

boiled in the bottom to let off the brine. Let them remain five or six weeks; then take them out, brush off the salt, rub each well with hickory ashes, and hang each piece in the smoke house.

The celebrated pickle called the *Empress of Russia's Brine*, and much used in Europe for curing hams.—Six pounds of common salt, two pounds of powdered loaf sugar, three ounces of saltpetre, and three gallons of spring water, are boiled together, skimmed, and when quite cold, poured over the meat, every part of which must be kept constantly covered. In this pickle hams of medium size are cured for smoking in two weeks.

A process which gives good hams, and is called the *Jersey mode* of curing, is as follows:—To every 80 lbs. of ham, take 4 ounces of sugar, 3 ounces of saltpetre, and 1 pint of fine salt. Powder and mix them finely. Rub the hams well with this mixture, and lay them on planks for two days. Then pack them in casks, adding 2 quarts of salt to every 80 lbs. of ham. In fifteen days they may be taken to the smoke house.

Much of the goodness of a ham is depending on the manner in which it is smoked or dried. If the process is carried forward too rapidly, if the meat is not at a sufficient distance from the fire; if from any cause, such as want of ventilation, dampness of smoke house, &c. the meat is kept moist on the surface, and in a wet or dripping state, it is idle to expect good or fine flavored hams. In Virginia, the best hams are not considered thoroughly smoked in less time than two months, not keeping a smoke under them day and night for this time, but making a good smoke under them every morning, or daily. In this way they are cured by the smoke gradually and thoroughly. Indeed the great art in smoking seems to consist in drying the meat by the smoke and not by heat. Hams may be smoked in a much less time than this, but they will not be of as fine a quality, nor will they keep as well. Nothing but materials that will produce smoke free from all unpleasant odors, should be used for smoking hams. Hickory or maple, are first rate; oak or ash will do very well; and the oaks of sound, well cured Indian corn make a good penetrating smoke. Hams are frequently injured by being exposed to too much heat in the process of smoking. To avoid this, at Hamburg, the smoking establishments for both hams and beef, are in the upper stories of three or four story buildings, and the fire for producing the smoke is in the basement part of the building. The smoke is conducted in tubes, and every precaution is used that the smoke shall be thoroughly cooled in its passage. In hanging up hams for smoking, care must be taken that they do not touch each other, and they should invariably be suspended, so that the small part of the ham shall be down; as this will prevent the escape of the juices by dripping.

Various methods have been recommended for the preservation of hams, such as packing them in hay, cut straw, the tow of flax, ashes, fine charcoal, and many other ways. The great object is to keep them cool and dry, and away from flies. Tow will effectually exclude flies; charcoal assists greatly in preserving them sweet; and ashes secure their dryness; but all these plans are open to the objection of making the ham dirty, or leaving it liable to mould. The best method, in all respects, we have known, is to place each ham in a bag of cotton cloth, closely tied up and hung up in a close and dark smoke house. Flies will not infest any place from which light is wholly excluded, and if a smoke is made under them once a week, it will greatly aid their preservation. As a security against flies, some of the establishments that produce hams of fine quality, are in the habit, while the process of smoking is going on, of throwing a few red peppers upon the fire once or twice a week; and a few burnt occasionally in the smoke house, while the hams remain in it, will kill, it is said, all flies that may have found their way into it.

FALLING OFF OF CLOVER CROPS.

For a long period after the introduction of the artificial grasses into Scotland, excessive crops of clover and rye-grass were reaped from those fields which bore the appellation of croft-lands, and which were uniformly in a very inferior condition. At that period, 300 stones of hay per acre were considered no extraordinary crop, and even 400 stones have been taken from an acre. Neither potatoes nor turnips were in cultivation at that period; the grass seeds were generally sown with the wheat or barley crop, mostly with barley, after peas, the turnure being always applied to the wheat or barley. After the introduction of potatoes and turnips, however, a revolution in the system of Farming immediately com-

menced, and in all light soils these crops were generally substituted for peas, as a preparatory cleaning crop, after which the grass seeds were sown with the following crop of grain. In a few succeeding courses of rotations after this system had commenced, we find complaints made of a falling off in the clover crops; and down to the present day, under certain modes of management, the complaint has been increasing, that the clover, when often repeated on any soil, degenerates and diminishes in its produce. Many farms, indeed, where 300 stones were no uncommon crop formerly, do not now yield, even in the most favourable season, above from 100 to 150 stones, and in bad seasons 60 stones per acre is all that they can produce.

At this calculation, on a farm where only 20 acres of clover and rye-grass are cultivated, the falling off of say 200 stones of hay per acre, will amount to the large deficiency of 4000 stones in the year, which, at only six pence per stone, amounts to £100! This deficiency is a strong inducement for both landlord and tenant to make every exertion to remedy the evil, not only as regards the loss of this large sum, but to prevent that consequent deterioration which the soil must unavoidably experience from the falling off in a crop which is ever found to enrich instead of exhausting the soil. In Sir John Sinclair's Husbandry of Scotland, the estimate of the hay now produced on some of the best farms of East Lothian, is 200 stones per acre; and it is gratifying that industry and the method of cropping, as connected with the nature of these soils, have been able to continue this average produce, although in these fine soils and climate the clover crop in hay could not be less than 300 or 400 stones per acre when first introduced. In most of the turnip soils in Scotland, where the four shift rotation is persisted in, without pasturage, a general complaint is made of their fertility decreasing, and by some individuals it is affirmed, that in the production of clover and the other green and grain crops, the soil is becoming comparatively barren. Others, again, from a more philosophical and discriminating mode of practice, have been fortunate in discovering both positive and partial remedies for the evil.

As all the other experiments had nearly a corresponding result, we need not detail them. But we shall endeavour to illustrate this interesting and curious question, from the effects of tillage and cropping on old rich grass lands, possessing, it may be said, a purely virgin soil. The excellence of the various crops in the first rotation must strike the most common observer. The second rotation will be little inferior; but the third will show symptoms of falling off; in the fourth rotation this will be still more evident; and the fifth will bring the land to the torpid state we are now treating of. Its produce of clover and rye-grass, in the first and second rotations, would in all probability have amounted to at least three hundred stones of hay per acre, according to the nature of the season; and in the fifth rotation, the weight of the hay would be down to the very deficient crop usually complained of. These are facts which require no proof, although this might be easily found. But to rectify this complaint, were the land laid down to pasture in the fifth rotation, and continued in it for a period of not less than four years, nearly the same rate of fertility would again be the result. We shall only cite one incontrovertible instance of the regenerating influence of pasturage upon old worn-out tillage-soils, on the farm of Saughton, three miles from Edinburgh. The system of farming upon it was of the most liberal description, and for a number of years Mr. Dods, the tenant, found the happiest results from his liberality. His farm being conducted in the four-shift rotation, at last gave way, and in spite of the most liberal manuring, became more and more unproductive. Attached to a system which had made his fortune, he thought of no change to cure the evil; and at the end of his tack, against the wish of the proprietor, he gave up his farm in disgust. Mr. Binnie, an opulent grazier, got the farm on lease, and with all expedition laid it down to pasturage. Nothing could exceed the produce of grass; and when again broken up for tillage, all the fertility which his predecessor had experienced, was fully realised.

Alternate pasturage, indeed, upon all these worn-out soils, is a valuable remedy for curing the evil. Sir John Sinclair says, "he considers the want of pasturage as the point on which the great bulk of Scotch farmers are defective; and from the advantage he has seen derived from pasturing tillage-land, he is decidedly of opinion, that if a full third of the county of East Lothian were kept in pasturage, as much grain would be raised as at present, with the advantage of all the additional stock that could be maintained upon such an extended pasturage. He desires it to be understood, how-