

Mortimer (1708)

The ART os HUSBANDRY; Or the Way of Improving of LAND. — BOOK I.

BEING A full Collection of what hath been Writ, either by ancient or modern Authors: With many Additions of new Experiments arid Improvements not treated of by any others. AS ALSO, An Account of the particular Sorts of Husbandry used in several Counties -, with Proposals for its farther Improvement. To which- is added, The Countryman's Kalendar, what he is to do every Month in the Year. LONDON, Printed by J. H. for H. Mortleck at the Phœnix, and J. Robinson at the Golden Lion in St. Paul's Church- Yard, MDCCVIII. 1708

If you design to make your Cisterns under your House, as a Cellar, which is the best way to preserve it for culinary Uses, you may lay the Brick or Stone with Terrace, and it will keep Water very well; or you may make a Cement to join the Bricks or Stones with, with a Composition made of slacked sifted Lime and Linseed Oyl tempered together with Tow or Cotton-wool. Or you may lay a Bed of good Clay, and on that lay your Bricks for the Floor, then raise the Wall round about, leaving a convenient space behind the Wall to ram in Clay, which may be done as fast as you can raise the Wall: so that when it is finish'd, it will be a Cistern of Clay walled within with Bricks, and being in a Cellar, the Bricks will keep the Clay moist (altho' empty of Water) that it will never Crack.

Or you may make a Cistern or Pool to hold Water by daubing of it with Clay and Mortar, and after draw it over with Mortar; if any cleft happen, stop it with a **Cement of clean Hair and Tallow mix'd with unslack'd Lime and Yolks of Eggs well beat, and made into Powder, and mix'd well together.** I am told that in Wiltshire upon the Top of the dry chalky Hills where there is any descent to catch the Water, they make Ponds, the bottom of which they cover with Chalk Rubbish, which they beat small, and when any Rain comes to moisten it, they ram it well, and drive Cattle into it, and fold Sheep on it to trample it, and it makes it hold Water- This I have known to hold Water perfectly well in a shadowy place, tho' not in a Cellar. Thus in Gardens or any other places may such Cisterns be made in the Earth and cover'd over, the Rain-water being convey'd thereto by declining Channels running unto it, into which the Alleys and Walks may be made to cast their Water in hasty Showers. Also in or near Houses may the Water that falls from them be conducted thereunto. .

But the usual way to make Pools of Water on Hills and Downs for Cattle, is to lay a good Bed of Clay near half a Foot thick; and after a long and laborious ramming thereof, they lay another course of Clay about the same thickness, and ram that also very well; and pave it very well with Flints or Other Stones, which not only preserves the Clay from the tread of the Cattle, & c. but from chapping by the Wind

or Sun at such time as the Pool is empty. Note also, that if there be the least Hole or Crack in the bottom, it will never hold Water, unless you renew the whole labour.

As for the Farm-houses, I think one large Room with a large Chimney in it, to do the chief of their Work in, with a good Parlour, a good Dairy, with good conveniences of Butteries, Cellars, and Out-houses, enough for a Farmer; which several Rooms should be bigger or smaller, according to the bigness of the Farm that belongs to it. To which Observations, I shall add some general Maxims for Contrivance in Building, as follows,

1. Let not common Rooms be private, as Halls, Galleries, Stair-cases, &c. and let not private Rooms lie open and common, as private Parlours, Chambers, Closets, &c.
2. Light also is a principal Beauty in Building, and the Rooms that respect each particular Coast, ought as near as you can to be accommodated to it, as those Rooms next the South for Winter Rooms, and those that regard the East for Summer Rooms, the North Windows are best for Cellars, Butteries, Use. Rooms that have thorough Lights for Entertainment, and those that have Windows on one side for Dormitories.
3. As for the size of your House, you had better build it too little, than too big, for a large House brings Company and Entertainment, occasions the keeping of a great many Servants, and often requires a larger Purse than is laid up for it.
4. As to the strength of a Building, Country Houses ought to be substantial, and able to encounter all the shocks of the Wind, and not to be above three Stories high, including the Garrets; and observe in working up the Walls, that no side of the House, nor any part of the Walls be wrought up three Foot above the other, before the next adjoining Wall be wrought up to it, that so they may be all join'd together and make a good Bond, or else what is done first will be dry, so that when they come to settle, one part being moist and the other dry, it will occasion it's settling more in one place than another, which causes cracks and settlings in the Wall, and much weakens the Buildings. The Materials also ought to be substantial, and be sure if you build a Brick-building to take care of a good Foundation, and not be scanty in allowing Mortar, taking care that all your Brickwork be cover'd with the Tiling, according to the New way of Building, without Gable-ends, which are very heavy, and very apt to let the Water into the Brickwork. The want of observing of which three Things is the common decay of Brick Buildings.
5. Upon a good Foundation two Bricks or eighteen Inches thick for the heading Course is sufficient for the Ground-work of any common Structure, and six or seven Courses above the Earth to the Water-table, where the thickness of the Walls are abated, or taken in on either side the thickness of a Brick, which is two Inches and a Quarter.
6. But for large high Houses of three, four or five Stories high, the Walls of such Edifices ought to be from the Foundation to the first Water-table, three heading Course of Brick, or twenty eight Inches thick at the least, and at every Story a

Water-table, or taking in on the inside for- the Summers, Girders or Joysts to rest upon, laid into the Middle or one fourth part of the Wall at least, for the better Bond ; but as for the Innermost or Partition-walls, a Brick and a half will be enough, and for the upper Stories nine Inches (or a Brick in length) wall will be sufficient.

The Beauty of a Building consists much in regular Form and a graceful Entrance, for Regularity and Proportion pleaseth the Eye and I think a fair well wrought Front of Brick, pleasanter than one of Stone, which soon loseth its Colour and turns black. The being let through a double Grove of Trees to a House, and to have fine Walks and Gardens behind, and on as many sides of it as you can, is very ornamental. And let your Offices, Barns, Stables, Etc. neither join to, nor be too near your House, especially your your Stable, which ought always to be a Building by itself, because of the Danger of Fire, upon the Account of the looking after Horses, and the Use of Candles in it.

To which Maxims, I shall add some general Rules to be observed in Building, as orderd by Act of Parliament for the Building of London.

General: 1. In every Foundation within the Ground, add Rules. Brick in thickness to the thickness of the Wall, next above the Foundation, to be set off in three Courses equally on both sides.

2. That no Timber be laid within twelve Inches of the fore-side of the Chimney Jambs, and that all Joysts on the back of any Chimney be laid with a Trimmer six Inches distant from the back.

3. That no Timber be laid within the Funnel of any Chimney, upon penalty to the Workmen for every Default ten Shillings, and ten Shillings a Week for every Week it continues unreformed.

4. That no Joyst or Rafters be laid at greater Distances from one another, than twelve Inches, And no Quarters at greater Distance than fou teen Inches.

5. That no Joyst bear at larger lengths, than ten Foot, and no single Rafters are more in length than nine Foot.

6. That all Roofs, Window-frames, and Cellar floors be of Oak.

7. That the Tile- pins be of Oak.

8. That no Summers or Girders do lie less than ten Inches into the Wall, nor Joyst than eight Inches, to be laid in Loam, because Mortar is apt to rot all Timber, and therefore some Workmen pitch the End of such Timbers as they lay in Walls. .

9. That no Summers or Girders do lie over the Head of Doors or Windows,

10. That good Oak Timber be laid over Doors and Windows, and that good Arches be turned over them.

Where a Jamb is set upon moist Ground, dig the Earth two Foot deep, and after beating well, lay a Bed of Mortar, or Cement from either side to the Channel, **and then lay a Bed of Cinders upon the Mortar, beat it well, and cover it with**

another Cement of Lime, Sand and Ashes, this will drink up the Moisture and make it dry.

But if the Earth you build on be very soft, as in Moorish-ground, then you must get good pieces of Oak, whose length must be the breadth of the Trench, or about two Foot longer than the breadth of the Wall, these must be laid cross the Foundation about two Foot asunder, and being well rammed down, lay long Planks upon them, which Planks need not lie so broad as the pieces are long, but only about four Inches of a side wider than the Basis or Foot of the Wall, and to be well pinned or spiked down to the pieces of Oak, on which they lie ; but if the Ground is so very bad that this will not do, you must provide good Piles of Oak, of such a length as will reach the good Ground, and whose Diameter must be about one twelfth Part of their Length, which must be well drove down with an Engine, and then lay long Planks upon them, spiking or pinning of them down fast. But if the Earth is only faulty in some places and good in others, you may turn Arches over those loose places, which will discharge them of the weight. Note also, that you must place your Pile not only under your Out-walls, but under your Partition walls too, that divide the Building, for if they sink, it will crack and damage the Outer-walls too. And that you may know the proper Sizes of Timber for your ordinary Buildings ; I shall, to what hath been laid already, add a Scheme of the Proportion of Timber, as agreed to by Act of Parliament for rebuilding of the City, that your Timber may in strength be answerable to the rest of your Building.

Bricklayers Work at London, where a Bricklayer hath two Shillings and Six-pence a Day, a Labourer twenty Pence, and that Bricks are fourteen Shillings a Thousand, Lime Four-pence half-penny a Bushel, and Tiles two Shillings and Six-pence a hundred. For the Bricklayer to find Bricks, Mortar, Scaffolding, Tile, for a House, is five Pound a Pole-square, that is, sixteen Foot and a half but for Walling, four Pound ten Shillings a Pole, if the Bricklayer finds all Materials, is enough. But for his Work only, 'tis one Pound two Shillings a Pole, that is two hundred seventy two square Feet, and a Brick and a half thick. In the Country they will build a Wall for eighteen Shillings a Pole, supposing the Wall to be a Brick and a half thick. The Bricklayers Work is measured by the Pole-square, that is deducting out all Windows and Doors in the Wall....Chimneys are commonly done by the Hearth. And note, that one Brick and a half thick is fourteen Inches, two Bricks is one Foot and a half, and that four thousand five hundred of Bricks will do a Pole-square of Walling one Brick and a half thick, and **twenty five Bushels of Lime where the Sand is good, that is, where 'tis of a large rough Grain, and not mixed with Soil.**

Tiling is measured by the ten Foot-square, Workmanship of which is three Shillings and Six pence a Square in the Country, to find all but Tiles, is twelve Shillings, and to find Tiles and other Materials is one Pound six Shillings a Square. **Three Buihels of Lime will do a Square of Tiling, but I prefer Loam and Horse-dung mixed together, and laid about the Middle of the Tile, so as not to touch the Pins or**

Laths, nor to be so near the point as to wash out, because Lime is too corroding, being apt to make the Tiles scale, and to grow with Moss. _

'Plasterers. The Plasterer's Work is commonly done by the Yard square, for Lathing, Laying and Setting is Eight-pence a Yard, rendering on a Brick-wall is Three-pence a Yard, stopping and whitening one Penny half-penny a Yard, whitening a Penny a Yard ; but Lathing, Laying and Setting with Oak-Laths is ten or twelve Pence a Yard. **To daub a Partition-wall with Clay on both sides is Three-pence a Yard, and to rough cast it without, and render it on the inside, Four-pence a Yard in the Country.** Heart-Laths of Oak are one Shilling and Ten- pence a Bundle or Hundred. Sap-Laths of Oak are one Shilling and Eight- pence a Bundle. Fir-Laths are Twelve-pence a Bundle. A Bundle of Laths they reckon will do a Square . of Tiling, and five hundred of Nails.

Thatching with Straw is done from two Shillings and Six-pence, to three Shillings a Square, and with Reed for four Shillings a Square: Two good Load of Straw will do about five Square, the Square being a hundred square Feet ; and a Thousand of Reed will cover three Square of Roofing, which costs about fifteen or sixteen Shillings, both which Thatching most tie on with Withs, but old pitched Ropes unwound, are much cheaper, and more lasting to tie them with.

Chap. IV. Of Lime. Lime is commonly made of Chalk or of any Sort of Stone that is not sandy or very cold, as Free-stone, &c. All Sorts of soft Stone, especially a grey dirty coloured Stone, that if you break it will yield a white Powder, and all sorts of Marble, Alabaster, Slate, Oyster and all Sorts of Sea-shells, and all Sorts of Flints, will make an extraordinary Lime (but they are hard to burn, except in a Reverberatory Kiln, because they are **apt to run to Glass**, for the harder the Chalk or the Stones are, the better is the Lime; only they require the more Fire to burn them: Both Sorts may be burnt with Wood, Coals, Turf, or Fern which makes a very hot Fire.

The Kilns used for Chalk or Stone they commonly make in a great Pit that is either round or square, according as they have conveniency, and big according to the quantity they burn, which they make wide at the Top, and narrow by degrees, as they come nearer to the Bottom: The In-side of this Pit they line round about with a Wall built of Lime-stone ; at the Outside near the bottom, they have a hole or door by which they take out the Ashes, and above that some have an Iron-grate, which cometh close to the Wall round about but others arch it over with Stone or large Pieces of Chalk; and upon this they lay a Layer of Stone, or of what else they burn in the Kiln, and upon that a Lay of Wood or Coals, which they repeat 'till the Kiln is full, only they observe, that the out most Lay be always of Wood or Coals, or what

they burn their Lime with, and not of what they make their Lime, to which they give fire at the hole underneath.

Chalk is commonly burnt in twenty four Hours, but Stone often takes up sixty Hours: Ten Bushels of Sea-coal, or a Hundred of Faggots three Foot long will burn forty Bushels of Chalk, and forty Bushels of Chalk will yield thirty Bushels of unslaked Lime.

When Chalk is scarce, you may take the Chalk-rubbish and mix it with Water, working of it together as you do Clay for Bricks, which put into Brick-moulds, and drying of it, burn it, and it will make as good Lime as other Chalk.

But the Stone-lime is much the best for Land, and indeed for all other Uses; which in many places they carry out Upon the Land, and lay in heaps, allowing a Bushel to a Pole-square, or a hundred and sixty Bushels to an Acre, which they cover with Earth, letting of the Heaps lie 'till the Rain slacks it, and then they spread it:

But they reckon that if 'tis carried out upon the Land hot from the Kiln, that 'tis best; and that it doth best upon light sandy Land, or a mixed Gravel, and that wet or cold Gravel or Clay are not good for it. Dung, Mud, or fresh Earth mixed with it makes an extraordinary Manure, and is the best Way of ordering of it for Land that is sandy or gravelly. I am told that a Parcel of sandy Ground in Westmorland produced an extraordinary Crop of Barley and other Corn, being manured with Stone-lime and Cow-dung mixed together. The Nature of Lime is to work downwards, like Chalk, and therefore it s best laying of it upon a Laye the Year before you design to plow it up. Lime is reckoned to make Corn grow with a thin Husk; but 'tis not a lasting Manure, it seldom holding above five Crops.

To complete this article let us just .take notice of the flooring, which it would be a considerable saving to the occupier to be properly secured: a mixture of lime, cut horse-hair, drift-sand, temper'd-clay, and horse-dung laid pretty thick, will make the floor impenetrable to vermin "

1771 The Complete English Farmer David Henry

Stones and bricks arc often too scarce and expensive for the poorer classes of farmers and labourers; but happily for them, **clay walls, if properly constructed, and well plastered and dashed on the outside with lime-mortar, are cheap, durable, and warm.** The mode of preparing mud wails is as follows:

A sufficient quantity of cohesive clay, free from any stones, being collected, the labourer digs it thoroughly, and renders it as fine as possible; when well saturated with water, he works it with his shovel until it acquires the consistence and toughness of dough.

After lying eight or ten days, it should be again wetted sufficiently for use, and a small quantity of sound chopped straw (for if this be long and stringy, the surface of the wall will not be easily dressed and polished afterwards) is to be intermixed through the mass. The foundations of the walls are best laid with stone, or brick, two feet or more in depth, and two feet in thickness. On these, the mortar, being sufficiently turned and worked, should be placed in courses of two or two and a half feet in height. At this level it has been recommended by a recent writer, who himself attached great importance to the invention, to bed into the mortar at the angles, single or double ties or braces, of any timber, provided its scantling be not less than two inches and a half, and to pin them into the walls with pegs about nine inches long.

...Before the winter rains set in, the roof should be put on with double collars, and thatched with a considerably projecting eave, for the protection of the walls: walls left unthatched, soon become materially injured. Common farm-labourers are in many places very expert in building these walls, and smoothing them at both sides perfectly with spades. If the plastering and dashing, or either, be carefully preserved on the outside, such walls will last for a long series of years. The floor should be laid on a stone foundation, as well as the partition walls, and covered with tiles, bricks, or clay and lime mortar, well tempered and evenly laid.

Thatching is often very defectively executed. The thatcher, in order to save the labour of his hands, allows the straw to be almost rotten before he uses it, instead of wetting and pressing it well as he requires it. Wheat or rye straw, not beaten by the flail, but left in a reedy state, is better than any other kind of straw; but the true Irish thatcher will not admit this. He asserts, from ignorance of his trade, that reedy straw soon decays from exposure to the weather — that its unfitness for compression causes it to fail — that it cannot be made to lie as close as barley straw, which is generally preferred by those who do not understand the English method of preparing strong straw, by combing off the short straws, and lapping the layers of thatch, (tied down at narrow intervals by twine to the rafters,) so that every drop of water quickly runs off as from a bundle of quills.

Wheat or rye straw is much more durable for thatch than spring corn straw, and resists the wet much better on account of the silex contained in it, which gives that varnished quality that enables it to throw off moisture. Barley and oat straw imbibe moisture like a sponge. Wheat and rye being sown in the autumn have longer time to absorb the silicious matter from the soil into which they push their roots often to a prodigious extent.

Thatch properly put on by an experienced hand, will last four or five times longer than the coat of straw, beaten, pressed, and half-rotted, in the usual Irish fashion. The English mode of fastening down the thatch on the ridge with bent twigs, fancifully arranged, is very neat. Where this is inconvenient, a coat of mortar on the ridge, with pointed elevations of the same substance at the extremities, in the form of gigantic comfits, as they are pasted over many of the cottages of Forth and Bargy, in the county of Wexford, and white-washed annually, has a very clean and decorative appearance.

In many parts of England walls of mud and straw are used about the farmer's house and yard, with a thatched eve; they last some time, if not exposed to severe frost, which soon crumbles them away; at best they are not very durable, and are much less permanent than wooden walls or paling, where timber is abundant and cheap.

CYCLOPEDIA PRACTICAL HUSBANDRY RURAL AFFAIRS IN GENERAL. BY MARTIN DOYLE, London 1844

The cottage walls should be built of stone, either dry or with mortar, the crevices in the former case being well filled with moss, or dry peat mould, and both outside and inside carefully pointed with mortar. The inside should never be without whitewashing, at least once a-year. This is of consequence on the score of health, and also makes your rooms lighter, giving a cheerful appearance even in the gloomiest weather; and there is a decency and propriety in a nicely whitewashed apartment, however homely the furniture, that is always pleasing. The floors may be of earth or, clay, well mixed with sand and lime, and beaten hard and smooth, and raised from eight inches to a foot above the level of the ground outside; the roofing ought to consist of beams and rafters laid properly on the walls, and the thatch may be of heath, bent, fern, or straw, and should be well laid on, at least one foot in thickness. Fern and heath make a durable thatch, either singly or mingled with straw; but the best of all roofing is slate, whether for the. palace or the cottage.

FARMER'S GUIDE, COMPILED FOR THE USE OF SMALL FARMERS AND COTTER TENANTRY IRELAND. 1841.