FLA

FLA

I'll fetch some flax, and whites of eggs,
T' apply to't's bleeding face. Shakesp. R. Lea.
Then on the rock a fanny measure place
Of vital flax, and turn'd the wheel space.
And turning fings.
Drydist's Quatr.

(2) FLAX, in botany. See Linum.

(3) FLAX, choice of seed and soil. For raising. On these subjects, the trustees for fisheries, manufacturers, and improvements in Scotland, have given particular directions, which will be found noticed under the articles Husbandry, and Lintseed. Their directions for pulling, rippling, flacking, &c. are here inserted: See § 8—12.

(4) FLAX, expense, produce, and profit of a Scots acre of; supposing the season favourable, that no accidental losses happen, and that the farmer is neither wasteful nor negligent.

Ground-rent, labouring the ground, and leading the

flax 1 1 0 0 0 0

Lintfeed from L. 2, to L. 4, per hoghead, the medium
3% d. per peck. 0 0 0 0

Clothing and fowling ——

Weeding ——

Pulling, rippling, putting in, and covering in the

water ——

Taking out of the water, grafting, and sinking

Breaking and scutching, at 3s. per stone ——

Total expense

Produce at 10x. per stone ——

Lintfeed sold for oil at 18. per peck ——

The chaff of the bolls is well worth the expense of
drying the seed, as it is good food, when boiled
and mixed with beer, for horses.

Total produce

Balance for profit ——

There is nothing stated here as expense of the canal in which the flax is watered: because that varies much according to the conveniences people have for making it; and a canal once made requires for years after only to be repaired and cleaned. It is a certain fact, that the greater the crop is, the better is the quality of the same kind of flax. The advantage of having both a crop of flax and a crop of turnips the same year—of fowling graft seeds along with the lintseed—and of reducing the ground to a fine garden mould, free of weeds, ought to be attended to:

(5) FLAX FOR FINE LAWNS AND CAMBRIC. See Husbandry.

(6) FLAX, grassing, of. See § 12.

(7) FLAX MADE TO RESEMBLE COTTON. In the Swedish Transactions for the year 1747, a method is given of preparing flax in such a manner as to resemble cotton in whitening and fastness, as well as in coherence. For this purpose, a little sea water is put into an iron pot, or an unlined copper kettle, and a mixture of equal parts of birch ashes and quick lime, stirred upon it: a small bundle of flax is opened and spread upon the surface, and covered with more of the mixture, and the stratification continued till the vessel is sufficiently filled. The whole is then boiled with sea water for ten hours, fresh quantities of water being occasionally supplied in proportion to the evaporation, that the matter may never become dry. The boiled flax is immediately washed in the sea by a little at a time, in a basket, with a smooth Hick at first, while hot; and when cold enough to be borne by the hand, it must be well rubbed, washed with soap, laid to bleach, and turned and watered every day. Repetitions of the washing with soap expedite the bleaching; after which the flax is beat, and again well washed, when dried, it is worked and carded in the same manner as common cotton, and pressed between two boards for 48 hours. It is now fully prepared and fit for use. It loses in this process to near one half its weight, which is ably and commensurately by the improvement made in its quality.

D d d d

(2) FLAX
(8.) **Flax, Pulling of.** When the crop grows too short and branchy, as to appear more valuable for feed than flax, it ought not to be pulled before it is thoroughly ripe; but if it grows long and not branchy, the feed should be disregarded, and all the attention given to the flax. In the last case it ought to be pulled after the bloom has fallen, when the flax begins to turn yellow, and before the leaves fall, and the bolls turn hard and sharp-pointed. When the flax has fallen, and lies, such as lies ought to be immediately pulled, whether it has grown enough or not, as otherwise it will rot altogether. When parts of the same field grow unequally, so that some parts are ready for pulling before other parts; only what is ready should be pulled, and the rest should be left to stand till ready. The flax-raider ought to be at pains to pull, and keep by itself, each different kind of lint which he finds in his field; what is both long and fine, by itself; what is both long and coarse, by itself; what is both short and fine, by itself; what is both short and coarse, by itself; and in like manner every other kind by itself, and so that nothing of the same kind is left to the flax-raider to be neglected as useless. Few persons that have been pulled flax, are ignorant of the method of laying it in handfulls across each other, which, when left with the flax different air, and kept dry, keeps the handfulls separate and ready for the rippler.

(9.) **Flax, Rippiling of.** After pulling, if the flax is to be regarded more than the feed, it should lie some hours upon the ground to dry a little, and so gain some firmness, to prevent the skin or harle, which is the flax, from rubbing off in the rippiling; an operation which ought by no means to be neglected, as the bolls, if put into the water along with the feed, breed vermin there, and otherwise spoil the water. The bolls also prove very inconvenient in the graving and breaking. In Lincolnshire and Ireland, they think that rippiling hurts the flax; and therefore, in place of rippiling, they strike the bolls against a stone. The handfulls for rippiling should not be great, as that endangers the lint in the rippiling comb. After rippiling, the flax-raider will perceive, that he is able to affort each flax and quality of the flax by itself more exactly than he could before.

(10.) **Flax, Sowing of.** See Husbandry.

(11.) **Flax, Stacking of.** If the flax be more valuable than the seed, it ought by no means to be stack'd up during winter; for its own natural juice afflicts greatly in the water; whereas, if kept long unwatered, it loses that juice, and the harle adheres so much to the boon, that it requires longer time to water, and even the quality of the flax becomes thereby harsher and coarser. Besides, the flax stacked up over year, is in great danger from vermin and other accidents; the water in spring is not so soft and warm as in harvest; and near a year is thereby lost of the life of the lint; but if the flax be so short and branchy as to appear most valuable for feed, it ought, after pulling, to be flooded and dried upon the field, as is done with corn; then stack'd up for winter, rippled in spring; and after fencing, the feed should be well cleaned from all bad feeds, &c.

(12.) **Flax, Watering and Grassing of.** A running stream washes the lint, makes it white, and frequently carries it away. Lochs, by the great quantity and motion of the water, also wash and whiten the flax, though not so much as rippling streams. Both rivers and lochs water the flax quicker than canals. But all flax ought to be watered in canals, which should be digged in clay ground if possible, as that holds the water best: but if a firm retentive soil cannot be got, the bottom or sides of the canal, or both the bottom and sides, may be lined with clay; or instead of lining the sides with clay, which might settle down, a ditch may be dug within the Canal, and filled with clay, which will prevent both extraneous water from entering, and the water within from running off. A canal of 40 feet long, 6 broad, and 4 deep, will generally water the growth of an acre of flax, so that it will be ready to be rippled at the proper time, with fresh soft water from a river or brook, if possible two or three weeks before the flax is put in, and exposed all that time to the heat of the sun. The greater way the river or brook has run, the better the water will be. Springs, or short runs from hills, are too cold, unless the water is allowed to stand long in the canal. Water from coal or iron is very bad for flax. A little of the powder of galls thrown into a glass of water, or the woman in the water itself, if it comes from minerals of that kind, by turning it into a dark colour, more or less tinged in proportion to the quantity of vitriol it contains. The canal ought not to be under shade; which, besides keeping the sun from softening the water, might make part of the canal cooler than other parts, and so water the flax unequally. The flax-raider will observe, when the water is brought to a proper heat, that small qualties in it, numbers of small insects and reptiles will be generating there, and bubbles of air rising on the surface. If no such signs appear, the water must not be warm enough, or is otherwise unfit for flax. Mobs holes, when neither too deep nor too shallow, frequently answer well for watering flax, when the water is proper, as before described. The proper reason for watering flax is from the end of July to the end of August. The advantage of watering flax as soon as possible after pulling, has been already mentioned. The flax being sorted after rippiling, as before mentioned, should next be put in beets, never larger than a man can grasp with both his hands, and tied very flax with a band or few twigs. Dried ruffs answer exceedingly well for binding flax, as they do not rot in the water, and may be dried and kept for use again. The beets should be put into the canals slopeways, or half flaxing upon the end, the root end uppermost. It ought to be filled en's, when uppermost, there frequently breeds a deal of vermin, destructive of the flax, which is effectually prevented by putting the crop end downward. The whole flax in the canal ought to be carefully covered from the sun with divots; the
the gruffy flide of which should be next the flax, to keep it clean. If it is not thus covered, the flax will discolour the flax, though quite covered with water. If the flax is not white enough to keep the flax entirely under water, a few fones may be laid above them. But the flax should not be pressed to the bottom. When the flax is sufficiently watered, it feels dry to the gripe, and the /bark/ parts easily with the flax and fowers, which last is then become brittle, and looks whitish. When these signs are found, the flax should be taken out of the water, beet after beet; each gently rinsed in the water, to cleanse it of the nattiness which has gathered about it in the canal; and as the lint is then very tender, and the beet flackily tied, it must be carefully and gently handled. Great care ought to be taken that no part be overdone; and as the coarsest waters footed, if different kinds be mixed together, a part will be rotted, when the rest is not sufficiently watered. When lint taken out of the canal is not sufficiently watered, it may be laid in a heap for 4. 19, or 24 hours, which will have an effect like more water; but this operation is nice, and may prove dangerous in unskilful hands. After the flax is taken out of the canal, flint lint should not be put in a second time into it, until the former water be run off, and the canal cleaned, and supplied with fresh water. Short heat is the best field for graying flax; as, when wet, it fattens to the heat, and is thereby prevented from being blown away by the wind. The heat also keeps it a little above the earth, and so exposes it the more equally to the weather. When such heat is not to be got, links or clean old lea ground is the next best. Long grazs grounds should be avoided, as the grass is growing through the lint frequently spots, tenders, or rots it; and grounds exposed to violent winds should also be avoided. The flax, when taken out of the water, must be spread very thin upon the ground; and being then very tender, it must be got into the wind as thin as it is spread the better, as it is then the more equally exposed to the weather. But it ought never to be spread during a heavy shower, as that would weight and waste the harle too much, which is then excessively tender, and soon becomes fry thin to bear the rains, which, with the open air and fumphine, cleans, softens, and purifies the harle to the degree wanted, and makes it bitter from the boone. In short, after the flax has got a little firmness by being a few hours spread in dry weather, the more rain and fumphine it gets the better. If there be little danger of high winds carrying off the flax, it will be much the better of being turned about once a-week. If it is not to be turned, it ought to be very thin spread. The spreading of flax and hemp requires a deal of ground, and enriches it greatly. The skillful flax-rifier spreads his first row of flax at the end of the field opposite to the point from whence the most violent wind commonly comes, placing the root ends foremost; he makes the root ends of every other row over-lap the crop ends of the former row three or four inches, and binds down the last row with a rope; by which means the wind does not easly get below the lint to blow it away: and as the crop ends are seldom so fully watered as the root ends, the aforesaid overlap has an effect like giving the crop ends more watering. Experience only can truly teach a person the signs of flax being sufficiently grated: then it is of a clearer colour than formerly; the harle is blistered up, and easily parts with the boone, which is then become very brittle. The whole should be sufficiently grated before any of it is lifted; for if a part be lifted sooner than the rest, that which remains is in great danger from the winds. A dry day ought to be chosen for taking up the flax; and if there is no appearance of high wind, it should be loosed from the beath or grafts, and left loose for some hours, to make it thoroughly dry. As a great quantity of flax can scarcely be all equally watered and grated, and as the different qualities will beat appear at lifting the flax off the grafts; therefore at that time each different kind should be gathered together, and kept by itself; that is, all of the same colour, length, and quality. The smaller the beets lint is made up in, the better for drying, and the more convenient for flacking, bunting, &c. and in making up these beets, as in every other operation upon flax, it is of great consequence that the lint be laid together as it grew, the root ends together, and the crop ends together. (15.) Flax, watering of, by a new method.—In the Gentleman's Mag. for June, 1737, a new method of watering flax is propounded, whereby the labour would be shortened, the strength of the flax would be increased, and the beets lint could be made much finer; the operation of bleaching rendered safer and less tedious; a very disagreeable nuisance fappressed; the linen manufacture much improved, and the national income increased many thousand pounds a-year. The ingenious author, after pointing out the many inconveniences of the present method, of soaking the flax in rivulets, ponds, and flagman pools, such as the offensive smell and inky tinge arising from it in ponds, the pernicious effects of the grass that grows in the flax, and the dirtiness of the flax, etc. the hurt done to cattle by preventing them from drinking the water, however thirsty, the danger of bad confusions even to the health of men, from the disagreeable effluvia, &c. proposes to improve as well as shorten the process, by plunging the new flax after it is rippled, into faling water, which, in extracting the vegetative sap, would do, in 5 minutes, more than cold water would do in a fortnight, or perhaps at all. This he illustrates analogically, by the familiar examples of infusing tea, and blanching rough almonds, in faling water and not in cold water. Boiling water, (he thinks,) would also clear the new flax from many impurities, which, when not removed till it be spun into yarn, are then removed with difficulty, and losc of substance. Upon the new fynem, the art of bleaching would begin immediately after rippling; and a little done then might fave much of what is generally done after spinning and weaving. To spin dirty flax with a view of cleaning it afterwards, appears to be the name impriopriety, as if we were to separate part of the dressing given to leather till after it is made into a glove. Should the plunging of the flax into the boiling water not suffice to make the boone brittle enough, then the
common watering might be added; but in that case, probably half the time usually given to this watering would suffice, and the flax might then be laid in clear rivulets, without any apprehension of its infecting the water and poisoning the fish, or being diffused into the boiling water, into which it had been previously put, would have extracted all the poisonous vegetative sap, which I presume is what chiefly diffuses the flax, as the fish. On this supposition, that the use of boiling water in the preparation of flax may be advantageous, I can reflect at present, but one objection against its being generally adopted, very flax-grower, it may be laid, could not be expected to have conveniences for boiling water at home; for in the course of its future existence, the water would be great; and some additional expense would be incurred. In answer to this, I presume any additional expense would be more than reimbursed by the better marketable price of the flax. In a large garden a great deal of flax might be kept in the same water, and the consumption perhaps would not be more than a quarter of each field. Even a large household pot would be capable of containing one bushel after another; and the whole objection would be obviated, were the practice to prevail with us, as in Flanders and Holland, that the flax-grower and the flax-dresser should be two distinct professions.  

He concludes with a dissertation to those who are inclined to make experiments, not to be discouraged by the failure of one or two trials.—Perhaps the flax, instead of being just plunged into the scalding water, ought to be kept in it 5 minutes, perhaps a quarter of an hour, perhaps a whole hour. Such boiling, when in this state, might return five or six hours boiling in the article of bleaching. It is not probable that the boiling of the flax with the boons in it would prejudice the flax; for in the course of its future existence, it is made to be exposed 20 or 24 times to this boiling trial; and if not detrimental in the one case, it is to be presumed it would not be detrimental in the other. Perhaps, after the boiling, it would be proper to pile up the flax in one heap for a whole day, or half a day, tooccasion some fermentation; or immediately after the boiling, it might be proper to wash it with cold water. The great object, when the flax is pulled, is to get the fibre from the boons with as little loss and damage as possible; and if this is accomplished in a more complete manner than usual, considerable labour and expense will be saved in the future manufacturing of the flax. This account much more would be gained than lost; for the soft inch of the roots of the flax to root. This method appears extremely plausible, and certainly merits a fair trial.

15. Flax, Carolina. See Polypedium.  
16. Flax, Earth. See Amianthus.  
good hands, the mill carries away nothing but what, if not fetched off, must be taken off in the heckplug with more loss both of time and flax. But to obviate this objection of the violence of the horizontal fetchers, an imitation of hand fetching has lately been applied to water. The fetchers then project from an horizontal axle, and move like the arms of a check reel, striking the flax neither across nor perpendicularly down, but lying in upon the parcel exactly as the flax is struck by the hand fetcher. This lying stroke is got by raising the fetching block some inches higher than the centre of the axle; and by raising or lowering the block, over which the flax is held, or screwing it nearer to or farther from the fetchers, the workman can temper or humour the stroke almost as he pleases. A lint mill, with horizontal fetchers upon a perpendicular axle, requires a house of two stories, the rollers or break being placed in the ground story, and the fetchers in the loft above; but a mill with vertical fetchers on an horizontal axle, requires but one ground story for all the machinery. Another method of breaking and fetching flax, more expeditious than the old hand methods, and more gentle than water mills, has also been lately invented in Scotland. It is much like the break and fetcher giving the lying stroke last described, moving by the foot. The tredle is remarkably long, and the fetchers are fixed upon the rim of a fly-wheel. The foot break is also assisted in its motion by a fly. These foot machines are very useful where there are no water mills, but they are far inferior to the mills in point of expedition. The next operation that flax undergoes is heckling. The heckle (fig. 2) is firmly fixed to a bench before the workman, who strikes the flax upon the teeth of the heckle, and draws it through the teeth. To persons unacquainted with this kind of work this may seem a very simple operation; but, in fact, it requires as much practice to acquire the skill of heckling well, and without wasting the flax, as any other operation in the whole manufacture of linen. They use coarser and wider toothed heckles, or finer, according to the quality of the flax; generally putting the flax through two heckles, a coarser one first, and next a finer one.

(2) Flax-dressing for cambric, fine lawns, etc. Flax for cambric and fine lawns, thread, and lace, is dressed in a manner somewhat different. It is not fetched so thoroughly as common flax; which from the fetch proceeds to the heckle, and from that to the spinner: whereas, this fine flax, after a rough fetching, is scraped and cleaned with a blunt knife upon the workman's knee covered with his leather apron; from the knife it proceeds to the spinner, who, with a brush made for the purpose, straightens and dresses each parcel just before the begins to spin it.

* FLAXEN, adj. [from flax.] 1. Made of flax.

The matron, at her nightly task,
With penive labour draws the flaxen thread.
Thomson's Winter.

The best materials for making ligatures are the flaxen thread that shoe-makers use. Sharp's Sur.