

ADVANTAGES OF SCIENTIFIC FARMING.

When land covered with an old growth of wood is first cleared, the soil is always in a state that will produce good crops for a number of years without manure; but after the lapse of a sufficient time to rot the stumps, it begins to fail. It is then generally ploughed and worked without much manure till it no longer pays for the labour; when it is allowed to become a pasture, and another piece of wood land is cut down and cultivated in the same way.

These pastures, on what was originally not the best kind of land, will grow poorer for fifty years; the best kinds of grass disappearing one after the other till nothing is left but "poverty grass," or "animated oat" as it is sometimes called. This soon follows the others, and there being now very little that cattle will eat, the ground is occupied by mountain tea, mayflower, and other wild plants, soon followed by dwarf laurel and creeping juniper. The ground now begins slowly to improve, having a covering of vegetables to protect it from sun and wind, and a strong turf which defends it from having its finer parts washed deep into the earth by rains. It will now, if neglected, become again covered with wood, and finally again become fertile.

This impoverishing mode of farming upon new land is not peculiar to Nova Scotia. It has been generally practised in the American States, and many there who had farms from which they procured a comfortable living, have worn them out and removed to the far West to begin again upon new land. It is not two centuries since a very large proportion of the land in Europe was in this worn out state, but since the skill of the scientific farmer has been applied to its cultivation, much that was nearly worthless has been made very productive, and now supports three or four times as many people as it did a hundred years ago.

An English gentleman, formerly travelling through a very barren part of Germany, where very little cultivation was to be seen, but only large plains covered with heath, was surprised by discovering a very rich farm covered with excellent crops of various kinds in the midst of the barren. He found that it was owned by an old Austrian soldier, who having performed some extraordinary service, had been rewarded by the government with a tract of this barren heath, upon which a house had been built for him. He had served a long time in Flanders among a people who were skilful farmers, and had paid particular attention to the way in which they managed their land, which had convinced him that the same kind of cultivation that he had seen so successful on the poor sand of the low countries, would answer as well in Germany. He had therefore requested the government to give him this land to try his skill upon. He had chosen a place not far from a town which would serve as a market for his produce, and which was so dirty that he knew it would supply him with manure. He commenced with a small piece which he broke up very deep, and manured highly, and found it produced a very great crop. He continued breaking up and cultivating according to the Flemish mode, and had at that time sixty acres in the highest state of cultivation; all fenced in ten acre lots with handsome hedges. He was then a rich man, and owed his wealth to the knowledge he had acquired in Flanders, without which he would have lived poorly upon the small pension that was allowed him.

Scotland was from time immemorial accounted one of the poorest of countries, but the last fifty years have made a wonderful

change. A better education has been given to the people, and agricultural science has more than doubled the produce of the land.

For a considerable time men of abilities in the American States have perceived the folly of their exhausting mode of farming, and have gone to work in earnest to improve their worn out land, with such success that they have changed the crop of Indian Corn from fifteen to fifty bushels an acre, and that of hay from less than a ton to two and a half and three tons, and have found in many instances that, notwithstanding the additional expense, the very great crop was much more profitable than the small one, even in the first season, while the good effect of the extra quantity of manure continued for several of the following seasons. They have generally found it most profitable to work no more land than they can keep very rich, and for this reason exert themselves to collect and preserve as much manure as possible. The urine of the cattle and the wash of the kitchen are preserved by turning them upon sods or swamp mud which imbibe them.

Much advantage is derived from a mixture of different soils, sand and gravel are useful upon clay, and clay improves a soil that is too sandy. Considerable portions of the Eastern States resemble the Southern front of Nova Scotia, the soil, like ours, resting upon what is called "primitive rock," and, of course, inferior to that which lies upon sandstone and limestone. In this district, which is often very stony, swamps are found to be the most valuable land for grass. They are drained, have an inch or two of upland soil spread over them, followed by a dressing of manure, and are then sowed with oats and grass seeds. Clover stands the winter very well upon drained swamps. They should ever have the turf burnt, for the effect of burning would be, to give two or three heavy crops, and then leave the land in such a barren state that it will be nearly worthless.

Sea sand that has a mixture of mud and shells is very useful on drained swamps.

Gravel, containing many small stones, seems to answer better on some swamps than a finer soil. I have seen a small piece covered about four inches deep with a gravelly soil, of which one-third at least was small pebbles, having been dug three feet below the surface in making a cellar. It was moderately manured with rotted dung and sowed with Timothy, of which it gave a large crop for five or six years before it required manure again.

Shallow swamps are better for draining than those that have a great depth of peat or swamp mud.

It is generally necessary to make a small ditch adjoining the upland entirely round the swamp, which should be cut a few inches into the solid ground to catch the springs that come from the hills. Earth is best carted upon a drained swamp when it is frozen, if it has been previously thrown into large heaps, and covered with spruce boughs.

Clover and upland grasses may be easily introduced into a drained swamp without breaking it up, simply by giving it a top dressing of manure; but, if it is broken up, the grass is exposed to be thrown out by the frost, unless the ground has a large quantity of upland soil spread over it.

Upon clayey hills such as are found at Lawrence Town and Three Fathom Harbour, the crops fail in wet seasons for want of drains, the land retaining so much water about the roots of the crop that it is nearly drowned. Upon such land a coat of swamp soil ploughed in deep, by going twice through every furrow, is very useful. Water passes readily through

peat, and a layer of it below the surface would always yield a passage to the superfluous water. In the middle of the garden at the North Barracks there was a piece of ground which, though well manured, would never produce a tolerable crop; upon examining it, it was found to have under it, at the depth of about ten inches, a bed of hard red clay which water could not pass through. Mr. Dalton, the gardener, brought in twenty-five loads of peat from the swamp, back of the Citadel hill, and had the ground trench-dug fifteen inches deep, putting five inches of peat at the bottom. This ground has since been as good as any part of the garden.

Small stones should never be very carefully taken off clayey ground. In England, people who had hired children to pick all the small flint stones off their land, have since been glad to cart them back, and spread them again. Almost any soil will, by manuring, for a long time, become clayey, for both stable manure and swamp mud will slowly change slate to clay, and blue whinstone to white sand and clay.

When swamp soil is used to mix with manure, it should be remembered that there is a great difference in swamps. Those which are shallow and in situations where the water from the hardwood hills has brought leaves upon them, have a more fertile soil than the deep peat bogs formed wholly from the remains of the trees and plants of the most barren kind of land. The peat of the barren is best for fuel, but of little use upon the land farther than serving to make it more loose and open.

The peat from the barren swamp is, however, the best to plough in deep for the purpose of draining the land, because it does not quickly change to mould.

It is often the case that the inhabitants of a rough rocky region like the southern front of Nova Scotia, when they hear of lands where great crops are raised for a long time without manure—where the ground is level, mellow, and free from stones—and where there is little or no winter, wish that they were inhabitants of such a climate, and that they could leave their children where they would not be compelled to work as hard for their living as they have done themselves. Such wishes are very natural, we all carry about a spirit of discontent, and an aspiration after something better, and are as unwilling to see that the cause of our discontent is in ourselves, as we are to look steadily at the sun; we therefore ascribe it to the lack of something we have not, but which we wish we had, and not a few believe that all that is necessary, to make them happy would be found by removing to some other region, which appears a second Eden to their fancy, yet if they try this expedient they always fare like the man who removed from a haunted house, who as he stood by the truck that was taking the last load, was addressed by a neighbour, who said, "So you are leaving us." "Yes," replied the Devil, popping his head out of the bung-hole of an empty cask, "We are all a-going." But, unfortunately, the region where discontent will not follow us has not yet been discovered.

Near the seaboard of the Eastern States the soil is generally poor and rocky. The climate is so cold that the corn is often injured by the frost, yet the inhabitants of this poor land are not the least wealthy portion of the Union. In Europe there is no district which has so fine a climate and soil as Italy—none where the people are more miserable and oppressed. A woman dare not walk into Naples, and sell a basket of eggs or butter, till she goes to the Custom-house and pays a tax upon it; if her children are calling for bread, she dare not bake a cake for them—she must go to the