



cottonworks™

Cotton Production
Words to Grow By



Pre-Planting & General Terminology

Cellulose – The natural polymer that makes up cotton fibers.

Conservation Tillage – Tillage that minimizes the frequency or intensity of tillage operations, reducing soil aggregate disruption and having a minimum of 30% of the soil surface covered with residue. Conservation tillage promotes soil health, reduces runoff and limits erosion, while reducing equipment use, fuel consumption and greenhouse gas emissions.

Cotton Belt – From California to Virginia, the Cotton Belt is the lower half region of the U.S. containing the 17 cotton-producing states.

Cover Crops – Beneficial crops such as winter wheat, cereal rye or winter radish that are planted between periods of cotton plantings to enhance soil health, reduce soil erosion and improve cotton planting.

Crop Rotation – The practice of growing a series of different types of crops, such as corn, grain sorghum, soybeans or wheat in the same area in sequenced seasons, to prevent soil-borne disease, reduce erosion, and increase soil fertility and crop yield.

No Till/No Tillage – The terms are often interchanged with "conservation tillage." No till is a form of conservation tillage that means leaving the soil undisturbed between crop plantings, which may lead to better soil health and less tractor trips through the field, saving fuel and reducing greenhouse gas emissions.

Organic – Agricultural products that have been produced using cultural, biological, and mechanical practices that support the cycling of on-farm resources, promote ecological balance, and conserve biodiversity in accordance with the USDA organic regulations. Organic operations must maintain or enhance soil and water quality, while also conserving wetlands, woodlands, and wildlife. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used.

Pima Cotton – *Gossypium barbadense*. A type of American cotton with fibers ranging in length from 1 1/4 inches to 1 9/16 inches, making it "Extra-Long Staple" cotton. Typically grown in California, Arizona, far west Texas, and New Mexico.

Upland Cotton – *Gossypium hirsutum*. Originally referring to cotton grown on raised lands not prone to flooding, it now refers to short and medium staple cottons of the most common species of cotton.

Planting/Early Growing

Beneficial Insects and Arthropods – Species of insects that provide beneficial services that aid in production of crops, such as pollination or pest control. The use of beneficial insects is often part of pest control strategy. Beneficial insects such as lacewings, ladybugs, spiders and wasps may consume or live within host insects.

Planting – The process of placing seed or plants into soil, which usually occurs with cotton in late April through early June.

Precision Agriculture (PA) – A farm management approach that uses information technology to observe, measure and respond to data to ensure that crops and soil receive exactly what they need for optimum health and productivity where and when they need it. The goal of PA, also known as satellite agriculture and site-specific crop management, is to ensure profitability, sustainability and protection of the environment.



Growth

Bloom – Large, showy, off-white flowers that arise from cotton buds (squares) for pollination.

Boll – The boll is the rounded mature fruit of the cotton plant. It is made up of separate compartments which are called locks, in which cotton seeds and lint grow. These open at harvest time. An average boll will contain nearly 500,000 cotton fibers. A typical cotton plant will have about 6 bolls of about 2 grams of fiber each, but in very productive environments could have as many as 20 bolls.

Boll Weevil – The Boll Weevil is a beetle whose young feed on cotton buds (squares) and small bolls, making them fall off.

Herbicide – A material used to kill weeds.

Integrated Pest Management (IPM) – Integrated Pest Management (IPM) is a science-based, sustainable decision-making process that uses information on pest biology, environmental data, and technology to manage pest damage in a way that minimizes both economic costs and risks to people, property, and the environment. IPM includes the use of beneficial insects and natural pest control methods, setting action thresholds, monitoring or scouting pests, prevention and control with pesticides.

Pesticide – A substance used to control pests, including weeds, insects and fungus. The term encompasses herbicides to kill weeds and insecticides to control insects, among other methods of control. Herbicides account for 80% of pesticide use in cotton.

Square – The buds of cotton blossoms appearing about 35 days after planting, each with a central corolla containing the pollen anthers and sepals.

Variable Rate Fertilizer – The selective and precise application of fertilizer to specific areas of a field rather than a broad application covering the entire field.



Harvesting

Defoliant – A harvest-aid material applied to the cotton plant to accelerate leaf drop in preparation for harvest.

Modules – Units of seed cotton that are formed by machine during harvesting, deposited in fields and then moved to gins. At the gin the seeds are removed and the cotton is packaged into bales. Round modules equal 4-5 bales of cotton, while rectangular ones equal 15 to 18 bales.

Seed Cotton – Unginned cotton which consists of the seed with the attached lint as picked from the boll.

Spindle Cotton Picker – A mechanical picking machine that removes only seed cotton from open bolls, leaving the plants in the field.

Stripper Harvester – A machine that removes complete bolls from the cotton plants in the field, leaving the dry stalk of cotton in the field. Bolls proceed into the basket of the cotton stripper.

Trash – The leaf, plant and non-lint content of ginned lint.



Ginning

Fiber – Soft, fluffy material contained in the cotton boll, harvested for textiles and other uses.

Ginning – The automated process of separating the cotton fibers from the seeds.

Gin Motes – Small, broken, or immature seeds with attached fibers that are removed during the lint cleaning process at the gin.

Gin – Abbreviated from “engine,” cotton gins are machines that quickly and easily separate cotton seeds from fiber. Today’s modern gins dry and clean the cotton, removing field trash—plant parts like sticks and stems—before performing the primary job of separating fiber from the seed.

Lint – Raw ginned cotton which is ready for baling after the ginning process once the cotton seed, leaves and casing have been removed.

Linters – Short fibers that remain on the cotton seed after ginning. These are removed from cotton seeds by the cotton seed oil mill.



Classing

Bale – A unit of measurement for a bundle of raw cotton. In the U.S., a bale weighs approximately 500 pounds (227 kilograms).

Cottonseed – The seed of the cotton plant, which is separated from the cotton fiber during the ginning process. For each 100 pounds of fiber produced by cotton plants, approximately 140 pounds of cottonseed are produced. Approximately 5% of the total seed crop is reserved for planting; the remainder is used for feeding or as raw material for the cottonseed processing industry.

Grade Samples – Samples are taken from every bale of cotton classed (measured) against a set of color and fiber grades established by the U.S. Department of Agriculture. These samples are then labeled to match Permanent Bale Identification tags that are affixed to each bale.

Permanent Bale Identification (PBI) – A system developed by the cotton industry that enables a unique number and standard barcode to accompany each bale of cotton from the gin to the textile mill. It includes numbers for the classing office, the gin code, and the bale identification.

USDA Cotton Classing – The United States Department of Agriculture (USDA) process of describing cotton quality so that its value can be determined. The USDA tests every bale of staple cotton produced by U.S. cotton gins with a high volume instrument that measures fiber properties including fiber strength, length uniformity, micronaire, trash, and color. All of these values are attached to each bale, and fiber is purchased based on these properties.





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