

I N S T R U C T I O N S
FOR THE
Cultivating *and* Raifing
OF
Flax and Hemp :

In a better Manner, than that generally Practis'd
in *IRELAND*.

By **LIONEL SLATOR** of *Cabragh*, in the County of
Cavan, Flax and Hemp Dreffer to the Honour-
able **THOMAS COOTE** of *Cote-bill*, in
the faid County.

Printed at *Dublin* in the Year 1724.
And now Published for the Benefit of the Inhabitants of *New-
England*, and recommended to their Perufal.



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To the HONOURABLE
 THE
TRUSTEES
 OF
 The Flaxen and Hempen Manufactures
 of IRELAND.

GENTLEMEN,

*IN Obedience to your Commands, I consulted
 I Lyonel Sator, who I take to be one of the
 most skilful Flax & Hemp Dressers in this
 Kingdom, and gathered from him what In-
 structions he was capable of giving me, in
 order to the cultivating and raising of Hemp and Flax,
 more skilfully than hitberto has been practis'd in Ire-
 land; I have endeavoured to place his Instructions un-
 der proper Heads, and where he used the Terms of Art
 known in England, yet not generally made use of here, I
 have taken Care to explain them by the Terms commonly
 known in Ireland: I have likewise consulted Mr Ri-
 chard Hall's Report, which he made you, on his first
 Return from Holland; and lest I might mistake his
 Sense, I had him several Days with me, and settled with
 him each Section contained in his Part of the ensuing
 Tract: His had been a compleat System of Directi-*

ons and Instructions, for the making of Flaxen, Linnen, and Hempen Canvas in all its Parts, from the Seed to the Bleaching, inclusive, could be be perswaded to expose to the Publick, his Observations relating to the Practice of Bleaching of Flaxen Linnen in Holland; for I really believe him extremely skilful in that Art or Mystery of Bleaching; but as this depends much on the Soil whereof the Bleach-yards are composed, the Nature of the Water wherewith they bleach, and the Difference of Climates, his Fears or Apprehensions of misguiding People, (ere he had himself experienced in Ireland, how his Observations in Holland might best be put in Practice here,) being great, he could not be prevailed on to make his Notions publick: This is a very becoming Modesty in him, and very commendable; for no Body can so readily make the Dutch Practice comport with the Circumstances of this Kingdom, as Mr. Hall can do, and is determined to make publick, after one or two Years Experience thereof.

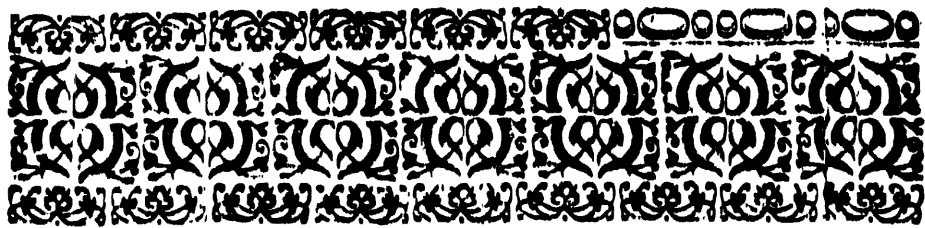
Gentlemen, all I can offer as to my own Performance in this Matter, is, That I have endeavoured to make these two skilful Mens Notions as intelligible to all Capacities, as I possibly could; and If I have in any Sort contributed to the Service of this Kingdom, and to merit your Approbation, I shall deem my self sufficiently rewarded; who am with infinite Respect,

GENTLEMEN,

Your most faithful and

most devoted Servant,

T. COOTE.



INSTRUCTIONS

FOR

The Cultivating and Raising of Flax and Hemp, &c.

S E C T. I.

The Choice of the Soil.

TH E first Thing which the Husbandman is to do, when he goes about to raise Flax, is to choose a Soil that is naturally proper for his Purpose; for thereon the Fruits of his Labour will very much depend. In the first Place, he must see that his Grounds are in good Heart, free from Rushes, Flags, or other Weeds, that betoken the Lands to be wet or spewey; such Lands never bring good Flax, either in Quality or Quantity, being poor, cold, and hungry. The hot, burning, sandy Grounds, never yield a good Crop of Flax. Grounds which promise well for producing Barley, (known to all Husbandmen) will always yield a suitable Crop of Flax, if they be skilfully cultivated; for Flax may be rais'd on hazily, loamy, or Clay-grounds, provided you give to each of them such Dressing or Plowing, as they naturally require. Ley-grounds are always best for Flax, and preferable to Grounds that have been lately broke up, be the Soil what it will. The Husbandmen should likewise avoid sowing Flax-seed, in Lands lately dunged; for nothing whatever is a greater Enemy to Flaxen Manufactures, than raising Flax in dunged Grounds, because such Flax is always tender, and can scarce be brought to a good Colour. The Reason why wet spewey Grounds, or hot, burning, sandy Grounds, are improper for Flax, is, that the first scalds the Roots, the other binds them so hard, that they never give a good Crop: By no means sow
Flax

Flax in Soil composed of Turff-mold, being too light in dry Weather to afford Nourishment to the Plant, and in wet Weather, it retains too much of the Water.

S E C T. II.

Of the Plowing the Ground.

The Situation of Ground. **T**HE Situation of Grounds ought to be as well weigh'd and considered by the industrious Husbandman, as the Nature of the Soil; and so ought likewise certain Incidents to Land to be well observed and prevented; for a good Husbandman will readily acknowledge and confess, that Lands which lie flat, whether they be hazily, loamy, or clayey, must be plowed in a different Manner, whether they be wet or dry, from other Lands which have more or less of Descent.

Deep and rich Ground. In Grounds that are deep and rich, and not over wet or moist, it is scarcely possible to make your Ridges too broad, and too flat, nor your Furrows too shallow; in such Grounds as these, the Plow need not go deeper than four Inches, there being no Danger of Water lying at the Root of the Flax, in so light a Soil; unless it be from accidental Waters, falling from higher Grounds, which must be intercepted, and conveyed away in such a Manner, so as they may, by no Means, prejudice the Flax.

Loamy Soil. If loamy Soil lies flat, the Plowing ought to be at least six Inches deep, to the end the Rain may sink as far from the Roots, (and not scald them) as is requisite; loamy Grounds being less subject to soak in the Water, than hazily Grounds are, especially where the Clay is most predominant: These Ridges ought to be rais'd higher, the Furrows deeper than the hazily Ground, and also the Ridges should be narrower: Eight or ten Foot wide, made flat at the Top, with Furrows proportionable to the Quantity of Water, so as to drain well the Ridges, is the husbandly Way of working such Grounds.

Clay Soil. If the Soil be Clay, and the Lands lie flat, you must plow such Grounds still deeper, in Proportion to the Stiffness of the Clay: You ought to plow this Sort of Land thrice, and cannot possibly give it too much Weathering; whereas hazily or loamy Grounds need no more than one Plowing, provided they are well harrowed first, with a heavy Iron Harrow, that will break the Sods and Clods, afterwards with lighter Harrows, which bring the Mold to be as fine and light as is possible, the better to cling to the Seed. When the

the Soil is Clay, the first Plowing it has, ought to be in the common Season of fallowing. The second Plowing given it, ought to be the latter End of *September*, or Beginning of *October*; and across the Ridges of the former Plowing; then must it be harrowed with a heavy Iron Harrow, not only to break the Sods and Clods sufficiently, but to gather up the Weeds and Grass, after such a Manner placed, as at the third Plowing, they may be conveniently cast to the Bottom of the Ridge, so as to warm the Soil as they rot.

The Ridges in the Clay Soil must be equally flat with the others, but by no Means so wide; their *Ridges.* Breadth ought to be in Proportion to the Stiffness of the Clay, because Clay is apter to retain the Rain Water, than any Soil whatsoever; therefore, to prevent the Rain from settling at the Roots of the Flax, the Ridges ought to be raised higher or lower, and the Furrows deeper in Proportion to its Stiffness; and also the Furrows ought to have a Communication with each other, and a proper *Furrows.* Drain or Drains placed after such a Manner, as may carry off the Water from them all, and especially the cold Springs, which Clay-grounds are too much incident to. *Drains.*

The third Time which you plow this Ground, ought to be the latter End of *March*, or the Beginning of *April*; then are the Ridges and Furrows laid the Reverse of the second Plowing; and being well plowed, it ought likewise to be well harrowed; the Rubbish, if any, ought to be entirely removed from off the Ground, the Clods completely broke, and the Mold rendered as fine as is possible; so as when the Seed is sown, the same may more easily be cover'd by the Means of a Thorn-bush drawn over it, than it can be by any Harrow, be it never so light. *Plowing the Ground.*

S E C T. III.

Of the Choice of the Seed, the Quantity, and Manner of sowing it.

THE Goodness or Badness of Flax-seed is easily known by Persons conversant in it; the good Seed is generally of a brownish Yellow, the Husk well fill'd, and not so thin or broad as the decayed Flax-seed is, at the Point of the Seed that which is good, is apt to turn up, and much of it will have a little Turn at the End, the Kernel will be white and hard; whereas the decayed Seed is either a paler yellow, or perfectly black, broader yet thinner by far than the good Seed is, and the *Goodness or Badness of the Seed improved.* Kernel

Kernel so thin and weak, as not to yield Substance to the Flax.

The Nature of the Dutch Seed. The Dutch Seed (could we of Ireland have the best of it) is fitter for our Soil and Climate, than either the Riga or Nerva Seed ; but so many are the Evils incident to Dutch Seed, thro' the Tricks they in Holland play with it, that it is hard to say what the Quantity ought to be, sufficient for the sowing of a Plantation Acre : For as they frequently mix decayed Seed along with their best ripled Seed ; and sometimes they send us ripled Seed unmixed, but this is so ill saved and dried, that it frequently heats in the Cask, and possibly not two Thirds of it come up when sowed : The Riga or Nerva Seed is generally mix'd with the Seed of the Weeds, so that by the time you have sever'd the good Seed from the bad, you have scarce half of your Measure of Flax-seed.

The Quantity of the Seed. However, when I sow Dutch Seed, if the Lands are coarse, I give from three Bushels and a half to four Bushels, but I never exceed four Bushels and a half to the richest Land I have ever seen in Ireland ; nor do I think there is occasion for more, if the seed be good. In *Lincolnshire* they seldom give more than nine Pecks, or ten at the most ; their Lands are nothing inferior to the best here in Ireland, save only in the Measure, for their Rod or Perch is but sixteen Foot, ours in Ireland is one and twenty ; the Number of Rods or Perches in the Acre, is the same as with us in Ireland, so that their Acre is less than ours, as sixteen Foot and a half is to one and twenty Foot in a Perch. There can be nothing more pernicious to the raising of the Flax, than the sowing it over thick ; for by so doing, the Flax can never be ripe, the Harl has no Substance, the Seed produced is bad, both in Quantity and Quality, and the Flax will infallibly lodge, ere it is ripe or fit for Use.

The Casting or Sowing the Seed. The casting or sowing of Flax-seed in an even and equal Manner, is a Matter of more Art than many People in this Kingdom think of, and a great deal depends thereon ; husbandly Men may soon be taught the Manner of doing it, but it must be long Practice must make them expert in it.

When you have sown your Seed, you must get a pretty large Thorn-bush, whereon you fix a Weight of Timber, sufficient to make the Thorns to enter in some measure your Ground : This Bush is dragged by a Horse over your new sowed Ground ; which covers your Flax seed much better than a Harrow can do ; but because the Bush may be apt to be choak'd by the Rubbish, there ought to be a small Cord so fix'd to the Bush, as that a Boy by holding that Cord in his Hand, may, by giving it a Twitch,

Twitch, raise the Bush some what off of the Land, which will make the Dirt and Rubbish to fall down from the Bush; all which must be removed from off of the Ridges, that the Flax may spring equally.

The next thing to be done is, to roll the Ground very well with a Roller, four Foot four Inches long, and about fifteen Inches diameter, made as round as possible; this is to be drawn in a Frame by a Horse; but great Care is to be taken, that the grounds be not Rolled in wet Weather, for if they be, both Soil and Seed will cling to the Roller and spoil all. The End of Rolling of Grounds is, to make the Soil lie close to the Seed, so as neither the scorching, or bleak Winds hurt the Seed, nor the Birds gather it: Besides, the Trouble of it is not great, for one Horse will roll six Acres in a Day.

Rolling the Ground.

S E C T. IV.

Of Weeding Flax.

FLAX must be wed when it is about four Inches high, the Weeds must be cut with a sharp Knife, as near the Root as you please, but the Roots must not be pull'd up, because that loosens and abuses the Flax. The Weeders cannot hurt the Flax by sitting, or lying on it while they are weeding, but they may do it much prejudice by standing on it, especially if they have Shoes or Pumps on, by cutting the Flax with the Heels of them.

Weeding Flax.

S E C T. V.

Of Pulling Flax.

THE way to know when Flax is ripe or fit for pulling, is to observe when the Boughs become brown, and the Leaves towards the Root fallen from the Stalk, then may the Flax be pull'd; observing to pull the finest Flax by it self, and the coarsest by it self, and so kept apart and wrought seperately, thro' the whole rating and dressing of Flax; for the coarser Flax is much sooner rated than the fine; and should they be promiscuously pull'd, the coarse Flax would be rotten ere the fine was rated: When there is as much Flax of either sort pull'd, as a man can conveniently hold in his Hand, it ought to be bound in such small Sheaves, that a

Pulling Flax.

Man may conveniently hold it while he is ripling, and the Teeth of the Ripling-comb pass through ; and when the fine Flax and coarse are all pull'd, the next thing to be done is to riple it.

S E C T. VI.

Of Ripling of Flax, and Saving the Seed.

The Manner of ripling of Flax. **F**LAX riples and waters better when it is green and fresh pull'd, because the Boughs and Leaves quit the Stalk at that time more readily than they do afterwards when the Flax is weather'd ; besides I have always observ'd, that the greener Flax is put into the Water, so much the better Colour will it take when properly rated.

The Manner of ripling of Flax is thus : A Ripling comb, made of Iron, is fix'd in a long Form, which Form is placed over a Winnowing-sheet, to receive the Boughs of the Flax ; thro' this Comb the Flax is gently drawn, to sever the Leaves and Boughs from the Stalk. The Husbandman's Management of his Flaxseed differs, in proportion to the Quantity which he has under his Care and Management, and the Conveniencies he has for doing it ; for if he has but a small Quantity, it may be easily weather'd, spreading the Pods or Boughs which contain the Seed, as thin on Winnowing cloths or Sheets as he possibly can ; frequently turning them, as they lie abroad exposed to weather, till the Chaff of the Boughs, and the Seed be thoroughly dry : And afterwards, the best way to prevent such Seed from heating, is to lay it when dry, on a boarded Floor, spread about four or five Inches thick, and turn it once a Week at the least, till the sowing Season comes on : But by no means do not sever the Seed from the Boughs, until the sowing Season ; for tho' the Seed has quitted the Boughs, and that the Boughs are broke in many Pieces by frequent turning, yet do those Boughs contribute much towards preserving the Flaxseed from heating, by giving the Air a better Opportunity to pass thro' the Seed, not suffering it to cling to close together as otherwise it would.

But if the Husbandman has great Quantity of Flaxseed to manage, it will be impossible for him without an unreasonable Expence, to weather his Flaxseed on Sheets abroad in the Air ; therefore his Business is, as soon as his Seed is ripl'd, to sever the Seed-pods with the Seed contained in them, and likewise what Seed happens to be shaken out, from the Leaves and Rubbish, which at first are mixed with them, in the ripling : Let him then spread these Boughs and Seed on the dryest Malt-house Floors, or other boarded Floors that he has : At first they ought

ought not to be spread thicker than a quarter of an Inch, so as the Air may pass thro' them; they should be turn'd once a Day till they are pretty dry, afterwards they may be spread about an Inch thick, but turn'd once in two Days at the least, till they are perfectly dry, and past the Danger of heating. But in regard Flax-seed is the most liable to heat of any Seed whatever, it is good Husbandry to turn it at least once a Week, and not to sever the Chaff from it, as I said before, till the sowing Season, giving it as much Air as you conveniently can, during the whole time.

It is certain, that the Flax takes a better Colour that is rated the same Season it is pull'd in, than that which is rated in the Spring or Summer following; therefore a good husbandly Man ought to riple as much of the Flax, as he can conveniently water and grafs; for tho' it must be confessed that the Seed receives Nourishment from the Stalk, as long as it has Sap to feed on, yet considering the Differences of Colour between Flax watered and grafs'd the same Season, and that which is watered or grafs'd the Spring or Summer following, it is, in my humble Opinion, most adviseable, to riple as much as you can possibly water or grafs that Season; and if the seed be preserv'd from heating, and changed every fourth Year, from clay Grounds to loamy Grounds, or from loamy to hazily, they will hold many more Years sowing, and yield good Crops, than is generally believ'd that they would otherwise do.

I have been informed by very skilful Flax-men, that they have found their Flax-seed to hold longer, by giving it a Year's Rest, once in three or four Years, keeping it with the Chaff duly turn'd, till the Spring come twelve-month following, and that Flax-seed thus kept, will yield a better Crop the Season it is sowed, than otherwise it would; but I must confess I never experienc'd this, and therefore dare not recommend it as a general Practice, but the Curious may easily make a Trial on a small Quantity, without great Detriment to themselves; for this is certain, that nothing can contribute more to the good Success of the flaxen Manufactures of this Kingdom, than the skilful preserving of the Seed, that the Subjects of this Kingdom may depend, as little as possible, for Supplies from abroad. There is one thing that I cannot avoid (on this Occasion) to mention, both for the Honour of the Gentleman who made the Experiment, and the Good it may do the Kingdom in general, if further Tryals be made, till Matters be brought to Perfection (as I am in very great Hopes they may easily be :) The Matter was thus: A worthy Gentleman, Col. Robert Taylor of the County of Limerick, procured some of the most degenerated Irish Seed he could get, and sowed it in his best Corcus Lands, which having been gain'd from the Sea, were consequently much impregnated with Salts; this Seed so sown produced a Crop of Seed, part of which the

Colonel sent to my Master Mr. Justice Coote, who directed me to sow it in the ensuing Season, in the same Soil, and with the like Culture as I gave to my best *Dutch* Seed; and I had as good a Crop from it as from the *Dutch*, save only it was not altogether so long as the *Dutch*; but I was more than recompenced in that Particular by the Quantity, for every Grain took place, and it grew much thicker and finer than the *Dutch* did, and when I had wrought it with the same dressing that I gave the *Dutch*, I found it wrought more silky and soft than did the *Dutch* Flax, neither could the Length of it be complain'd of.

This last Season, I sow'd some of the Seed which *Seed sowed*. I had saved of my first Produce, with as good Success as formerly, and the Seed of the last Crop proves as well as any I have ever seen: I therefore design to sow this ensuing Spring, and bestow on it as good Soil as any I have. I hear that worthy Gentleman has been unfortunately lost, to the great Detriment of his Country; he having been an indefatigable Promoter of the flaxen and hempen Manufactures in *Ireland* for some Years past, and of every thing else which might conduce to the Good of his Country.

Unripled Flax. The Flax which is not ripled the Season it is pull'd, ought to be made up in Sheaves, about the bigness of the Calf of a Man's Leg, and tied as near to the upper End, as it conveniently can be done; that when it is set on the Butts, those Butts may be drawn out, and the Middle of the Sheaf left as hallow as a Bird cage; these Sheaves ought to be left in the Field, two and two leaning on each other, in long Rows, until they are so dry as that there is no fear of its heating in the Mow; then must the Husbandman proceed as speedily as he can to stack it, in Ricks, rather than Cocks, and give it no longer weathering in the field, or elsewhere abroad, than is of absolute Necessity to prevent its heating. Now as to the stacking of his Flax, the Length of the Sheaves ought to be well considered, and the Situation of the Ground where his Staggort is, in point of Shelter, for accordingly he must put more or less Sheaves in the Breadth of his Mow or Rick; for if the Rick be over narrow in the Structure, a Storm of Wind and Rain may happen to over-set it, to the Husbandman's great Damage; and if the Stack be made over wide, it must of course rise higher, and expose the Head of it more to the Storms, or not lay it with a sufficient Water-cast; therefore Care and great Judgment are to be used in the erecting or making of a Rick of Flax; first, that there be a Foundation made with Stones, sufficiently raised from the Earth, as no Under-water or Damp may prejudice the Flax; this Foundation ought to be made as firm and even at the Top as possible, that the Rick may have no Bend or Leaning any way. Secondly, the coarse Flax & the fine

must

and raising of Flax, &c.

must be kept apart in the stacking; and when the Breadth of the Rick is well considered, with Regard had to the Length of the Flax, be sure to make the Rick in Point of Breadth, of an equal Number of Sheaves, whether they be six, eight, or more; but I would not willingly exceed eight, unless the Flax was exceedingly short; then must the Husbandman carefully lay the Seed-end of his Sheaves outwards, and the Root inwards, till he has done one Half of the Breadth; afterwards he must lay the Sheaves with the Seed-end outward, from the Middle to the other Side of the Rick; this I find to be the best Way to prevent the Seeds heating: I am sensible that this Method is liable to great Objections, because the outward Sheaves may shed their Seed, either by the Boughs falling or opening, as the Rick stands, or they may be injured much, as the Thatch is removing from the Rick; therefore, I submit this to the Husbandman's own Consideration.

In the forming of the Rick, it is requisite, that at every two Foot Distance, the Rick be dress'd through-out with Reeds, filled with Poison, herein after directed, to prevent the Vermin from coming to the Seed, and knawing the Flax, to make Beds to breed in: When the first Floor is laid, proceed to lay the rest in like Manner, till the Butt is high enough, that it is requisite to form the Eaves to throw off the Drops, that they may not fall on the Butt of the Rick; and after the Eaves are well made, be careful skilfully to draw in by Degrees, at first, by laping the Seed ends of the Sheaves over the Butts, till the Number of the Sheaves be necessarily abated in the Breadth of the Rick; and thus proceed to lap and abate, till the Head of the Rick will hold but one Sheaf across it: Then must there be a good Head of Straw laid after such a Manner, as may protect the Flax from any Rain falling through, and be brought to as narrow a Ridge as is possible.

It is very difficult to make good Ricks of Hay or Corn, but much more so of Flax, because there is an absolute Necessity of keeping Flax in Sheaves, from the Time it is pulled, to the Time that it is hackled; for if Flax was suffered to mingle promiscuously with each other, it would be an infinite Labour to reduce them to Order again, without which it would be impossible either to swingle or hackle it. Now, in regard that Flax so tied in Sheaves, will be apt to have divers Hollows in the Ridge of the Stack, there must be great Care had to fill up these Hollows with Straw, and the whole Ridge made with so sharp a Cast, and completely thatched with Straw, that the Rain may lie or sink any where into the Stack, but fall off at the Eaves, as from off of the Roof of a well-built thatched House.

The Way to dress the Rick with Poison, is to have an equal Quantity of white and yellow Arsenick,

The forming of the Rick.

The Difficulty of making Ricks of Flax.

The way to dress a Rick.

ground by an Apothecary to a palpable Powder, with this Powder a sufficient Quantity of Flour must be mix'd, wet the whole with Milk, and a little Canary Wine, with a few Drops of Oyl of Annis-seeds; when the whole Mass is in a Paste, fill the Hollows of the Water-reeds, cut about a Spang long with the Paste, and stop up each End of the Reed, if there be Occasion, with small wooden Pegs, so as the Poison may not drop out; the Smell of the Canary and of the Oyl, will draw the Vermin, and tempt them to know the Reeds, which they cannot do without eating some of the Poison, which will make that Part of the Vermin, which are not poisoned, to desert the Stack, and never more come near it.

Reasons why Ricks should be made rather than round Cocks. The Reasons why I advise the making of Ricks, rather than round Cocks of Flax, are these, If you are to break a round Cock, possibly there may not be Room in the Barn to lodge it safe, while the Seed is ripling, and should any Storm of Rain come while the Cock is open, it is great Hazard, but that so much of it as lies thus open, may be lost; whereas in a Rick, so much and no more may be taken, than what may be conveniently housed.

The Time to riple the Seed. About the latter End of *March*, the unripled Flax-seed may be ripled, or thresh'd out with small light Flails: But I prefer Ripling to Threshing, as not hurting the Harl so much as Threshing would, or the Breaking of the Bunn, which may do much Mischief in the rating or watering it. As soon as the Seed is ripled, sever it from the Chaff; and if the Lands are ready for Sowing, and that the Season offers fair, then may the Seed be sowed, covered, and rolled, as speedily as possible; for tho' I have seen in *Ireland*, tolerable Crops produced from Seed sown the latter End of *April*, or even the beginning of *May*, yet I am confident the Crops had been much better, had the same Seed, in the same Soil, been sowed the latter End of *March*, or Beginning of *April*: Therefore, I advise the industrious and careful Husbandman, to have his Flax-grounds ready for sowing by *Mid-March*, that he may get his Seed into the Ground as soon afterwards, as Weather and other Things will admit of; he will find his Account therein, in many respects, but more especially by an early Harvest, which will afford him longer Time, and probably better Weather, for rating or watering, and grafting of his Flax, and for mowing it safely against the Winter Occurrences.

The Husbandman ought to have his Flax Grounds ready by Mid-march.

S E C T. VII.

The Rating or Watering of Flax.

IN *England*, when they speak of watering of Flax, they call it rating it; and when they grass it from the Beginning, without watering it, they call that Dew-rating it; I have often tried to Dew-rate Flax, without Success, tho' it be much commended by Mr. *Gromelin*, in his printed Directions for raising of Flax; and I have likewise observed many Counties in *England*, to practise it, but they fail both with respect to Colour and Goodness; I therefore prefer the rating it in Water rather than Dew-rating.

The rating of Flax is the nicest Part of Flax-dressing: The Husbandman who will take upon him to rate Flax, must be very nice in the Choice of the Water; in the first Place, it must not be in any swift Current, for the Stream would tear the Hair from the Bunn. Secondly, it must not be in hard Water that partakes of Mines or Minerals: Thirdly, it ought not to be in Bog-waters, because they generally are stained by a Shrub that grows on the Bogs, call'd Bog-aulders, which Stain can seldom be got out by the best Bleaching. The best Waters are the standing Waters, therefore the Loughs or the Lakes, which abound in the whole Province of *Ulster*, rate Flax the best of any Water I ever saw: But where Lakes cannot be had conveniently, then must the Husbandman provide himself with a Pond or Ponds convenient and proper for his purpose. In the first Place, these Ponds must be so situated, as that he can convey his Water from some adjacent Stream, at his Will & Pleasure, in the dryest or drowthiest Summer which can possibly happen. In the next Place, he should consider the Situation of the Grounds wherein the Ponds are to be made; for provided the Water can be kept upon a Level, from End to End of the Pond; the longer the Pond is, it is so much the better. In the third Place, Care must be had not to make these Ponds in foul, mouldering Grounds; Gravel or stiff Clay are best for that Purpose. The Ponds which I would choose or rate in, should be four Foot and a half wide, and five Foot deep; that I might command my Flax as it rates in the Water, without abusing the Labourers in their Working, which can be easily done, from Side to Side, or by the Help of a Board or two laid across the Pond. I

Rating of watering of Flax.

Dew-rating.

Rating Flax in water preferable to Dew-rating.

The Nicety in rating Flax.

Lakes.

Ponds situated.

Situation of the Ground.

Gravelly Grounds most proper for the Ponds.

Ponds to rate in, four Foot and a half wide, should

five Foot deep.

Should likewise advise the making of a small Trench, to take off the waste Water, yet so contrived, as such Part of the Water as is necessary, may be turned in at the Head of the Pond, at Will and Pleasure; for thereon depends the giving the Flax such Colour, as take best with the Country.

In Ireland they are fond of the white or yellow Flax.

The raising of Silver-blues in Holland, &c.

In *Ireland*, they are fond of the white or yellow Flax, but in *Holland* and *Germany*, and the *East-land* Country, they rate much more of the Silver-blue; judging that it will be sooner and easier brought to a brighter and higher White, than the pale or yellow Flax could be. I made some Silver-blues in and about *Cootehill*, in the County of *Cavan*, and so did Mr. *Sutton* when he lived there; they proved as good as could be made with Hands, and nothing inferior to what I have seen come from *Holland*; yet the Spinners, Yarn-merchants, Weavers, and Bleachers, durst never meddle with them; for the skilfullest Bleacher at *Cootehill*, who, for ought as I know, is the best in *Ireland*, made a Trial of the White, the Yellow, and the Silver-blue, two Years successively, without being able to bring the Silver-blue to equal the others in Colour: But this, I believe, was owing to his using only Fern-Ashes and Soap in his Bleaching; whereas in *Holland*, they have Variety of Ashes, the weakest of which is much more effectual in Bleaching, than Fern-Ashes can possibly be.

When the Husbandman has ripl'd his Flax 'he designs to water that Season, it is to be hoped, he has fill'd his rating Ponds with Water, so early in the Year, as that it may be sufficiently softned and qualified by the Weather, to perform its Office:

The laying the Flax in the Water.

Then must he lay his Flax in the Water Range, after Range, from one End to the other, until he has rais'd his Flax within fourteen Inches of the Surface of the Water: Then must the Head of the Flax be covered with Fern, two or three inches thick, and over the Fern a Weight of Stones be laid, sufficient to keep the Flax and all under Water, if possible; for as soon as the Flax has been laid four and twenty Hours in the rating Pond, it will ferment so strongly, as to require all Hands at Work, to keep it down, to the end the upper Range may be equally water'd with the lower. When the Flax has been three or four Days in Water, some few straws may be drawn out of a Sheaf, bend some of them, if they break readily, instead of bending, and the Harl quits the Straw without Difficulty, the Flax is sufficiently rated; but if the Straw does neither readily break, or the Harl quit it, then must the Husbandman repeat this Experiment twice a Day, until he has found thereby his Flax to be sufficiently watered:

Yet

Yet when the Fermentation (which I formerly mentioned) gives over, so that the Flax sinks of it self, it is a Sign that it is sufficiently rated: And as soon as that the Flax is discovered to be sufficiently rated, it must be hastned out of the Pond to be grasped as speedy as possible, raking it up Sheaf by Sheaf, and giving each of them a gentle Shake in the Water, to clear them from the Slime and Filth generally contracted on the outside of the Sheaf, in the rating. It is impossible to fix upon any stated Time for the compleat rating of Flax, because this Matter depends so much upon the Weather, the Quality of the Water, and the Nature of the Flax, that the Time spent in Rating, will vastly differ; for if the Weather be hot, or hotter than ordinary, so will the Water of course be, and therefore the Fermentation stronger, and the Rating sooner compass'd, especially if the Flax be kindly: But if the Weather be cold, or colder than ordinary, of Course the Fermentation is weaker, and longer coming; and therefore the Rating must be more tedious. This is a certain Rule in rating of Flax, to rate the Fine by it self, and the Coarse apart by it self, because the Fine takes several Days longer to rate than the Coarse will, therefore the Fine is first rated, as being the most difficult.

Hard to know a stated time for rating Flax.

Fermentation.

To rate the fine Flax & the coarse separately.

The fine Flax rated before coarse coloured Flax.

The Colour given to Flax depends much upon the Skill and Judgment of the Husbandman who rates it; if he designs to have it a good clear White, he gives it gradually so much the more Water, yet must he still avoid letting it stream in, to occasion a perceivable Stream or Currency in the Water: All that is requisite to be done in that Case is, to keep the Pond constantly full with Water, so as the stain'd Water may proportionably wash over the Banks of the Pond. This Way of watering must be more tedious than ordinary, because the Water which comes into the Pond by way of supply, will of course allay the Fermentation, and probably will harden the Flax, and make it less kindly in working.

If the Husbandman desires his Flax to have a tolerable good Colour, and his Flax to work kindly, his Method must be to give it no more Recruits of Water, than what is of absolute Necessity to keep the Stones laid over the Flax continually covered; and then will the Fermentation be vigorous, the Flax well purged, and be soft and kindly in the Harl; and whether it proves white or yellow, it is all one; for it will be sure to bleach so much the better, in proportion to its purging in the rating; and it will shrink much less in the bleaching, after it is woven, and take less Time to rate in.

The Way to let the Flax have a good Colour.

The

The Method to bring Flax to a silver-blue. The Method which I have observed practis'd in *England*, to bring Flax to a Silver blue is, by rating it in the same Water that the former Flax was rated in, giving it longer Time for rating, and no more Supply of Water, than what is necessary to cover the Stones; and let as little Water run over the Banks as possible.

A darker Sort of Flax, than the Silver-Blues. There is yet a darker sort of Flax than the silver-blue, in great Demand in *England*, for the making of brown Threads and brown Tapes, without dying: This Sort of Flax is only rated in the same Water that the Silver-blues were taken out of, observing the same Cautions, with respect to the Recruiting of the Water, as was formerly given, and frequently trying the Experiments, to know when the Flax is sufficiently rated; for to be sure, this Flax will take longer Time to rate, than did the Silver-blue.

More dark Flax. If the Husbandman is desirous to have still a more dark Flax, than the last mentioned, for the Use of the Dyers, to dy black Threads or Tape, he must rate the Flax in the last mentioned Water that the last Flax was taken out of, observing the same Cautions in every Respect, and his Purpose will be answered. This general Rule must be observed, that as soon as Flax is taken out of the Water, and rench'd, it must be immediately grass'd, but not all grass'd in the same Manner; as will better appear, when I come to treat at large of the grassing of Flax.

When Flax is taken out of the Water, it must be immediately grass'd. When the rating of Flax is over for the Harvest Season, then should all the Ponds be emptied by the Means of a large Pipe, laid at the Bottom, which you can open at your Will and Pleasure, and the Ponds made as clean as possible; then stop the Pipe, and let the Ponds be filled three Quarters full and no more, that they may retain as much of the

To empty the Ponds when the Flax is rated. Rain and Snow-water, as they can gather in the Winter; which will very much facilitate the rating of the unripled Flax, the ensuing Spring, about *Mid April*, which is the best

Mid-April the best time for rating unripled Flax. Time for rating unripled Flax; because the Meadows can't suffer so much, by the Grassing of it so early in the Year, as they would by treading and trampling on the Grass later in the Year; and on the other Hand, should the Flax be rated earlier,

of Course it must be earlier grass'd which would not be consistant with the *March* Winds, or the Winds which blow too frequently in the Beginning of *April*. I shall conclude this *Section*, only with this Observation, that the unripled Flax is become more hard and stubborn, than the ripled Flax was; that
the

the Water is colder, and consequently the rating of Flax must be more tedious; so that it behoves the Husbandly Man to be exceeding diligent, in making his Observations to catch the critical Moment, when his Flax is sufficiently watered: For wherever Flax is over-watered, it is fatal, but Under-watering may be remedied by proper Grassing, as I have experienced my self, and agrees with Mr. Cromlin's Opinion, in his Treatise of Flax

S E C T. VIII.

Of Grassing Flax.

I Know not whether I have hitherto been sufficiently careful in giving Directions concerning the binding of Flax, throughout the whole Process which it must undergo, ere it is rated or grassed; therefore I take the Liberty with my Reader, here to treat of it in all its Circumstances, for as they differ, so will the binding.

The binding of Flax.

The Flax design'd to be ripl'd, the same Season it is pull'd, must be bound at the Middle, in Bunches of such a Size as the Riplers may easily command, and the Teeth of the Ripling-comb penetrate, to the very Bottom of the Comb, without tewing or breaking the Flax; yet when all the Flax is ripl'd, these Bands may be taken off, and the Sheaves enlarged to the Bigness of the Calf of a Man's Leg, in order to the rating of it. Now, as to the binding of the unripl'd Flax, there is no occasion for its being bound, while it stands on the Butts a weathering; because the Seed-pods which are at the End of the Flax, will so lap one within another, that when the Butts are spread out, and two Sheaves are placed to support each other, there will be no danger of their Fall; or if they should happen to fall, they must be as speedily erected as possible. When the Flax is thoroughly dry fit for stacking, the Sheaves must be of the same Size, and bound in the Middle, as the other was.

The Flax bound up in Bunches

The Sheaves enlarged.

When the Flax is sufficiently rated in the Water, then must it be grass'd in the following manner; first, the Bandage must be taken off, Sheaf by Sheaf, and the Flax spread in Rows, as even at the Roots, and as thin as it is possible, on a new mowed Meadow, leaving at the Butt-end of the Flax as much Room uncovered, as will receive the Flax when turn'd over on the Butts; then proceed to make a second Row with the same Care and Caution, only with this Difference, that there is no occasion for leaving greater Distance between the Heads of the first Row, and the

When the Flax is sufficiently rated it must be grass'd.

The Bandage taken off.

The Flax spread in Rows. Roots of the second, than an Inch or thereabouts, that they may not entangle with each other; for the Space of Ground that contain'd the first Row, when turned will contain the second; proceed after this manner to spread all the Flax. Mr. *Cromelin* advises the turning the Flax every Morning, by the means of a long Wand, held in both the Hands of the Person that turns it, and gently thrust under the upper Ends of so much of the Flax, as he designs then to turn; thus by bringing the Wand gradually towards the Root, till he finds that he can command the Flax to turn over upon the Root, the Heads the other way.

The Roots kept even. the Roots still kept as even as possible; and so proceed Row by Row, till the whole Meadow is turn'd: But for my part, I do not approve of this Practice of such frequent turning, because it lays the Flax so light, that every Puff of Wind would turn them Heads and Points, and cause the utmost Confusion, or an insufferable Trouble and Expence to the Husbandman to re-instate them or place them as they ought to be, for the

The Butts must be together. Butts must be together when swingled, hackled, or brush'd, nay even when it is spun; if the Spinner spins the long way of the Flax, as she ought to do for fine Linnen, the Butts of the Flax must be always kept together: For my part, tho' I turn my Flax by the help of a Wand, as Mr. *Cromelin* does direct, yet I do not turn it, till I perceive that the upper part of the Flax has, by Showers of Rain or the Dew, acquired a Colour to my Mind; unless it be that I observe that the Grass grows too fast thro' my Flax, or that my Flax sinks to the Root of the Grass, which may mildew or rot it: In the first Case, viz. when it is come to Colour, I turn it once, till the lower Side has acquired as good a Colour as the upper had; but in the latter Cases, I choose rather by the help of my Wand, to raise it gently towards the Top of the Grass; which exposes it less to the Power of the Winds, which are much more frequent in *Ireland* than in *Flanders*.

When Flax is brought to the desired Colour, which is either the white or the yellow, the first dry Day that can be had afterwards, it must be taken from off the Grass and laid in Bundles, proportionably to the Largeness of the Sheaves design'd to be made, in which there is no great matter, but every Man may do as he pleases. These Sheaves must not at first be ried, but placed on the Butts and drawn round at the Bottom, and made as hollow as a Bird-cage, that the Sun, Air, and Wind may dry them sufficiently, least otherwise they heat; but in case the Weather should prove wet, Flax will not suffer at all by thus standing, till a dry Day can be had to draw it home to the Haggort,

sort, and stack it in as careful a manner, and as well chatch'd as was before directed. It matters not the keeping of the fine Flax from the coarser, after it has been water'd and grass'd, provided both be well rated & grass'd; for the Swinger Hackler & will bring both to be equally fine, but in case they are not equally rated and grass'd, they must of necessity be kept apart, and separately swung and hackled; for the swinging and hackling of the one, would destroy the other.

Great Care ought to be had in grassing of Flax; and see that the Flax which was not sufficiently watered, lies longer on the Grass than the other, which you may easily know, by taking part of the Flax which you suspect to be under-watered, and holding one Hand above the other at some Distance, crush the Flax between both your Hands and rub it, and if the Bunn breaks readily, and the Harl separates well from it, all is well, and there is no Danger; but if it is otherwise, this Flax must be longer grass'd, until the Bunn will break readily, and the Harl separate: But if on the other hand, Flax has been over-rated in the Water, a good husbandly Man should be careful and diligent to observe (a Day or two after he has grass'd, and that the Flax is grown stiff) whether the Harl does of it self quit the Bunn, or will easily strip from the upper End of the Flax to the Root; and if the Bunn breaks readily, such Flax ought immediately to be taken off the Grass and stook'd on the Butts in the Field, till it be sufficiently dry, then carried to the Barn or other dry House, and avoid stacking it if possible; for every Moisture encreases the Evil, especially where the watering is considerable.

This Flax, if the Harl has not any Substance, ought to be the first swung and hackled, for it will not be the better for keeping; yet if the Harl has Substance sufficient, there is no Danger in keeping and managing of it in the same manner that other Flax is managed, provided it be not over grass'd, which would infallibly tender the Harl beyond Reason.

In the grassing of Silver-blues and the other brown Flax, there must be care had not to grass them longer than till the Flax is stiff, then must they be put on the Butts, and stook'd in the Field till dry enough to be out of Danger of heating, and carried home and stacked apart. This Sort of Flax will not admit of long grassing, especially the silver blue, and it is only the proper rating of it, that can bring the Harl to quit the Bunn.

Flax separately swung & hackled.

Great Care ought to be taken in grassing Flax.

Great Care to be taken when Flax is over watered.

If the Bunn of the Flax breaks readily, it must be taken off the Grass immediately

Excess in

The Harl of the Flax that has not Substance ought to be first swung.

Care to be had in the grassing of Silver-blues.

When

Flax sufficiently grass'd.

Long Ricks preferable to round Cocks.

Trouble to

Care to be taken to keep the Flax from Under-water and Rain, &c.

If Rain gets into the Stack it will mildew the Flax.

Barns would

Tram-cocking

Molesworth; who lived many Years in York-shire, and is a most skilful Husbandman: he has lived many Years both in Ireland and England, and has experienced both the Climates, and is determined to build, on his Farm near Breckdens-Town, a compleat Barn to receive all his Crops.

When Flax has been sufficiently grassed, and dry enough to stack, such of the Cautions as I have already given, that are proper to Flax in these Circumstances, ought to be observ'd in the stacking of it: Or if there be a large Quantity of it, prefer long Ricks to round Cocks, for the more convenient dressing of it in the Work-house, without incumbering the Work-house more than needs must: And it would be a double Trouble to fetch it from other Out-houses, admitting they could be conveniently spared from other purposes. Be careful to defend the Flax at all Times, from Under-water or from Rain, from great Winds and Storms; which cannot be done without good Shelter, the Rick skilfully made, and well thatch'd in every Part of it: For if any Rain drops through, or gets into the Stack, it will mildew, and may be rot as far as it reaches. It is more to be wish'd than hop'd for that Farmers or Husbandly Men had in *Ireland*, large Barns for the safety of their Hay, Corn, and other husbandly Matters, as in *England*. I am sensible, that the Gentlemen and Farmers of *Ireland* conceive otherwise; imagining, that they would not agree with this Climate, and be apt to heat or even fire the Barn. But I beg Pardon if I am in an Error in delivering my Opinion, for I humbly think that Barns would do as well in *Ireland* as in *England*, and save a vast deal of Hay, that is lost in the Field in *Ireland* by their Tram-cocking; and keep their Corn much sweeter and freer from Mustiness, than at present they do: And for the better Support of my Opinion, I have the Opinion of the Right Honourable the Lord Viscount *Molesworth*; who lived many Years in *York-shire*, and is a most skilful Husbandman: he has lived many Years both in *Ireland* and *England*, and has experienced both the Climates, and is determined to build, on his Farm near *Breckdens-Town*, a compleat Barn to receive all his Crops.

S E C T. IX.

Of Breaking Flax.

Mr. Cromilin an Enemy to the Use of Breaks.

MR. *Cromilin* is a declared Enemy to the Use of Breaks, in the breaking of Flax, and recommends rather the Use of an Engine for that Purpose to which I refer my Reader; because I prefer the Breaks made use of in *Ireland*, where we are arrived
to

to a sufficient Degree of Knowledge, in the making of Breaks in such a Manner, as to squeeze and break the Bunn, without doing the least Injury imaginable to the Harl; and I am confident, that I can break more Flax in an Hour, than the strongest Man living could in a whole Day, and with less Labour to my self, were he to work with Mr. Cromlin's Engine, and I with the Breaks. But we must not dwell long upon this Subject. Breaking of Flax, being the proper Business of the Swinger, he ought to do it at the same time he swingles.

Breaking of Flax, the proper Business of the Swinger.

S E C T. X.

Of Swingling and Hackling of Flax.

WHAT I call swingling of Flax, others call scutching of it; (differing in nothing but the Terms) that is to say, to sever the Harl or Skin of the Flax, from the Bunn or Straw of it. Swingling is a handy craft Trade, and consists so very much in the Slight or Hand of the Artist, that several who have served their Apprenticeship thereto, work much worse than others; so that one Man can swingle a Stone of Flax, consisting of fourteen Pound, more to the Profit of his Employer, by two Pound in the Stone, than another can perform, let him do what he can. The like may be said of Hacklers in every respect; which is a national Loss, as well as a particular one.

Swingling called scutching by some.

It is a Matter I have often thought of, and been amaz'd at to observe; in every Town in England, nay, almost in every Village of any Consideration, there are Flax and Hemp-dressers, each of whom live well, and follow their Callings comfortably; yet they in England have no national Flaxen, or hempen Trade, as it seems to be the Portion of Trade allotted to Ireland; where there are scarce any Flax or Hemp-dressers, excepting in Dublin and Cork, and some few brought over by the Trustees, and settled here. If there be such Difference in swingling and hackling, between Artist and Artist, what must this Nation loose, by the barbarous Methods followed by the House-wives? who have neither Tools, nor Skill to use them if they had them. One of the most skilful Women in the North of Ireland, in point of hackling, desired she might have a Parcel of Flax delivered her, equal in Quantity and Quality with what was delivered me: The Gentlewoman for whom I hackled, gratified her, and gave to each of us Half a Stone of the same Flax: The Woman hackled hers, and I mine:

Flax and Hemp Dressers in every Town in England.

Differences in swingling

mine:

mine: Out of her seven Pound of swingled Flax, she scarce had two Pound of good Tare: I had out of mine, considerably more than double of good Tare, besides the Shorts. I write this, to shew the Necessity of having good Flax-men in the Kingdom: The Trustees have long endeavoured it, without much Success: which was more owing to the Knavery and Villany of some of those Persons brought over by them, than Want of Industry in the Trustees, or the Encouragements they readily give to Artists.

The Necessity of having good Flax-men in the Kingdom.

If the Gentlemen of this Kingdom, who have Soil proper for Hemp, and others of them that have Soil proper for Flax, would bend their Thoughts towards the cultivating of Hemp and Flax; allowing they have not Hands sufficient in their Country to establish Factories, yet they have Hands enough to manage their Hemp and Flax, till it is fit for the Market. What prodigious Benefit might this be to *Ireland* in general,

The Benefit that might accrue to Ireland by the preventing buying foreign Seed and Flax.

by preventing our buying of foreign Seed and Flax, as we annually do at vast Expence; and likewise by employing their own Poor, and drawing about them an industrious Sort of People, which in Time would enable them to establish Factories at home, and enrich their Country? Can it be imagined, that the industrious North-country People of *Ireland*, that now give fifty Shillings per Hundred for foreign Flax, would not much rather purchase Flax of the Growth of the Kingdom, which might be afforded vastly under, and yet be great Gainers? Would also the North-country People purchase foreign Flax seed, under the many Disadvantages I have already mentioned, when they might be better supplied at Home, with relation both to the Goodness of the Seed, and the Price of it? No certainly they would not. Let us of *Ireland* take Example by the People of *Lincolnshire*, *Warwickshire*, and divers other Shires in *England*, who raise vast Quantities of Flax and Hemp, and have not Hands among themselves to work it up; yet it is bought up by People from other Countries, who work it to their great Profit. I wish well to this Country, and have received several Favours in it: I have ventured to write my Thoughts, in hopes of putting Gentlemen in mind, how they might benefit themselves and Neighbours in particular, and the whole Kingdom in general: I cannot have any Views of Profit to my self thereby, being possessed of as great a Share or Portion of the Trade, as I could heretofore have hoped for.

S E C T. XI.

Of H E M P.

H E M P requires a much richer Soil than Flax does; the richer and deeper the better. *The Soil.* Ley-lands yield a better Crop of Hemp and Seed, than Grounds that have been lately broke up, and used to other Purposes.

It is not proper to sow Hemp-seed, in Land that has not been thrice plowed that Season; that the Earth may be as mellow about the Roots as possible. *Plowed.*

The first Plowing may be about *Candlemas*: If the Soil be hazily or loamy, it ought to be plowed and fallowed earlier. The second Plowing ought to be across the former; and if the first was begun at *Candlemas*, the second may be reasonably three Weeks afterwards; and as well harrowed with an Iron-harrow, as the Husbandman can possibly do it. The third Plowing ought to be about the Beginning of *April*; and the Mold made as fine with a Harrow, as Grounds are made for Onions in a Garden.

The Ridges ought not to exceed four Foot wide; make them as flat and even at the Top as you can. *The Ridges.* The Reason why they are made thus narrow, is for the more convenient Pulling of the Hemp, which bears no Seed, and is called Fimble-hemp, and is always pulled and carried away, several Weeks before the Hemp that bears the Seed, is ripe or fit for Pulling; this Seed-hemp is that which is called Carl-hemp. *Fimble Hemp.*

About the Twentieth of *April*, Hemp-seed should be sown, if the Weather offers fair; this may be continued till the first Week in *May*, and covered with a light Harrow, so as neither the Winds nor the Birds may annoy the Seed; cast the Seed as even as possible, that the Hemp may have Room for its Root: In sowing of Hemp, great Care and Judgment ought to be used, that it be not sowed too thick or too thin: *Care and Judgment must be used in sowing Hemp.* In the first Case, it would be apt to lodge, and so loose the Crop; In the second, the Hemp will run more to Bunn or Straw, than it will to Harl or Skin. When the Seed is once sown of Hemp, the Husbandman need take no further Care of it until the Fimble-hemp be ripe; except it be to keep the Fences up, and in good Order, to prevent Cattle getting in, and breaking and treading it down; for Hemp never needs Weeding.

The Fimble-hemp is always a Month sooner ripe than the Carl; the way to know when it is ripe enough for Pulling, is

The way to know when the fimble-hemp is ripe. to observe when the Stalks turn yellow, and the Leaves fall off at the Butt; give them a small Shake to some of the Fimble-hemp, and if it is ripe, a Dust will rise from the Head of it; then fall to pulling of the Fimble-hemp, without Delay; be careful that they who pull the Fimble-hemp, do neither break, or even bruise the Carl.

When the Labourers have pulled as much Fimble-hemp as will make a Sheaf, about the Bigness of the Calf of a Man's Leg; then let them tie it pretty tightly, first in the Middle, and afterwards near the Ends of the Sheaf. Hemp is apt to shrink in the Water, for which Reason, the Sheaves ought to be made as tight as possible, and the Bands made of the shortest Fimble-hemp.

Hemp apt to shrink in the Water.

Rating of fimble-hemp.

The Ponds to be made, in a gravelly Soil.

When all the Fimble-hemp is pulled, then must it be rated in Ponds, such as has been herein before prescribed, for rating Flax; with this Difference only, that unless the Ponds be made in a gravelly Soil, the Bottom of the Ponds will be apt to be muddy or foul, which may be injuring to the Hemp; therefore, to prevent such Mudd, the Bottom of the Ponds may be either flag'd or plank'd, where there is not a solid Bottom of Gravel. The Manner of rating the Fimble-hemp, is the same with the Flax, observing always to make the same Trials from Time to Time, to know when it is sufficiently rated, and by no Means to over-rate it.

Hemp not to be grass'd.

Hemp must not be grass'd; but as soon as it is sufficiently rated, and renched clean from the Slime or Filth, which it contracted in the Pond, convey it to some Walls or Hedges; there unloose the Bands, and set it on the Butt, spread as thin as possibly you can, leaning against the Wall or Hedge, so as the Air may pass under the Hemp; there let it stand to weather, until such Time as the Bunn breaks easily, and that the Harl quits it without Difficulty.

Housing or stacking of Hemp.

Hemp larger by far than Flax.

When the Hemp is in the above Condition, sufficiently dry, and out of Danger of heating, then may it be either housed or stack'd; but if it is stack'd, it must be with the Butt end outwards: In all other Respects, the like Cautions are to be observed in the Stacking of Hemp, as you are desired before to use with relation to the Stacking of Flax; and if possible to be still more cautious in this Particular, than in the former; because that Hemp is larger by far than Flax, and consequently, the Rain, driven by the Winds, can more easily penetrate the Rick, and the Husbandman can never be too careful herein.

Very

Very often the Fault is assigned to the ill rating of Hemp, when the Hemp appears to be discoloured, mil dew'd, and sometimes rotten; when, if the Truth were known, it proceeds rather from the ill Stacking of it. I have been informed, that in the Counties of *Limerick* and *Clare*, where Gentlemen undertake to raise great Quantities of Hemp, they have not Straw sufficient wherewith to stack their Hemp, but depend on the Butts defending it from the Weather: If this be so, it is a very ill Practice both to themselves and the Publick.

Ill rating of Hemp.

The way to know when Carl-hemp is ripe, and fit for Pulling, is to observe when the Seeds begin to break out of the Pods, and to look bright, then must it be pulled without Loss of Time, taking great Care not to shed the Seed as it is pulled. As to the Sheaves, they ought to be made in the same Manner as the Fimble-hemp; and as speedily as possible, set on the Butts in the Field in Rows, two and two, leaning on each other, frequently turning them to weather, that each Sheaf may be thoroughly dry, and out of danger of Heating; and if any happen to fall, or to be blown down in Weathering, those must be speedily rais'd; the Birds of all Sorts which feed on Grain, are fond of Hemp-seed; therefore, as this Seed is a great Article in the Profit or Loss of the Crop, so much more must the Care and Diligence be, in the preserving it from them; it being a Matter of no small Difficulty.

How to know when Carl hemp is fit for pulling.

Care to be taken not to shed the Seed.

When the Carl-hemp is fit for housing or stacking, then should Winnowing-sheets, or other coarse Sheets be brought to the Butt of the Hemp, on each Side of the Rows, in proportion to the Number of Hands you can spare to the Work; to be sure the more the better; this Sort of Work being generally performed in the Month of *September*, when the Weather is usually various and uncertain.

Carl-hemp is fit for stacking.

When the Sheets are placed on each Side of the Butts, turn the Heads of the Hemp over gently into the Sheets, and there thresh out the Seed, with very light, short Hand-flails; which may be easily managed with one Hand, by the Women or Children as they sit thrashing out the Seed; and by this Means avoid breaking the Straw of the Hemp. As the Sheets fill, Women should be there ready with Riddles, to winnow and cleanse the Seed from all Rubbish; and so convey it to a Malt-house, or other boarded Floor, where it may be spread three or four Inches thick, and have Air enough: Turn it as frequently with a Malting-shovel, as you would turn Wheat or other Grain: It is not so subject to heat as Flax-seed

Sheets placed on each Side of the Butts.

Thrashing out the Seed.

is; because it does not lie so close: Yet it will heat as readily as Wheat would: But in case the Floors can't be spar'd, it may in *November* be safely cask'd in dry Casks, provided the Casks be placed in Places that are dry, and not subject to Moisture.

Casking of the Seed.

If the Husbandman, or other Person that takes upon him the raising of Hemp, has any great Quantity on his Hands, more than he can furnish Houses to receive it in, it were much better, that as he thrashes out the Seed, the Hemp be replaced on the Butts, in the same Manner they were before the thrashing, till every thing be ready in the Haggart for the stacking and thatching of it; for Hemp will receive less Damage thus standing, than it would lying promiscuously together; which would discolour it, and render it so black as to be useless; unless it were in the making of what they call the Black-work, which is Cordage for Shipping:

Hemp will be less damaged by standing than lying.

Cordage.

For all the Bleaching in Nature will not bring it to Colour. Now, as soon as the Weather offers fair and every thing is ready, stack it, in the same Manner as was directed before for the stacking of the Fimble-hemp. And because there may remain in this Hemp, some few Grains of the Seed unthrash'd, it were convenient to dress the Stack with some of the poisoned Reeds, to prevent the Vermin from doing Mischief.

Watering of Carl-hemp.

Carl-hemp rates sooner than fimble.

Carl-hemp need not be water'd till the *Mid-summer* following; the Water may be sufficiently qualified by the Heat of the Sun, and all other Accidents of Weather, the better to rate it. It will not take so long Time to rate in as the Fimble-hemp; in all other Things, pursue the same Method as has been directed for the Management of the Fimble-hemp.

Breaking of Carl-hemp.

The Mash of the breaks must not be too deep.

Whipping the Hemp.

As to the breaking of Carl-hemp, the Mash of the Breaks ought to be deeper somewhat than those employed in breaking of Flax; and yet not too deep, lest the Harl be cut by the Eunn. Now, if the Breaker does his Duty sufficiently, frequently bringing and whipping the Hemp, often under the Staves of the Break, there will be no occasion for Swingling. The Teeth of the Hackles ought likewise to be larger and wider, if the Hemp be designed for Sail-cloth or Cordage: But in regard that

very fine Linnen, fit for Shirting or Sheeting, may be made of Fimble-hemp; in this Case, the Hackler ought to dress that sort of Hemp, first in his coarse Hemp-hackles, as fine as he can; and afterwards dress it over again in the Flax-hackles,
till

till it is brought to such a Degree of Fineness as is desired. I am told by Persons of Credit, that in *France* they make considerable Quantities of fine hempen Linnen, mostly worn by Persons of Quality and Fashion; they finding it warmer and more lasting than flaxen Linnen. There occurs to me no Objection therein, but the Difficulty of bringing it to a Colour equal with Flax.

A Plantation Acre of very rich Land will take, six *Winchester* Bushels and a half of Hemp-seed to sow it: But if the Grounds are not very rich, in proportion to its Poverty or Riches, the Quantity of the Seed may be abated accordingly. Hemp-seed ought to be laid deeper in the Ground than Flax-seed. There is no occasion to roll it, because the Soil being rich, will of it self sadden and cling to the Seed.

Fine Linnen
may be
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bump,

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T H E E N D.

