

food, can be sown earlier, not being subject to insect depredation. Experiments have been made of late in Ireland of substituting the mangel for part of the daily allowance of oats to working horses, and a calculation made, that by consuming in this way the mangel produced by half a rod of land, a quantity of oats will be saved, which it would require two acres to produce. This crop should be harvested early. I found them more tender than the Swede, the yellow globe more than the red. In packing them care must be exercised to inflict upon them as little injury as possible.

The parsnip is even more productive than the carrot. In the south of England and in the channel islands, it is much cultivated. In a trial of the Altringham carrot and of parsnip, in Jersey, in 1831, the same quantity of land which produced 261 lbs. of carrots, produced 540 lbs. of parsnips. The Alderney cows are fed on these roots. Their milk is surpassingly rich, and yields more butter, in proportion to quantity, than that of any other kind of cows. Colonel Le Couteur, an experienced agriculturalist, states that out of three crops of parsnips, in the island of Jersey, in competition for a premium, the prize crop amounted to 27 ton 8 cwt per acre—a quantity nearly sufficient for 10 cows during the six winter months. The methods of culture practised in the Channel Islands, in both broadcast and drill, deep trench, —tillage is adopted, from 1 foot to 18 inches deep. In the spring of 1854, also in the spring of 1855, I partook of the parsnip root which had been all winter in the ground. They were free from decay and of excellent flavour. That the cultivation of roots has proved itself of extraordinary service to the farmers of Britain is evident to every intelligent mind. It has enabled them to provide a supply of food for their stock and maintain them in good condition during—even in that country—the trying season before the commencement of the spring feeding. To maintain the fertility of their land, they produce more wheat and keep more stock per acre than in France. I am well aware that in this climate we cannot carry the culture of roots to the same extent as is followed in Britain; but when we look to the amount of nutritive matter obtained from an acre of roots, and that by their culture they are the procurers of other future good crops, I am impressed with the opinion that every farmer should cultivate, in certain proportions, the mangel wurzel, the carrot, Swedish turnip and some variety of the white. By commencing in May with the mangel and carrot, in June with the Swede, and even as late as July with the white turnip, he will be able, to some extent, to avoid these difficulties which we have to encounter in this with regard to labor, and attend to each crop in its several stages of growth, feeding out these different roots in their several seasons, and by it turn the earth to the uses for which it is intended, and avoid those evils which the wretched system of a continual growing of wheat is certain to insure, which has reduced the average yield in parts of the neighboring State of New York to 10 bushels per acre, and taking the whole State, the average to under 15 bushels; and even in the State of Ohio, it is said, will soon have to become an importer of food. In Scotland, where turnip husbandry is so much considered, the average yield of wheat in the 82 counties is over 28 bushels per acre, and this includes the northern counties and the Orkney Isles. I allude more particularly to Scotland, as that country, through the Highland Society affords agriculturists a large and valuable amount of useful information.

The question can you grow roots in this country, can you harvest them and store them, I shall not discuss. I am fully impressed with the opinion that we can do so, and that turnip husbandry is the sheet anchor or *sine qua non* of the modern alternate or convertible husbandry, that the operations of a farm cannot be conducted with profit without it, for the production of one description of food produces another. Vegetables are converted into mutton or beef to be again returned to the land in the shape of manure. Production and reproduction thus follow each other, all productive farms made to produce waving fields of grain, the cultivated

pastures to take place of those which possess no natural and render no return. This is the reason that turnip husbandry has wrought in Britain, where great masses of sheep graze improved breeds of cattle are spread over the country and whose farmers make yearly profits exceeding the rent rolls of some of the petty Princes of Europe.

In Ireland the increase is most striking with respect to root crops. No longer ago than 1847, the proportion was an acre of green crops to every four acres of corn and wheat. There is now, in 1856, an acre of green crops in every two acres of wheat. The value of live stock in 1841, was computed to be £11,330,000. In 1855, it was computed at £14,505,000, thus it is where turnip husbandry exists and the culture of roots is considered, the toil of the husbandman receives a return. Where the culture of roots is neglected we descend to 10 bushels per acre of wheat, and the toil of the husbandman receives no return.

A discussion of some length then took place upon the paper.

ON SALTING MEAT.

When we undertake the salting of meat we perform as truly a chemical process as any chemist in his laboratory. It may be asked, "how does salting meat preserve it from decomposition?" In this manner: Salting is an imperfect method of drying, and the preserving meat by salting is based upon the fact that dry meat is moistened very imperfectly and with great difficulty by salt water although clear water moistens it rapidly. Salt, therefore, prevents the meat from putrefying, by withdrawing from it a large portion of water—of which it contains of parts in every 100—and some other soluble matters, which are active and necessary agents of decomposition. Water having a greater tendency to unite with salt than meat, leaves the one and with the other forms a brine, as every person knows who has ever laid down meat with dry salt. In some cases sufficient water is extracted from the meat to cover the whole with a brine. The amount of water remaining in the meat is not sufficient to cause tainting. But the water is not the only element extracted from the meat. Other soluble ingredients of the juice are removed at the same time, so that the brine really contains potash, phosphoric acid, lactic acid, creatin, and also a considerable quantity of Albumen. It appears then that much of the nutritive value of meat is lost by salting—the brine containing all the ingredients of a rich nourishing soup. In fact the brine is richer in nutritive matter than the liquor after boiling—or in other words, salt extracts the nutritive properties of meat to a far greater extent than boiling. There is very little nourishment in salted meat.

It is the practice with some to put the brine on scalding hot, and there is sound philosophy in the practice. Boiling water coagulates the albumen and renders it almost entirely insoluble. It is supposed that sugar and saltpetre have the same effect in preserving the nutritious properties of meat, though the peculiar mode of their action is not correctly known, the sugar, it appears, however, becomes lactic acid, and the saltpetre becomes decomposed, the nitric acid, uniting with some other base prevents its loss among the brine. It is well known that in salt, containing lime and magnesia, the latter precipitated by the phosphoric acid of the meat juices upon the surface of the meat, giving it a slippery coating. It is a good practice to use the same brine year after year. If boiled and skimmed, and being now full of the nourishing matters of the old meat, it is less likely to absorb these from the new, while the salt acts as effectively as ever. A pound of black pepper to every hundred pounds of meat assists to preserve the latter and adds much to flavour. We can recommend this from our own experience for several years past. It should be sprinkled on as the layers are put in.

VALUE OF BLOOD TROTTERS.

MR. EDITOR.—Our Agricultural Associations seem more to have neglected that

class of horses known as trotting horses, than any other description of animal. Sheep, hogs, sometimes even Maltese goats, and always Shanghai chickens, have had premiums offered for which they could compete; but, except, perhaps at Louisville, there has been no place prepared for the exhibition of the fast harness horse, and no premiums offered for excellence in that gait most suitable for the road. Is not Kentucky interested in breeding the best trotters, as she is in producing the best racers? Might the one be made as great a source of profit to the State, as the other has so long been? Notwithstanding the entire absence of public encouragement, we have already produced a few animals equal to any in the Union; O'Blennis, Prince, Jim Porter, and Native American can be fairly compared with any of the Eastern trotters, and the price at which they have been sold, and are held offer great inducements to the breeder of horses. It is fair to presume, that with proper attention and encouragement, our State would soon take that rank with trotting horses that she already has with racers, that is, the first in the Union.

Four years ago, there was but one horse pretending to be essentially a trotter, standing in Kentucky—Pilot, Jr. He was, and is a good horse, rather under size, but had shown about 2.45 in public; his get, as a general thing, are good movers. In 1854 Membrino Chief was brought from New York, at a large price; such had begun to be the taste for fast-going, that he was not suffered to rest upon the reputation of fast private time at the North, but was immediately challenged by Pilot, Jr., to show what was in him. The race never came off, Pilot having gone amiss and paid forfeit, but the Chief showed for public amusement a 2.38 gait, every one seeing that he could have gone faster. His colts also are very promising.

Such was the public estimation in which those two Stallions were held, and such the taste for trotting horses, that almost every Stallion in the country at once began to set up trotting pretensions. Several horses have also been brought from the North, among which Edwin Forrest and Vermont Black-Hawk, perhaps, stand as high as any others: both are fine trotting horses, but whether either of them is entitled to be considered a trotter or not, the public of Kentucky does not know. Indeed the two stallions, Pilot, Jr., and Membrino Chief, are about the only ones which have shown under three minutes here, and three minutes is no gait for a crack trotter.

Even with us, at home, trotting horses are getting very valuable, (Native American sold for \$4000, and \$1,800 was refused for Jim Porter, both geldings,) and the taste for them is increasing. In view of this, would it not be well for the directors of our Fair, to take into consideration the propriety of giving handsome prizes to the best and fastest trotting stallions, so that those assuming to have trotters, may exhibit their speed, and the breeding public be enlightened by something better than letters from Tom, Dick, and Harry, or fine show made in a half-acre lot? Such exhibitions of trotting speed attracted greater crowds, and gave more satisfaction at the National Fairs, at Boston and Philadelphia, and at the great Fair at St. Louis, than of any other sort of stock. We ought not to be behind them.

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