

immediately arrested public attention; and the desponding farmer anxiously availed himself of its assistance, in recruiting his exhausted fields. So rapidly did the new manure rise in the estimation of our most experienced cultivators, that the discovery of deposits of a similar character at Ichaboe, a small island on the coast of Africa, in 26. 25 south latitude, and 14. 16. east longitude, was regarded as an event of the greatest importance to British agriculture. A new and extraordinary trade has, for the last two or three years, been carried on in this article, and the eagerness with which our merchants entered into it, may be estimated from the fact, that within six months after the discovery of Ichaboe, one hundred vessels visited it for cargoes, and carried away nearly a third of the deposit covering the island. The deposit at Ichaboe is now, I believe, entirely exhausted; but our traders have succeeded in discovering other deposits, of considerable importance, both on the African and American coasts.

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#### MAXIMS OF UNIVERSAL APPLICATION IN FARMING.

From Mr. Blair's Essay on Small Farms.

Firstly, the ground must be thoroughly drained. To accomplish this, it is not enough to search out the springs and carry off all under water; a passage through the soil, for the water which falls from the clouds, must be obtained likewise.—To attain both these objects, Mr. Smith of Deanston's plan is now universally adopted. I must refer you to the Agriculturist for full instructions, but shall shortly allude to some indispensable requisites to be attended to. The drains must be made perfectly straight, and parallel to each other, in the direction of the furrow—from which it has obtained the name of "farrow-draining." If the fall is sufficient, they should be fully three feet deep, as narrow as possible, say four to five inches at bottom: to be filled 12 to 15 inches with broken stones, such as used on roads, and covered with a thin sod or scraw, the grass side down; and the subsoil, which has been thrown out, put over and tramped down, so as to prevent the water sinking down through the loose earth, at top, which would choke the drain—the water will filter in through the sides. The distance between the drains should be fifteen to twenty-five feet, according to the soil; where stones are not to be had, tiles must be used.—Many will tell you to make your drains slanting across the furrows, but do not attend to such suggestions. The advantages peculiar to this system are, that the ground becomes equally dry throughout, that the rain sinks where it falls, and as it finds its way into the drains, the ground, which has been swelled by the moisture, shrinks and cracks underneath the surface, which admits the atmosphere

ric air into the soil to fill the vacancies thus created; succeeding rains expel this air by the superior weight of the water, and in its descent is followed by the air again—and this operation is perpetually going on—until the quality of the soil, to the depth of the drain, is entirely changed—exactly on the same principle of the change effected in the nature of the earth thrown out of the gripe of a ditch, after being exposed to the air for a few years.\* This change is expedited by the subsoil plough, or by trenching with the spade and graip; which is thus performed, and is the mode of proceeding best suited to the means of small Farmers:—with a spade he first throws off the surface earth from a stripe of the land to be trenched, about three feet wide, the full length of the field, and lays it on one side. He then takes a two-pronged graip, fourteen to fifteen inches long, and stirs the subsoil to that depth; after which, he begins on the stripe adjoining, and with his spade throws the surface soil, for three feet, upon the surface of that which has just been graiped; and this same process is again and again commenced, until the whole field has been gone over—after which the earth first cast aside must be carted or wheeled, to cover the last dug stripe which will have been deprived of its surface. Two or three men can be employed at the same time in this operation, following each other in succession; and the air being thus admitted to the depth of the drain, in a short time fresh soil may be turned up to that depth, of the most fertile quality. It may not here be irrelevant to observe, that one of the most beneficial effects of stirring the soil in the different operations of Agriculture, is to more freely admit air into the soil, without which vegetation cannot proceed. But the advantages of draining are not limited to the effects just stated; for, by freeing the surface from superfluous moisture, the temperature of the soil is most remarkably increased. It is a common expression among Farmers, "a dry, warm soil;" but I imagine few stop to consider why this should always be the case. But if any of you will make the experiment of wetting one shirt sleeve, keeping the other dry, and then hold up your two arms to a sharp north-east wind, you would soon find the additional cold that is produced by the wind

\* It seems to me that the increased fertility of fallowed land is mainly attributable to that very turning which is sometimes complained of as an evil. By this, every part of the soil is exposed to the action of the atmosphere, the effects of which in promoting fertility may be estimated by observing the barrenness which follows from excluding its influence. Examine the ground under the back of one of the newly-levelled ditches, or what is called the seat of the ditch. Now, when the ditch was originally made, this was the surface productive soil, and the stuff thrown out of the gripe to form the back was perfectly barren till. But now you will find the case exactly reversed—what was then the fruitful surface soil is now rendered barren by being excluded, by the back of the ditch being heaped over it, from the action of the atmosphere, and the back, which was then barren, is now rendered fruitful by being exposed to it.

blowing upon a wet surface.\* And this is precisely the same effect which is produced upon the land by the wind blowing over a wet surface, and accounts for the crops being always earlier where the land has been drained.

2ndly, The weeds must be destroyed, which in a little time will be accomplished by proper attention in collecting, as far as possible, all weeds, before putting in the crop, and by sowing the green crops in drills,† and carefully weeding them afterwards; and they may even be made worth the expense of gathering, as they will yield a valuable addition to the manure heap, if applied as bedding in the cow-house. For this purpose they should be collected before flowering. It is shameful to see, in many fields, the quantities of rag-weed ripening to seed, and improving the ground as much as a crop, which might if usefully applied as above directed, have brought nourishment to the soil in place of exhausting it. Where land is dirty or exhausted, no better plan can be pursued, than to take two drill crops of turnips followed by potatoes: this at the same time both cleans and enriches the soil.

3rdly, All cattle must be fed in the house or straw yard upon good food—such as rape, cabbage, turnips, mangel-wurtzel, potatoes, Italian rye-grass, clover, and vetches, in proper succession, will abundantly supply, according to the nature of the land—there being no farm in which some of these crops may not be raised in abundance, with the aid of manure, which the practice of house-feeding produces.

4thly, Never take two crops of the same kind in succession off the same land, although this is sometimes done with potatoes, to reclaim land that has never been in cultivation; but in other cases this is not advisable; and, in particular, two grain crops cannot be taken in succession without injuring the soil, and in the end a manifest loss arises from the practice, in place of that advantage which the needy Farmer looks for; because, by interposing a green crop, such as clover, &c., full as many grain crops may be had off the same piece of land and from the same manure, in any given number of years, by taking them in rotation, as by taking them in succession. But the rotation system has this

\* This also shews the advantage of shelter, for the cold would not be so severe if there was no wind. In making the drains, the stones should be laid down before they are made, and every day as the drains are opened, they ought to be filled and covered in, to prevent the sides crumbling down by frost or rain.

† I have already mentioned the practicability of getting an early supply of the leaves of curled kale in autumn, by planting them with the potatoes in the edge of the ridges, and I should think that to be the best plan for such a purpose: but to plant the potatoes in drills is a much more effectual way of cleaning the land, and is, therefore, much to be preferred on that account; and curled kale or cabbage for winter use may be cultivated in this way, by planting them at the edge of the broad ridges, as hereafter recommended. Ridges are best in wet land, and drills when dry.