave behind a green seed pod called a *boll*, which is shaped like a football. Inside the boll are cottonseeds covered with fibers. As the seeds grow, the fibers grow longer until the boll

bursts open, revealing fluffy cotton ready to be harvested. This usually happens about 105 to 130 days after planting.

Throughout the growth cycle, cotton farmers take special care of the crops to help them grow. From selecting seeds to monitoring soil, weather, and environmental conditions, farmers work to protect the cotton crops and prepare them for harvest.

Once harvested, machines called *cotton gins* separate the cottonseeds from the cotton fibers. The fibers are used to make paper money, yarn for fabrics, and other things. Cottonseeds are used as cow feed and to make cottonseed oil, which is found in some of our favorite foods such as bread, cereal, and snacks. Cotton is a very versatile crop!

1. What do you think might happen if you plant cottonseed too deep in the soil?

2. Why do you think cotton plants do not grow well in pots?

3. On what part of the plant does the cotton fiber grow?

Part 2: While cotton is considered a drought-tolerant plant and is often produced with only rainwater, environmental conditions can influence plant growth, as with any crop. Texas produces the most cotton in the United States. How do farmers there give their cotton plants a good start and protect them throughout the growth cycle?

With your team, visit the Texas A&M Agrilife Research and Extension Center website at <https://sanangelo.tamu.edu/extension/agronomy/agronomy-publications/how-a-cotton-plant-grows/>. Read the article to learn more about how a cotton plant grows, then answer the questions at right.

1. How do farmers ensure that seeds germinate?

2. What environmental factors can influence plant growth?

3. The article states that plants may shed their squares or flower buds due to conditions including extended cloudy weather, too much nitrogen, low root oxygen because of water-logged soils, hot dry winds, and temperatures below 60°F for several nights." If you were a cotton farmer, what steps could you take to combat one or more of the above issues in order to protect your cotton harvest?

