

May, 2026

Bast fiber: Plant fiber from the phloem (inner bark) or bast surrounding the stem of certain plants, such as flax, hemp, and jute.

Breaking: The mechanical process of crushing straw or stalks (usually with rollers), which have normally been aligned, to begin the process of separating the fiber from the shive, hurd, trash and dust.

Carding: The process of passing short fibers (3/4 inch to 6 inches or 15 mm to 150 mm) between very tightly spaced rotating cylinders of varying diameters that are covered with tiny teeth (i.e., a “card” or carding machine) that can separate, scrape, clean and/or align individual fibers or fiber bundles to produce clean aligned or non-aligned fibers.

Combing: The process of passing a continuous aligned band of fiber through a series of pins that regularly insert and withdraw through this band of fibers in a “comb” or combing machine to remove short fibers. It is a way to make more homogeneous, thinner, and stronger yarns with natural fibers like flax, cotton and wool.

Cottonizing: A process for fibers that have been treated mechanically, chemically, or in other ways, to make the length and diameter roughly similar to cotton fibers (i.e., 3/4 to 2 inches long or 2 to 5 cm and 10 to 20 microns wide).

Decortication: A mechanical method of separating the flax fiber from the woody part of the plant by breaking, beating, or crushing, during which the stems are initially split and often partially shortened.

Dew Retting: Laying swathes of harvested flax straw in the fields to decompose the pectins that bind the fibers (also called ground retting).

Drafting: The terms drafting and drawing are often used interchangeably to describe the same physical process of attenuating (thinning and lengthening) a continuous band of fibers called a sliver.

Drawing: Normally combined with the process of drafting in a machine that divides and re-combines continuous bands of fiber to make the bands thinner and more consistent in diameter and density so they can be spun into higher quality yarns.

Divider or Divisor: The machine that evens out and/or thins the layer of flax straw about to be broken and scutched.

Ground retting: See Dew Retting.

Hackled tow: Short flax fibers produced by the hackling operation.

Hackling: The process of passing scutched fiber through a series of finer and finer pins to separate any remaining shive and short tow fiber and trash from long-line fiber.

Long-line fiber: Scutched fiber that is longer than 20 inches or 50 cm. Most long-line fibers are subsequently hackled.

Non-woven: A construction of fibers, usually fabric-like, that is made by entangling, gluing and/or melting fibers together in ways that are usually much cheaper than weaving or knitting a similar weight of fiber. Typical nonwovens made from flax fibers include erosion control mats, insulation batts, pot and hanging basket mats, and mats used in making compression molded plastic composite items (e.g., dash and inside door panels in cars).

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Definitions (continued)

Pectin: A water-soluble binding agent found in flax that holds the plant's fibers together in the stalk.

Puller: A machine that harvests flax stems by pulling the stems out of the ground.

Pulling: The harvesting of flax stalks by pulling them out of the ground, rather than cutting them as is usual with other crops.

Retting: The decomposition of pectins that bind fibers to the other parts of the stems or leaves, usually by the action of enzymes produced by bacteria or fungi. Dew retting is the technique most often used but retting in water in tanks and ponds is also common among artisans and in countries where labor costs are relatively low.

Rippling: The process of removing seed pods from harvested flax stalks.

Scutcher: The machine used to scutch flax. The term is also applied to the person who operates the scutching machine.

Scutching: The process of scraping long-line fiber to remove tow and extraneous matter such as shive, earth, pebbles, and weeds.

Shive or Shiv: The woody matter of flax stalks that is removed during breaking and scutching.

Sliver: A band or strip of loose, untwisted textile fibers produced by a carding machine.

Swath or Swathe: The row or layer of stems produced when stems growing out of the ground are cut off or pulled out of the ground. In most swaths of grain or grass, the ends of the stems are distributed unevenly, and stems are aligned in the direction of movement of the cutting machine. This is unlike when flax is pulled where the stems in the pulled flax swaths are aligned at right angles to the direction of the motion of the flax pulling machine such that all ends of the stems are in an even line at the edges of the swath.

Ton: A unit of weight, equivalent to 2000 pounds. Also referred to as a ton or short ton.

Tonne: A metric tonne (1,000 kg) is equivalent to approximately 2,204.6 pounds or 1.102 short tons (US).

Tow: Short flax fibers, usually shorter than 20 inches or 50 cm. An adjective is often put in front of the word "tow" to describe which process produced it because different processes produce different qualities of tow. For example, "breaker tow" is produced during the breaking process; "scutching tow" is produced during the scutching process; and "hackling tow" is produced during the hackling process.

Turner: A machine used to turn swaths of flax straw during the dew retting process.

Turning: The process of turning over the flax straw lying on the ground while retting to ensure the color and retting is uniform throughout the swath.

Water retting: The process by which the pulled flax stems are collected from the field, the seeds are removed, and the straw is submerged in a body of water; the bacteria present in the water then degrade the pectin and the fibers are released.

Weathering, or wintering: A version of retting where the farmer leaves the plant standing with either the seeds harvested or unharvested, in the ground over the winter to partially decompose before being collected in the spring.

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