

# FLAX... FROM SEED TO FIBRE



Flax (*Linum Usitatissimum*)  
Artist: Unknown

Flax is a vegetable fibre and the only natural fibre capable of being grown commercially in Western Europe. It was introduced to Scotland by the Romans. The botanical name for flax is *Linum Usitatissimum*. It is an apt description for every part of the plant has its use in industry. The name Flax is derived from 'Flachs', the German word for the plant, which in France is known as 'Lin' and in Italy as 'Lino' – and many years ago as 'Lint' in Scotland and Ireland. The cultivation of flax can be dated back to 8,000 BC. By the time of the Pharaohs, it was already a high art, and the weaving of it so fine, that they and their Queens wore it in Stately Ceremonies. Fine linen was an essential part of the rich garb of the Middle Ages and of the Renaissance Period. Today it is still one of the world's luxury fibres.

## The Scottish Linen Trade

There is no record of the introduction of linen weaving into Scotland, however the use of the cloth seems to have been widespread by the middle-ages. Certainly, by the 17th century, linen was at the centre of the Scottish economy. The Act of Union of 1707 gave new impetus to the trade, with duties on the import of Scottish linen into England being removed, and in 1727 a Board of Trustees was established to regulate and promote the development of the industry.

This body safeguarded the quality by inspecting and stamping all linen cloth that was produced for sale until 1823.

Records show that 31 million yards were stamped annually, and of this 22 million yards were stamped in Forfar.

By the 18th century the trade was concentrated in Angus, Fife and Perthshire. Angus specialised in weaving coarse linen known as plaiding, the finer linens or hollands being made in Fife and parts of Perthshire. Osnaburgs, a brown linen cloth taking its name from the town of Osnabruck in lower Saxony, was being produced in Arbroath by 1738 and in Forfar by 1746. The better quality of cloth superseded the brogues, rullions, strims and yard-wides, for which these towns had previously been renowned. The Scottish

handloom weavers continued for longer than elsewhere with Kirriemuir, Laurencekirk and Dunfermline being centres of excellence for designing and producing the finest damask linen into the 1950s.

Today the Angus Handloom Weavers are the sole survivors of the craft in the United Kingdom.

## Sowing:

Flax is sown in April and takes about 100 days to reach maturity. It should be sown thickly and evenly to draw the plant up into a long stem two to three feet in length and to yield a good quality of fibre. When the flax is ready for harvesting in July or August, the stem begins to turn yellow, the leaves wither and the seed heads turn brown.



Sowing the Flax, Toome, Co. Antrim  
© Ulster Folk and Transport Museum

## Pulling:

The flax straw has always been pulled up by the root, never cut, as this gives a longer length of fibre.

## Rippling:

As soon as possible after pulling and before retting, the seed heads are removed by drawing the flax through a coarse comb of iron spikes set in a block of wood. The seed bolls are then gathered on a winnowing sheet, which is placed on the ground.

## Retting:

The sheaves of flax are weighted and placed in clean running water for 10 to 14 days. The warmer the weather, the quicker the retting takes place. Fermentation dissolves the vegetable pith and eases the separation of fibres from the woody outer straw.



Immersion of the flax in running water breaks down the outer stalks leaving the fibres. ©Ulster Folk and Transport Museum

This method polluted the river or burn, quickly killing the fish, and was prohibited by the landowners. Flax retting ponds or lint pots were generally used and these man-made, clay-lined ponds were once a common sight in the East of Scotland.



Removing the retted or rotted flax from the lint hole. ©Ulster Folk and Transport Museum

## Grassing:

The flax was lifted out of the water to dry in the sun and was turned regularly. The sun reacted with the chlorophyll in the grass to produce bleaching of the flax fibre.



Stooking of the retted flax to bleach the flax fibre. © Ulster Folk and Transport Museum

## Scutching:

The flax was bruised on a stone with a timber club to break up the outer straw and release the fibre. Hand scutching was done with an upright board, which had a slot at one side near the top. A handful of flax would be held in this slot and turned while the fibres were beaten down against the side of the board with a wooden bladed scutching tool.



Scutching the stalks separates out the fibres. © Ulster Folk and Transport Museum

Scutching was the first stage in the processing of flax to be mechanised. Machine scutchers driven by water were introduced into Scotland in 1728. The knowledge and expertise had been acquired from the Dutch, who had successfully mechanised flax processing in the 17th century. By 1772, there were 252 lint scutching mills situated in Angus, Fife and Perthshire.

## Hackling:

This is the final process in the preparation of flax fibre for spinning. The bundles of fibre are drawn through a metal toothed comb to separate the tow of short and coarse fibres from the long strands of flax.



Hackling is a combing process, which removes any remaining pieces of straw. © Ulster Folk and Transport Museum

By-products of the flax plant include linseed oil, tow and straw. The linseed oil was and still is a valuable commodity used by carpenters to treat wood. The residue of the crushed seeds is used to make linseed cake for cattle feed. Tows are the short strands of fibre which are left after the hackling process. These are dry spun to produce coarse threads, which are then woven into canvasses and carpet backing. Straw pieces from the flax plant can be used in the production of chipboard.