

the number of sheep kept per square mile in free trade England and the United States respectively: "Isn't there any body to tell the man who penned these phenomenally foolish lines that the English are a mutton-eating people, and that these sheep are bred for their *meat*, the wool being a by-product?" Dr. Hoskins is quite right in his exposition, and he is equally right when he says that "England, Scotland, and Wales have a vast area of mountains and downs where nothing else in the way of domestic animals can be profitably kept except sheep. 'The best market in the world for mutton, and lots of land good for nothing else,' is the open secret of the whole matter."

Well, it is so. Lots of mountains and sub-mountainous land fit for nothing else but sheep; still there is something more to be considered: even in the neighbourhood of London, on the Surrey downs, about Cudham, Addington, Keston, &c., there is land so poor by nature that it was almost unfarmable until the blessed gifts of providence, the turnips and sainfoin, made their appearance. Fire burned the rugged face of these hills; turnips grew and were fed off by sheep; oats, or sometimes barley, sown down with sainfoin, followed the turnips; and the sainfoin yielded good crops of hay, and the soundest of pasturage for weaning lambs, for from 6 to 10 years consecutively! But there were no sheep-killing dogs about; I never heard of but one loss of sheep on that account, and the traitorous brute, a Newfoundland, was shot the next day. As for not being able to put a stop to the ravages of these worse than wolves, I do not see why it should not be done in America as well as in Europe. Many a time have I seen what we call in England "self-hunting" dogs prowling about after rabbits and hares along the hedge-rows and plantations, but I never saw or heard of their interfering with sheep, and the reason is clear. The moment a puppy of any description whether he belongs to a gamekeeper or a farm-labourer, shows the least sign of being *interested* in a flock, he gets a good licking. Hounds are exercised, when young, in districts where sheep abound, and the thongs of the whippers-in have a marvellously deterrent power.

For my own part, I am so thoroughly convinced of the value of sheep to the Canadian as well as to the United-States' farmer, that, had I any influence, I would use it to the uttermost to put an end to the license with which sheep-killing dogs amuse themselves. Every dog not accompanied by his owner, or his owner's servant, should be at the mercy of the first man that sees him; and when sheep have been killed by dogs, and the owners of the murderers cannot be found, the county or parish should be compelled to pay the damage.

Green-manuring.—On page 60 of this number will be found the first part of a lecture on "the cheapest way to obtain Nitrogen and Phosphoric acid," with engravings explanatory of the text. What the plan may be worth practically I cannot say, but I think it will be interesting reading to most people. I shall reserve my observations on the matter until the whole is before the readers of the Journal.

Foot-and-mouth disease.—This scourge is, I regret to say, extending its march in Britain. Starting as it did in Smith-field Market, London, it has now been discovered in the Lothians, and goodness knows where it will stop. Mr. Chaplin and the Board of Agriculture are earnestly at work on measures to arrest its progress, and whenever it is found to be affecting a herd, the cattle composing the herd will be pitilessly slaughtered. (1)

(1) All importations of live stock from European countries are now barred. In fact, Canada alone has the right of free entrance for her cattle
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Incultivated land in England.—Some wiseacre has been stating that there are now 22,000,000 acres of land in Britain, that might be profitably cultivated, lying barren! This is of course, rubbish. Since the great fall in price of grain, some million acres or so of heavy land, that were broken up 'after the war,' have been laid down to grass, and there may be a few farms of poor clays that are seeking in vain for tenants; but, as a rule, land all over the island is in demand, in greater demand, in fact, than it has been for some years. Sheep are increasing; the excess of the number last year over the preceding year being three millions, and over the number in 1881 four millions! All other stock, horses, cattle, &c., are more numerous, except pigs, by the bye, which have slightly fallen off.

Nitrate of soda.—Dr. Hoskins, in the *Vermont Watchman*, speaks in high terms of this manure. I am glad to see this, for I have derived so much benefit from its use that it has really worried me to see it neglected, as it usually is in this country. On decently farmed land, taking the average of seasons, I am sure that 150 lbs. of nitrate of soda scattered on an acre of wheat, oats or barley, will pay. It should be sown in moist weather, and is all the more efficacious if applied at twice, an interval of ten days or so elapsing between the sowings. But the season must regulate this. If the first sowing, which must not be made before the blade is well developed, cannot be done by the 10th May, it would put off the second sowing of the nitrate too late, for by the 24th May, the weather is generally dry and hot. So, upon the whole, I fancy it would be wiser in this climate to sow the whole 150 lbs. at once. The quantity of nitrate of soda should, if the stuff is pure, contain about 23 lbs. of nitrogen. It should be finely powdered and sifted, to enable such a small quantity to spread equally over an acre of land. In England, where salt is very cheap, I used always to mix a couple of owt. of that material with 100 lbs. of nitrate of soda. This I did with a view to preventing too great a growth of straw: I cannot say whether it had that effect or not, but it might be tried here,—at all events, it could do no harm.

Dr. Hoskins' failure with potash for potatoes does not surprise me. I have used, experimentally, potash in various forms for all sorts of crops, and I never found it of the slightest use, except for clovers, &c. Of course I have heard of successful applications of it to potatoes, but I never met with any that would stand investigation. Where, as often happens in England, wood-ashes are largely used for turnips, I should be inclined to attribute their effects to the phosphoric acid they contain rather than to the potash.

"In another experiment we satisfied ourself that 150 pounds of nitrate of soda to the acre on wheat will also pay a good profit. We sowed it in strips across the field on wheat, oats and barley, and it very nearly doubled the crop in each case. An experiment with the German sulphate of potash on potatoes resulted queerly. We sowed a strip about twenty feet wide across the field. The tops grew about the same as the rest of the field as to size, but were two or three shades lighter in color—a real yellow-green tint. There was no perceptible gain in the crop. Other experiments make us doubt if potash is needed on our land—yet it is one of the longest cultivated farms in town. It has not been very highly farmed, but has, we believe, been run most of the time as a butter farm—very little else sold off but butter, and some stock.

We are more and more inclined to think that a large number of Vermont farms, on which the soil is lightish, need *nitrates* more than anything else to make them productive. The loss of nitrates in the urine wasted in our stables for so many years is telling upon much New England farm land,