

A guide to Fibre Flax

Flax is an ancient fibre, and traces of flax fibre have now been discovered with evidence of our earliest civilizations approximately 30,000 years ago. The oldest discovered linen garment was a shirt with a pleated yoke found in an Egyptian tomb dated to around 2980 BCE.

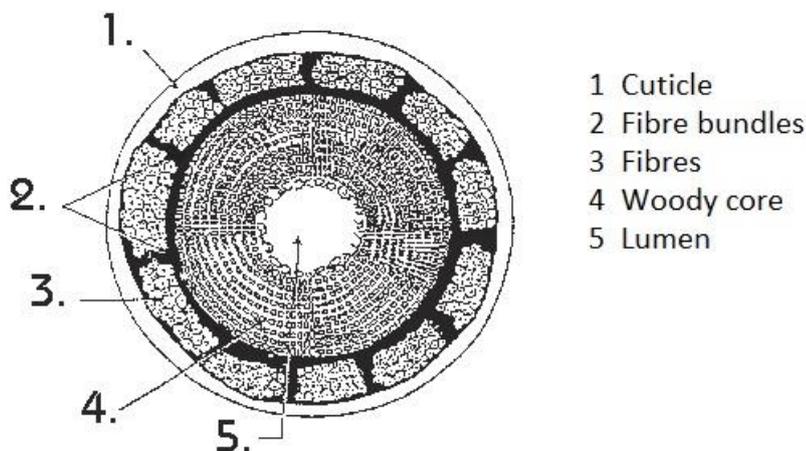
The term “flax” denotes the plant, seed and fibre – the term “linen” describes yarn spun from flax fibre, cloth woven from linen yarn, and articles made from spun flax fibres. In other words, flax becomes linen when it is spun.

Flax is a bast plant, meaning it has fibres as part of the stalk. The fibres go from the bottom of the root to the top of the stalk. Other bast fibres include hemp, jute, ramie and the stinging nettle, *urtica dioca*. For spinning, we grow the cultivated variety of flax – *Linum usitatissimum* – this means “useful line”. There were historically many varieties of *linum usitatissimum*, but the demise of the flax industry means fewer are available to buy today. The same plant is used for linseed oil and seed production, but these varieties have shorter, bushier and more branching stems so they produce more seeds and shorter fibres. Two varieties of fibre flax seed available in the UK are “Suzanne” and “Marilyn”.



Pl. 56. *Lin usuel.* *Linum usitatissimum* L.

As with all bast fibres, the fibres in flax are found on the outside of the stem – below the protective bark of cuticle and epidermis, and above the woody pith and hollow core. The fibres grow in bundles – there are between 15 and 35 bundles in each stem, and each bundle contains between 10-40 individual fibres. The fibres are glued together with gummy pectins – these need to be dissolved by a process known as “retting”.



Cross section of *Linum Usitatissimum*

Why use flax?

In the UK, we have some of the best wool in the world. Wool is versatile, readily available, and relatively easy to spin – this is partly because of the scales on wool which lock together, and partly because it is the fibre we are most used to spinning. Having ventured into the world of spinning bast fibres (and other cellulose like cotton), I will give some of the reasons why I think flax is worth a try:

- Linen is strong, resistant to wear and tear, and not damaged by exposure to sunlight
 - Linen is ideal for summer garments – absorbent, smooth and cool
 - Linen is easy to wash, and can be boiled and withstands alkaline detergents
 - Linen will not pill or felt, and becomes softer with wear
- Flax is a cellulose fibre that is really suited to our growing conditions in the UK – so has none of the environmental concerns of cotton
 - It is not difficult to spin a really fine thread and use it to make heirloom items
- A usable flax crop can be grown on a relatively small patch of land and is easy to grow

Growing Flax

Sowing

The best time to sow flax is around the last 2 weeks of March – traditionally it was the Easter weekend, although, being a movable feast, this was probably more to do with lunar phases than weather. Flax can withstand light frosts. It will grow in most soils, but it is worth composting or manuring before sowing. The most important thing is to try to have soil that is as weed free as possible – it is very tedious unwinding bindweed from flax stems (ask me how I know!). You can sow either in rows, or broadcast the

seed – if broadcasting, it is worth netting the patch to deter birds. Germination takes between a few days to a week. When the flax is springy, you can weed it if needed.

Harvesting

Your flax will be ready between 90 and 100 days from sowing, or 30-35 days from flowering. This should give you both fibre for spinning and seed for sowing next year, and the stalks will be about 1/3 yellow and 2/3 green. If you want only fibre, then you can pull the flax as soon as it has flowered – this should give you the finest fibre. If you want only seed, then wait until the entire plant has turned yellow.

To harvest, choose a dry day, and pull the stalks up by their roots – this is easy to do as the roots are only about 2" long, but they do contain fibre. Gather small bundles and then stand the bundles upright in groups (forming a stook), or prop them upright somewhere. Don't be tempted to make the bundles or stooks too large, as air needs to circulate to dry the stalks. Hope for dry weather, and leave the bundles to dry out for a week. If it threatens to rain, and you have somewhere suitable, then they can be kept under cover – but they do need good air circulation or they will grow mould.

Rippling

When the flax has dried, it is time to ripple it. This means removing the seeds from the stems. It is easy to do using either a rippling comb (quite widely spaced nails through a block of wood) or a handheld wool comb. Just pull the stalks through the comb and the seed pods will pop off. Put a sheet underneath your work area to catch the seeds if you plan to save them. Crush the pods with something blunt and heavy, and then have a go at the ancient skill of winnowing – toss the crushed pods in the air and let the chaff be blown away by the wind, leaving the heavier seeds to drop to the sheet on the ground. I have tried this, and it's not as easy as it sounds – linseed is quite light – I resorted to picking out the seeds by hand in the end. As well as saving seed to grow next year, there is no reason why the seeds cannot be used in cooking if no dodgy weedkillers or fertilizers were used when growing.

If you have no plans to use the seed for anything, you can skip the drying and rippling phases, and move straight on to the main event: the retting.

Retting

There are two methods of retting: water retting and dew retting. The aim is to break down the pectins that are holding the fibre bundles together, and attaching the fibres to the core. In water retting, bacteria decomposes the pectins, and in dew retting it is mould that rots them. It is possible to either under-ret or to over-ret. If the flax is under-retted, the process can be repeated, but if over-retted then the fibres just disintegrate and are useless.

Water Retting This is the fastest method, but also more labour intensive, and easier to over do. Fill a container with water (tap water should be fine although it may be best to leave it a day after filling to let the chlorine disperse). A child's paddling pool is an ideal receptacle. Submerge the bundles of flax – weight them down with stones to ensure all parts of the fibre are under water. It is impossible to say how long to leave it – in really hot weather it can take as little as 3 days, and in cooler weather a week or so. The water will get slimy and smelly – if this offends you (or your neighbours!) you can empty the water and replace during the process. Check the stalks regularly during the process – if you can break a stem in half and peel continuous bands of fibre along the break then retting is probably complete – remove the bundles, open up and lay somewhere to dry.

Dew Retting To do this, lay the flax out thinly in rows on the ground. The retting process can take anywhere between 3 and 6 weeks depending on the weather conditions, and the stalks need to be turned once a week to ensure even retting. To check for readiness, the core should be brittle, breaking with a snapping sound and the fibres should separate easily from the stalks. The straw will also have turned a silver grey colour. When done, gather in the flax ready for processing.

Breaking

This is done using a flax break, which is not a very difficult object to make if necessary – there are plans on the internet which explain the building process.

Take bundles of flax straw and, starting at the centre of the bundle, crush the straw between the blades of the break. This is definitely an outside job as bits of core (called “boon”) fly off in all directions. When complete, your bundles will have transformed into floppy fibres and it is time to scutch.

Scutching

Scutching is a scraping action, and removes the remnants of the woody core and chaff.

You need a wooden board and a scutching knife which has a blunt wooden blade. Holding the fibre in bundles, drape it over the board (with your fingers at the back of the board) and scrape the knife in a downwards motion. Short rotted fibres and boon will fall to the ground. You will notice by this point that your impressive crop of flax has been reduced by about 90%.

Hackling

Finally, it is time for the hackling. In this process, the fibre is pulled through progressively finer hackles which separates the fibres making them smooth and fine. Start with a coarse hackle, and comb as you would a sensitive child’s hair – start at the tips, and take progressively larger sections of fibre as they become untangled. Progress through coarse, medium and, finally, fine hackles. At every stage, shorter and coarser fibres will break off and be trapped in the hackles – this is tow flax and is also a valuable spinning fibre. Save the tow, and keep the coarse tow from the first hackling separate from the fine tow from later hacklings. Really fine tow flax can be spun produce a fibre that is almost as special as the line flax.

At the end of all this processing, you will have a small quantity of incredibly precious line flax which will be long and silky and either golden (if water retted) or silver (if dew retted). You will also have bags full of tow flax of varying quality. The next stage is to spin the fibre. The line flax is best spun using a distaff. The longer tow flax can be pulled through combs to align the fibres, and spun with a worsted technique and a wet hand – you can even pull this fibre through a diz to get roving. There is something called a “tow distaff” – this can be made using a many forked twig - that may help with spinning tow, although I personally find it easier to hold a small bundle in my hand. Really short bits can be carded into rolags and spun with a backwards draw.

After spinning, the yarn needs to be washed really thoroughly to remove dirt and pectins. This can be done either by boiling in a solution of water with washing up liquid and washing soda added, or by tying the skeins really well and putting in a bag in the washing machine. Do either of these repeatedly, and you will see the amazing transformation from a wiry, stiff fibre to a lustrous, silky one. With linen, more than any other fibre, it is important to reserve judgement until the very end of the process!

References

Zinzendorf C & J – **The Big Book of Flax** – ISBN 978-0-7643-3715-4

Amos A – **The Alden Amos Big book of handspinning** – ISBN – 978-1-883010-88-1

Gaustad S – **The practical spinner's guide Cotton, Flax, Hemp** – ISBN – 978-1-59668-669-4

Baines P – **Linen handspinning and weaving** – ISBN – 0-7134-4779-6

www.wildfibres.co.uk

Image Sources

Linum usitatissimum drawing – Masclef A, Atlas des plantes de France 1891 – public domain

Cross section drawing

Greve museum, Denmark - webpage

http://hedeboeyning.dk/wp-content/uploads/2011/03/tvaersnit_Page_05_Image_300.jpg

Relabelled in English.