

Linen

Linen is an annual plant of ancient cultivation, which is obtained from plants of the family of Linaceae. A species cultivated for industrial purposes is the common linen (*Linum usitatissimum*), to erect and solitary, up from 70 to 100 cm. The blue flowers are transformed into spherical capsules, as big as a pea, and containing small seeds brown, shiny and flattened from where the oil and flour. Are extracted from the stem of the seedling filaments (lint or lime) textile. The linen of great value consists mostly of lignified cellulose more than the cotton.

Cultivation

Linen is grown throughout Europe, North Africa, India, North and South, was recently also introduced China. The harvest takes place after about 4 months from sowing to get the lint, and after about another 5 months, that it matures in order to obtain the seeds. Seedlings pulled up by hand or machine and must be dried in the sun. This is followed by a beating or sgranellatura of seeds per capsule and remove the leaves. To get the lint is then carried out three major tasks: maceration, and scutching.

Maceration

It is a task done in order to eliminate partially the gummy substances that hold the lint in the barrel. During steeping the stems are immersed in hot water baths or alkaline solution or steam autoclaved. Once dried the stems separate the fiber from the woody part with the scutching by passing the stalks between two or more pairs of grooved cylinders and rotating. Finally in scutching with a special knife off the last parts of the wood resulting in lint: the shives, fibers with short woody parts, used by upholsterers for stuffing, the stuffing coarse fibers are then carded, and the fact that raw flax lint. From the latter, subject to hair, you'll get combed flax fiber lengths up to one meter and between the teeth of the comb are short fibers constituting the best tow. The yield of linseed oil ranges from 35% to 60% for the longest fiber. The natural color of flax fiber is dark gray, yellowish or greenish. The length of the filaments that make up the lint is on average 50-60 cm. (Goes up to 100 cm.), Each filament is composed of elementary fibers 6-50 mm long. (With a diameter ranging from 10 to 40 microns) welded to each other pectic substances (gums) that remain after the soaking, the cementation of the elementary fibers produces very irregular uneven yarns (slub) giving rise to a visual characteristic of the typical fiber.

Composition

Linen is made from cellulose to 70-84%, the remainder being water, lignin, waxes and fats and pectic substances. The degree of polymerization of cellulose range from 2200 to 2400. Linen is the strongest vegetable fibers, with a tenacity that increases with the humidity. The elongation at break of flax is 2-3% and therefore it is not very elastic, so it creases easily and tissues require stretching back to the fold. The ability to absorb moisture varies from 20 to 25%. It has good thermal conductivity, so it is suitable to pack summer clothes. Chemical and combustion, has a similar behavior as cotton. The maintenance of the flax is similar to that of cotton, however, several washes and more becomes soft and bright if you avoid too energetic treatments that can produce a hardening of gummy substances deteriorating the hand of the artifact.

commercial classifications

are important for fiber length, fineness, and color. More fiber is long, thin and clear, the more valuable. Considering the maturity of the flax plant distinguish young or green linen fibers for presenting but little resistance, the average seasoning or yellow flax fiber which has long, strong and very soft and weathered linen or linen-green or dark brown fiber that has wood very firm and subject to cracking. Within the yellow linen has a further distinction is related to the finesse and the subsequent use, and for this we have the linen for fine linens (batiste and lace) the means of linen cloth and linen common large canvases used for large or ordinary and ropes.

classifications from the collection

Linen of Belgium or Flanders, Latvia are prized linen, very fine linen of Holland, fine linen, of France, good linens in Italy and Germany. A commercial classification of the linen is also made on the basis of the time when it is sown in autumn or winter crops linen (coarse fiber), linen of march or spring (fiber finer).