

District, which consists of a double process of clearing, viz.—the under brush, smallest sized trees and rail timber is chopped and cleared off the land, the remainder is girdled and allowed to remain until the first crops of wheat is harvested, and then felled and burnt with the stubble. The admirers of this plan argue that the ashes are better distributed over the ground—and that the second dressing of ashes, cause a more luxuriant growth of wheat than the first, and is also less subject to disease. They also maintain that a saving of about three dollars per acre, in clearing is made by the adoption of this novel process. We have not the slightest doubt, but that the plan has important advantages over the common practice.

The cheapest and most feasible plan of clearing land, is the chopping down the small, and girdling the large trees, and the following season the whole may be cleared with very trifling expense. The timber will be all dead, and as dry as powder, the fibrous roots, the leaves, and trash all decayed, or undergoing decomposition; and the land will very often produce a remarkable large crop the first year. When land is chopped and cleared without giving time for the decomposition of the undecayed leaves which cover the ground to a great thickness, the burning of the brush and underwood, robs the land of much of the vegetable mould that is necessary to give stamina to the crop.

We are of opinion that heavy timbered hard wood land may be cleared for one-half the usual price, by adopting the plan of felling the underwood, when the trees are in full leaf, and completely girdling the large trees, except the rail timber. The following summer the whole may be chopped and burnt, with very little cost, and instead of logging, and burning, after the common method, a system of *niggering* may be substituted, which, if practised in suitable weather, will cost less than half the labour of the plan in general use.

#### TRANSACTIONS OF THE HIGHLAND AGRICULTURAL SOC'Y OF SCOTLAND. EXPERIMENT IN DEEP PLOUGHING.

The experiment was made upon a small field, which is sixty-five feet above the level of the sea. The soil is sandy, resting upon a sub-soil of sand and gravel of great depth, and so thoroughly drained by the declivity of the surrounding lands, that want of moisture is its natural defect. There is but little difference between the soil and the stratum on which it rests, beyond what culture and manure have made; but, from sinking of gravel, treading of horses, and pressure of the plough, year after year, and age after age, the sub-soil had become crusted, hard, and beaten as a road. In short, from shallow ploughing, there was but little depth of cultivated earth, and, as on such soils in dry seasons, the crop was stunted and scanty.

With a view to render this field fruitful in any season, it was sub-soiled with the Deans-ton plough, eighteen inches deep, and sown with wheat for crop 1837. The great vigour and luxuriance of the crop attracted general notice; and it must have yielded an extraordinary increase, if it had not been lodged by wind and rain shortly after the ear appeared. Therefore it gave only thirty-eight bushels of

grain per acre, but three tons of straw, which proved its great strength. To this crop one of potatoes and two of wheat succeeded; but it is the culture of this field for crop 1841, and the result, which chiefly constitute this report.

It was all equally dressed with seawater; and four acres of the same quality and description were measured and staked off. Two of these acres were ploughed twelve inches deep, with two horses, and two of them eighteen inches deep, with four horses. These two portions in all other respects were cultivated and managed exactly alike. They were planted with potatoes of the Don species, in the last week of April, eight inches deep, twelve inches asunder, and in drills thirty inches wide, running at right angles to the furrows of the experimental ploughing. The potatoes were planted deeper than usual, therefore the shoots were longer in coming through the ground; but when they did appear, it was with great strength and regularity. They expanded their broad deep-green leaves, and grew vigorously; in the dry sandy soil, in a very severe and long-continued drought. It was soon evident that the deepest-ploughed portion had the advantage; the stems and branches of its plants were stronger, and they first covered the ground.

The potatoes were lifted in the last week of October, when it was found that the land ploughed twelve inches deep produced fifty-seven bolls per acre, and the land ploughed eighteen inches deep produced sixty-nine bolls per acre, being a difference of twelve bolls per imperial acre, or four cwt. to the boll.

It is a condition annexed to the premium offered to the Highland Agricultural Society for experiments in deep ploughing, that one half of the land used "shall be cultivated in the ordinary way." By evidence before the Agricultural Committee in 1836, the depth of ploughing in this county is from six to nine inches. If that depth had been taken for the lowest extreme in this experiment, the difference in the production of the two portions, it is believed, would have been greater; but as this field had been ploughed twelve inches deep for years, its ordinary depth was adhered to, and the difference is certainly sufficient to establish the advantage of deep ploughing.

As to the quality, it is excellent for the season from both portions of the land, and in that respect there is no difference. The potatoes from the deep tillage were larger, more of one size, had fewer small ones, and not so many of a green colour as those from the other division. The quantity on the deep tillage is eighty seven bolls per Scots acre, which is a good crop for any year, and it will readily be granted that it is far above the average of the district this year, many fields not producing half a crop. A superiority so striking must therefore be ascribed to deep culture, being on both portions deeper than ordinary, which furnished moisture in a very dry and scorching season to a sandy soil, and raised its produce above that of richer lands. But though this is a great crop for the season, it must have been still greater if the field had been less exposed, as it has no shelter; and three days of very violent wind, in the first week of August, broke down the plants, which, from their great luxuriance were then very tender, it checked their growth.

The practical conclusions to be drawn from this experiment are—

First, That deep ploughing increases the produce.

Next, That, as both portions of the land used in the experiment were opened up eighteen inches deep by the sub-soil plough for crop 1837, the full benefit of that operation is not obtained till the earth so loosened is again

ploughed up. And the reason is evident; for it is then only that the soil is deepened, by an addition from the sub-soil with which it is intermixed, and rendered more fruitful.

Lastly, If deep ploughing increases the produce, it increases also the supply of vegetable manure; and a greater portion of manure, added to improved culture, must produce a progressive increase of fertility and of produce.

This experiment was begun on the glebe of Dunbar for the amusement of the reporter, and before he knew that any premium on the subject had been offered by the Highland and Agricultural Society.

#### SIR ROBERT PEEL AT THE LITCHFIELD CATTLE-SHOW.

There are some influential farmers in this country, who look upon it as *small business* for them to compete for premiums at a Cattle Show; or if they do compete and fail of success they feel dissatisfied with the awarding committees, and accuse them of wilful misconduct or a want of judgment. Such persons we would refer to the noble example of Sir Robert Peel, Prime Minister of England, and the most influential man in the British Empire, if not in the world. Sir Robert Peel is Vice-President of the Litchfield Agricultural Society, and was a competitor at a late exhibition of that Society, but failed of obtaining a premium. The following extract is the concluding portion of a speech made by him at the dinner on that occasion.—*New Genesee Farmer*.

"Gentlemen, if my life and health is spared, I shall have the satisfaction of presiding at your next meeting. (Cheers.) Meetings of this kind have a great tendency to remedy one evil under which the agricultural community labour. From the extent of your farms you live separately, and do not possess those means of meeting frequently and of profiting by mutual intercourse which are possessed by persons in the manufacturing districts. These meetings bring you together in unrestrained and free intercourse, and tend to destroy that unhappy prejudice amongst farmers that the particular course of agriculture pursued by each is the best. (Hear, and a laugh.) Why, there was not a competitor here to-day who did not leave home under the perfect conviction that his beast was the best. (Laughter.) I myself participated in that delusion when I left home, but I found out that I was unsuccessful. (A laugh.) So with the farmers generally. When they come to these meetings, they see better beasts than their own, and they go away with the opinion that they have not yet arrived at the utmost limits of success, but that increased attention will lead to more improvement. (Hear, hear.) I hope all who have been successful this day will strive to maintain their position next year, and that the unsuccessful will try to deprive them of the advantage they have gained. I do hope, gentlemen, that I shall have the satisfaction of meeting you again next year. I am afraid that from the occupation of my time, and my want of experience, I shall not be able to give you so excellent a lesson as my noble friend has delivered to you this day; but this I can assure you, that I shall equal him in the desire to promote the prosperity of this institution, and that there is no one, however versed he may be in practical agriculture, who feels, whether on private or on public grounds, a more sincere desire than your Vice-President entertains, to see the agriculture of this country so prospering that it may improve the condition of those who pursue it, and add to the strength and resources of the British Empire." (The right honourable baronet sat down amidst loud and general cheering.)