

Cotton

Cotton is the most widely used natural fibers and the largest non-food agricultural crops.

Cotton is grown in a range between 40 ° North latitude and 30 ° South latitude, giving an output of about 20 million tons of fiber over a range of 32 million hectares. The largest producers of cotton are China (4.3 million tons), the U.S. (almost 4.1 million), India (2.6 million), Pakistan (more than 1.4 million) and Uzbekistan with 1.2 million. These five countries account for about 13.6 million tons of fiber. The remaining quantities are produced in

About 70 countries in the Southern Hemisphere, Europe, Greece, Spain, which used cotton minor areas, but getting good yields and high commercial value. The per capita consumption of cotton in the world is very high and growing. It was calculated that an individual currently consumes an average of 6.9 kg of cotton each year.

The cotton is produced from plants of the family Malvaceae

Are 39 different species of plants of the genus *Gossipium*, the six traditionally used in the production of the fibers originate in different regions of the planet. The species most used by the textile industry is *G. hirsutum* (90%) then the *G. barbadense* (for almost 10%) - both originally from Central America - while in India and the Far East there are still niches cultivation of *G. herbaceum* and *G. arboreum*, the latter present as an ornamental plant in tropical countries. They are annual herbs or shrubs with large leaves, white flowers, yellow and pink and a fruit that opens at maturity in 2-5 segments, showing the seeds that are surrounded by dense unicellular hairs from 15 to 55 mm long. silky, white, but also of other yellowish color - that make up the fabric - and a most minute hairs, no more than 2-4 mm long. which gives the waste (linters).

Flowering and ripening

Between the tenth and twelfth weeks from sowing the first flowers bloom, white or creamy yellow pink and purple and then become after fertilization. Shortly after they fall and glimpses of the capsules slowly swelled until they grow to the size of an egg of 30 40 mm. At maturity, after 5-7 weeks of flowering, is open and the cotton fiber, similar to a cotton ball. In this phase, which lasts a few days, the fiber dries, flattens and twists on its axis in various ways. We thus create twists natural features of the mature cotton fiber (which determines the deconvolution count). They are distinguished in addition to mature fibers, the so-called immature fibers and fiber death, who have physical and technological characteristics quite different from each other. Immature fibers and the fibers are opaque dead, weak and lacking in flexibility, you can easily wrap around the cylinder of the spinning machines causing hindrance in the process, make the yarns hairy, irregular and not very resistant, and also absorb differently from mature subjects dyes, resulting in patchy or strikethrough on dyed yarns.

The cotton harvest

The collection, which takes place within 7-10 days after opening the capsules, it can be done by hand or with machines. The manual collection is the longest and most expensive but is one that gives the best results (for the high quality of cotton is still the most adopted because picking by hand is only possible to make a product selection and discarding immature fibers The foreign matter). The harvest is stored in special warehouses for storage and subjected to natural drying (air exposure) or artificial (using special drying rooms). It thus prevents the formation of mold caused by excess moisture and prevents any risk of spontaneous combustion of the product by fermentation. The next stages are: ginning (separating the fiber from the seed), packaging and shipping. In the cotton mill - usually not in the vicinity of the production and ginning facilities - the tufts are beaten, carded and combed.

Classification

Commercial fiber length of cotton

1. Sea Island cotton: (Sept. America) from the silky fiber is considered the highest quality cotton and is used for the most refined works. The length of the fiber varies from cm. 3.8 to 6.3. The fineness of 11-13 microns and is the color is white.

2. Egyptian Cotton: Known under the name of Jumel or Mako maho we call 'and is characterized by the color pink, the length of the fiber varies from 3.1 to 3.8 cm., The finesse is equal to 12-14 microns.

3. Cotton American "Upland" is short fiber (cm. 1.9 to 2.5) and takes the name according to the source (Texas, Mississippi, Georgia, etc.), the fineness ranging from 13 to 17 microns, and the color is cream.

4. Indian cottons (Madras, Surat) are still shorter fibers (cm. 0.6 cm. 2) and are generally of poor quality. The fineness ranging from 14 to 22 microns. Except the best types, used for thick yarns, they are not used in spinning.