

Linen in the Middle Ages – a guide to growing and processing

Collegium 2002 – Baroness Eleanora van den Bogaerde

Introducing Flax

The flax that we are used to (New Zealand flax) is a completely different and unrelated species to the flax that produces linen fibre.

Linen flax is a species of the *linum* family, *linum usitatissimum*. The name flax comes for the German for this plant *Flachs*.

It is a thin stalky plant that has small blue flowers that drop quickly and short roots. It grows tall, from 1 – 1.5 m and straight, with no branches and just a few small leaves up the stalk.

The stalk of the flax is made up of several layers. Right in the centre it is hollow, but then there is a woody core that provides the strength of the stalk. Around the woody core are a series of fibre bundles, each containing 10 – 40 individual fibres, which are held to the core by a gummy layer, and finally there is an outer bark.

The fibres themselves appear smooth to the naked eye but has small bumps where the cells overlap. Because the fibre is essentially smooth, it does not grab itself in the way that wool fibres do. Linen fibres have a natural S twist, which is utilised, in spinning them. The fibres are generally around 50 cm long.

Growing flax

Linen seed is of course *linseed* – from which oil is produced. As with any crop, different strains have been developed to produce either finer fibre, or more oil. Linen seeds are available from *Kings Seeds* (by mail order) and seeds collected from the previous year's linen crop are perfectly viable (we keep ours in the fridge).

Flax like a light, rich, even sandy soil, however it exhausts the soil even in one season and therefore benefits from the crop rotation systems that were common in period. It likes a slightly acid soil and plenty of water and sun.

Flax grows very quickly with a weak root system and therefore is very susceptible to flattening or breaking either by wind or rain (or big dog as we have found out). It's a good idea to create a rope grid through the flax field to support the flax in windy weather. It is important to weed around your flax as weeds can choke the small plants and will entangle them, interfering with their straight growth.

The plants should reach their full growth in about 2 – 2.5 months at which point they will begin to flower. The flowers will bloom and drop in the same day. After they have stopped flowering seed heads will develop. About a month after the flowering ends the seed heads and plants will begin yellowing or even browning off. This means they are ready to harvest.

Harvest the flax by pulling them completely from the ground – this allows the fullest length of fibres – the light root structure makes this easy. Gather the flax into bundles with the roots together and tie them loosely together. Leave somewhere sheltered to dry fully.

Processing flax

Processing flax is a time consuming business and quite hard work.

Removing the seeds

To remove the seed heads the seed end of the now dry flax is pulled through a teathed comb called a ripple. The teeth are just a bit closer together than the seed heads are wide and they should pop off easily. We made a simple ripple with a bit of plank and some very big nails.

Once the seed heads are off they need to be crushed gently to release the linseed. If you crush too much you may crush the seeds themselves. The chaff (left-over bits of the seed head) can be removed from the seeds by gently blowing on them as they are much heavier than the oil-laden seeds which will sit in the sieve (tray) (this is what those big woven flat sieves are for).

Keep the seeds for next year's crop.

Retting the flax

Retting simply means rotting. This step rots the outer layers of the stalks that are holding the linen fibres to the woody core as the first step to extracting the linen fibre. There are two ways of doing this – leave the flax outside and let the morning dew do it, or leave the flax in water for a while. Water retting has the benefits of being faster and leaves the flax a whiter colour, than dew retting does. However you need something big enough to leave the flax in for a few weeks. Make sure that all of the flax is under water and change the water occasionally. If you are really lucky you live by a slow moving brook and can simply drop the flax in that for a while – the moving water will slowly rot the outer layers and wash it away. Water retting has a reputation for being very stinky but I haven't noticed it being very bad. It'll take about 6 weeks. Dew retting is so simple its silly. Tie the flax together and dump it on the back lawn. Turn weekly or so. Wait for a couple of months checking occasionally.

Whichever method you use you are waiting until the linen fibre easily comes away from the stalk – check by flexing the stalk. Once the flax is fully retted it needs to be dried again before the next step.

Breaking

This step is about breaking the inner core in to smallish bits so that the fibres start to come away from it. Separate the bundle into smaller sections. Lay it on the ground and smash it with a mallet. Sometimes this mallet is called a beetle and this process is called beetling. This is also often done with a tool called a flax break. This consists of a frame with a hinged wooden blade, which is brought down to break the flax.

Scutching

Now we actually have to remove the woody bits from the fibre. Scutching is normally done with a flat wooden bat and a vertical board with a gap cut at about waist height. Stand behind the board with the flax in your off hand and the bat in your good hand. Poke a bit of flax through the gap and whack it with the bat scraping down the board. Keep poking more flax through the hole and whacking at it until all the woody bits are worked loose and drop to the floor. You should end up with quite a large pile of straw. There may be small bits of fibre (tow) in there too. They are probably too small to worry about so leave them and toss the whole pile out (or into your compost)

Hackling

We're almost there.

Now the fibre should be beginning to resemble linen. Hackling combs the fibres into separate lengths. A hackle is a lot like the ripple that we started with. It's essentially a wide toothed metal comb and again one can be fashioned out of wood with nails: make three, of varying fineness. Draw the linen smoothly through the widest hackle until all the short bits are gone and any last bits of straw have fallen out. Progress to the finer hackle and then the finest.

That's it – you have linen ready for spinning.

Bibliography

Articles

- *Growing Flax at Home*, Danette Pratt, Tournaments Illuminated, issue #137, Winter 2001, AS XXXV, pages 10 – 13.
- *Textile History 1968 – 70: Volume 1 of the Journal Textile History*, David & Charles: Newton Abbot, 1971

Books

- Baines, Patricia, Linen: Hand Spinning and Weaving, B. T. Batsford Ltd, London, UK, 1989.
- Barber, E. J. W. Prehistoric Textiles, Princeton University Press, Princeton, N.J. 1991.
- de Bonneville, Françoise, Book of Fine Linen, Flammarion, Paris, France, 1994.
- Geijer, Agnes, *History of Textile Art*, Sotheby Park Bernet, London, 1979.
- Trocme, Suzanne, Fabric, Mitchell Beazley, Octopus, London U.K. 2002.