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Producing Cotton

The process of producing cotton can be a very strenuous task and interesting at the same time. This process can take anywhere from 130 to 160 days to complete depending on the location. Cotton is actually a tropical plant, therefore it needs an abundance of sunlight and water to survive. The soil must be at least fifty-five degrees or warmer for the seed to even sprout. For this reason, southwest Georgia is one of the leading producers of cotton in the entire world. This region produces almost as much cotton as the state of Texas. Even though there is a lot of cotton grown here, growing cotton is not an easy job at all as it is a very fragile plant.

The first and most important step in growing cotton is preparing the soil for planting. There are two different ways that cotton can be grown; no-till or conventional. No-till farming is used mostly in highly erodible soils. The seed is actually planted inside the furrow with very minimal disturbance of the soil. This keeps the soil, seed, and fertilizer from washing away after storms or heavy rain. However, conventional farming is completely different. This type of farming requires the soil to be disked, or broken up intensely. Disking the soil helps with the control of weed emergence, insects, and disease. Conventional farming can be a lot more expensive than no-till farming, but no-till farming can help to better preserve the soil.

Planting cotton seed can be problematic. Cotton is a very delicate seed. It should be planted as shallow as possible. Sometimes cotton seed will actually germinate on top of the soil. If the seed is planted too deep it will not have enough vigor or “push” to sprout out of the soil. If a heavy rain storm comes the rain will actually push the seed deeper in the soil causing the seed to not be able to emerge. As the temperature rises, the seed can be planted a little deeper.

Seed-spacing and subsoiling are also important factors. Cotton requires a great amount of sunlight, so the seed should be placed as far apart as possible. If the seed are too close together the plants will compete for sunlight causing them to suffer. As the seed are being planted a subsoiler is ran very deep underneath the ground. The purpose of this subsoiler is to bust through the compact soil underneath the surface known as the hardpan. Busting the soil in the hardpan allows the root system of the cotton plant to grow more freely in order to absorb the nutrients and water that the plant needs. The subsoiler is the only tillage used in no-till planting.

Cotton seed normally germinate within the five days after planting, depending on the soil temperature. The warmer the soil is the faster the seeds germinate. During this time there is a lot of work to be done. Herbicides must be sprayed on top of the soil before the weeds and the cotton emerge to keep from injuring the cotton plant itself. The more weeds that emerge around the plants the more the plants suffer from lack of nutrients or sunlight. After the herbicides are applied the proper amount of fertilizer should be applied as well. Cotton seed do not require much fertilizer at all during the germination period.

As the plants emerge from the soil they should be managed cautiously. The seedlings are tender and vulnerable to many different insects, even bad weather. At this stage water is not a major concern for cotton plants. Too much water can cause plant diseases, especially in no-till planting, because of the rotten debris that the seeds are planted in. Over the next several weeks insecticides are sprayed over the plants and more fertilizers are applied in order to keep the plants healthy. The insecticide applications are handled carefully as to not harm the beneficial insects. These beneficial insects will help eliminate the non-beneficial insects by eating them.

Around thirty days after the plants emerge and they have plenty of leaves or foliage growing they will begin to grow squares on the branches. These squares are flower buds. They start to bloom all over the cotton plant. They will actually grow so many squares that others will unexpectedly fall off the plant. This is referred to as square retention. The squares then begin to blossom into a white flower. As the bees pollinate the flowers they will change from white to pink. A few days later the pink flowers will begin to fall off and a cotton-boll will begin to grow. Inside the cotton-boll millions of fibers will begin to grow. These fibers will grow a seed on the end of each one. This is called the “fruiting” stage. During this time, more fertilizer should be applied because the fruiting process requires the plant to use a large amount of fertilizer. Water is also important in order for the plats to absorb the nutrients. Because cotton grows at such a rapid pace in high temperatures, growers will spray a growth regulator over the cotton to slow it down. Growth regulators do not actually stop the cotton from growing but they influence the plant to grow more fruit and less height. The excess fertilizer helps finalize this process.

Cotton plants will continue to fruit as long as the temperature is warm. When the soil temperature begins to drop the plants will stop blooming and the remaining bolls will begin to mature. As the bolls mature the fibers begin to expand causing the boll to pop open. The seeds and fibers in the bolls will begin to dry and look white a fluffy. Finally, after ninety percent of the bolls have opened, an acidic based chemical is sprayed over the plants to make all of the leaves fall off. This makes it easier for the grower to mechanically harvest the cotton. If the plants are properly taken care of and have adequate nutrients, water, and sunlight; the fibers will be very bright and long and produce a lot of seed.