

double the number of men who did not understand their work, and who are constantly changing from one master to another. We again recommend this subject to Agricultural Societies, and hope they will make the experiment of offering premiums for long and faithful service. We also suggest the expediency of introducing the system of having cottages and small gardens for labourers employed on extensive farms, or on any sized farms where hired labour is constantly required. The labourers who have families might board at their cottages with their families, and this would be sure to attach them to one place, and their children would be brought up to industry, and be taught the work on a farm, in every department, in the best manner. If this plan was generally introduced, we should soon find the most satisfactory results from it.

Now that the snow is nearly off the lands, it should be the farmer's care, to see particularly that all his drains, and the furrows of his ploughed land are in good order, and that they are in a fit state to draw off all the water. Nothing can be more injurious to arable land than to have the water remain upon it now, until the sun dries it up. The soil becomes so thoroughly soaked with water, it breaks into a soft mass, and when dried, all the effect of the previous ploughing is done away, and when the sun dries it, it becomes as hard nearly as bricks. Much good can be done by opening with spade and shovel furrows and drains that may have become stopped by soil falling into them since opened last fall. We have frequently run a light plough with one horse in the furrows at this season of the year, where they have been much broken down, and with excellent effect, as a means of drying the land. We would recommend to any farmer who has ploughed land last fall, not to sow it this spring until it is ploughed again, if it has not been well drained in the fall, so that the water will go off it now without difficulty, and leave the soil dry. If it has run into a soft mass, in consequence of too much wet in the soil, it will not be in a good state to produce a crop until opened again by the plough when dry. We have no hesitation in attributing the worst crops we see in Canada, to the land being ploughed in the fall, insufficiently drained, and then sown in spring, without being again ploughed. The consequence is, that the soil is so close and hard when dried, that the roots of plants cannot extract or find nutriment in it; and neither air, dews, nor slight showers of rain can do the crop any good while growing upon it in the following summer. The admission of air to a certain depth in the soil, has a most beneficial influence upon the growing crop, and unless the soil is in a proper state to admit the air it should be brought to that state by proper cultivation. We are far from condemning fall ploughing, but we say that the soil that has been fall

ploughed, if not in a proper state to produce a good crop, or a promise of one, should be ploughed again in the spring, so that the effect intended by ploughing for a crop, should be produced;—namely, to open, and pulverise the soil, so as to admit air and moisture and allow the roots to extend freely to obtain the nutriment from the soil, that is necessary for their growth in perfection.

#### MR. HEWITT DAVIS'S SYSTEM.

*To the Editor of the Maidstone and South Eastern Gazette*

SIR—Your paper, which is usually the means of disseminating the knowledge of many very useful chemical facts, of great importance to the farmer, contained last week a letter from Mr. Hewitt Davis, which is calculated to convey so erroneous an impression, that I have taken the liberty to send to you a few remarks on the subject.

I have no doubt that Mr. Davis is one of our first practical farmers; but the errors into which he has fallen only tend to show that practice without scientific principles is utterly unable to arrive at correct conclusions upon points of the highest interest and value to the farmer.

Mr. Davis says:—

"When Sir Robert Peel, in his address to the farmers at Tamworth, called their attention to guano, he did so under the impression that it might be a means for increasing the fertility of the land, and a panacea for their losses by the tariff and the corn laws. Since then the most extravagant encomiums have been published in its favour, many of which may be traced to persons interested in its sale. I am not going to deny that, as a means for assisting to raise an occasional crop of turnips for cattle food, it may answer; but I much wish to bring the attention of farmers to the fact, that at best, it can but force a crop of corn at the expense of other materials in the land; and in so doing, it will, having supplied only 300lbs. or 400lbs. of the elements of vegetation, take from the soil some tons. Its use, therefore, must, unless other sources of nutriment are supplied, cause disappointment, or a rapid exhaustion of the land, to its permanent injury. An application of 4 cwt. of guano, of which about 12 per cent. is water, is considered a full dressing for an acre of land; whilst a crop of corn takes away 4,000lbs. to 5,000lbs. of the same elements that constitute guano."

Mr. Davis imagines that the 4,000 or 5,000lbs. of corn derive their nutriment from the land. The fact is, that they derive rather more than nine-tenths of their weight from the air, and only from 7 to 9 per cent. from the soil.

Mr. D. again says—

"The rotation of cropping hitherto conceived to be the most enlightened and profitable is the four-course—of turnips, oats or barley, seeds and wheat. By beginning with a dressing, and by the consumption on the ground of the turnips, sufficient is considered to have been bestowed on the land to admit of two crops of corn and one of hay being taken without further manufacturing. That this should be successful practice, and without detriment when dung has been applied, is readily shown by the fact that that the dressing consists of from 15 to 25 tons per acre, whilst the crops when dried, take away only about five tons; and when the water from the dung has been removed, it is curious but true that the debtor and creditor account of the weight of matter applied and withdrawn may be said nearly to balance. Should the dressing