tions of the food. It must ever be borne in mind that it is not the quantity of food put into the stomach of the animal which accomplished the object in view, but that which is thoroughly digested and assimilated by the healthy action of the viscera. When animals are in a state of rest, and consuming food so mixed. I have observed that, with water constantly before them they take very little, unless the more nutritious food superadded be of a heating nature, such as pea or bean meal in too large a portion; the safest course is to combine crushed linseed with those articles. Such considerations led me to doubt the expediency of making the chief food of fattening animals that, nine-tenths of which consists of water, and more especially unmixed with more solid food. The setting before a bullock half a cwt. of neat roots the first thing in the morning, some hours afterwards their allowance of more solid and nuturions food, and repeating the feed of roots in the evening, appeared to be an irrational proceeding; and, on the other hand. that a due admixture of the solid and fluid foods would probably aid the proper digestion of each. I resolved therefore to diminish the quantity of roots which I had generally heard recommended to one half—viz., from 70lbs. to 80lbs. per diem, according to the size of the animal. and to give a portion of these with each feed. as intimately incorporated as might be practicable with the more solid food. With this view I obtained Moody's Cutter, now sold by Carson of Warminister, which cuts the roots into thin ribbands; these we turn over amongst the chaff, so that the animals cannot avoid eating them together.

I have for some time directed the attention of some of the agricultural implement makers to the want of a pulping-machine, in order to effect a still more intimate incorporation of the dried food with the roots for which a prize has lately been offered by the Royal Agricultural Society. Such an article was produced at Lincolin, by Mr. Phillips. of Downham. This is an effective machine, at 11 guineas. It cannot probably be rendered. as at present constructed, at a less cost; but while the cost of Moody's Cutter is only £4 10s, a machine for pulping must be produced at much less cost than 11 guineas before it will get into the farmers hands.

I observe that the animals, under the change to which I have adverted throve faster, and were kept equally clean with one-third less litter, by weight than we had found necessary on the former mode of feeding.

In the month of August, 1853. our swedes and mangold were struck with some kind of blight, or other not very well defined malady, which nearly stopped their gallant growth, and we were reduced to the alternative of selling some of the stock, or putting the whole on short allowance of roots, and we adopted the latter. We limited the bullocks to 50lbs. weight, and the sheep to 10lbs. per head per diem. We had plenty of good barley straw, but the hay was very indifferent, having been exposed for several weeks to rain, and put up at last in questionable condition.

I purchased seventeen bullocks at the October Hertford fair. For the first four weeks they had little else than the barley straw and bad hay cut into chaff, with their 50lbs. of roots. From that time till they were sold they had 6lbs. of linseed and rapecake mixed in equal proportions and boiled, and the soup poured over the chaff, which was completely absorbed. This destroyed the fungus or mould which had accumulated on the damp hay, and render it perfectly sweet, but of course could not restore the *nutriment washed out by rain.* The linseed and rapecake together averaged £8 per ton; the cost of this, therefore. was 2s. 7½d. per head per week. The attendance I put at 6d. per head per week[a man and a boy, at 18s. managed in all respects 24 bullocks, 24 fatting hogs, and the store pigs]; the chaff, 2s. 4d. per head per week; the roots [estimated at 10s. per ton] 1s. 8d. Say, for the first four weeks the cost was 5s. per head per week; and for the next thirteen weeks 6s. 10., when the animals were sold. The account stands thus:—

17 bullocks, prime cost			£282	17	6
Feeding 4 weeks, at 5s.	£17	0	0		
" 13 " at 6s. 10d.	76	1	0		
			93	1	0
			£379	18	6

The were sold for £386 10.

The credit balance of £6 11s. 6d. would be absorbed by the engine-power in cutting the chaff; and the manure represents the straw cut for litter.

The result, I think, shows that bullocks may be fatted, in a reasonable time, at a less cost. and with a much less quantity of roots than are usually given. by the mode of feeding adopted, without actual loss I may observe, too, in reference to this particular case, that, though beef during the year 1853 bore a good price, lean stock commanded a much higher proportional price in the market.

Cirencester. August 9, 1854.

ON THE CULTIVATION OF FLAX & HEMP.

Flax may be considered as a staple commodity in Flanders; it employs a great portion of the population, is exported in large quantities, and the cultivation and preparing of it is most perfectly understood there. It may be raised in various soils, but its quality depends much on the land chosen *for its cultivation, and on the tillage and manuring.* Its roots sink deep where it has room, and it is generally said, that the roots of good flax should strike into the soil to a depth equal to half the length, at least, of the stem above the ground. The soil most proper for this plant, if there is a choice, is a deep, rich, friable loam,neither too dry in summer nor wet in winter—in short, the best and deepest soil that can be found; but, as this is scarcely ever to be obtained to any great extent, art and labour must supply the deficiency of nature; and trenching, working, and manuring must create a deep soil, and enrich it. A porous sub-soil, or one that is well drained, is essential. In a course or rotation, in which flax enters as a principal crop, the whole management of the land should have a reference to the flax to be raised. In the three tables of rotations which we have given on the authority of Mr. Van Aelbrock, it may be observed, that each begins with flax and ends with flax; and there is no doubt that the arrangement of the crops is much influenced by the preparation of the soil required to