mals are half or three parts fat, a condition to which they can attain on good pasture. Of course, however, the remarks under this head apply to the method of soiling already mentioned, as well as to the winter feeding, which forms so important a part of the farmers' cares in this country. "Of all vegetable productions, *good hay* is undoubtedly the best for fattening cattle; in ordinary circumstances, however, it is necessary to have recourse to other things in combination with it, as cabbages, carrots, turnips, beets and other succulent plants. Barley, rye, oat or pea meal, if mixed together, with the occasional addition of a small quantity of bean meal, may likewise be given to advantage, in the proportion of a quarter, or at most half a peck to each beast, along with hay. Of hay it may be observed, that that which is salted, even if of somewhat inferior quality, is preferable to that which is unsalted." The comparative value of the different roots, &c., will be mentioned under another head.

Various kinds of *prepared food* are in use for cattle, the principal of which are the following:—

Flax seed when crushed and boiled to a jelly. There is probably nothing equal to this for rapidly fattening cattle.

Three parts bean; pea, oat or barley meal, with one part of linseed meal made into a jelly, form an excellent food.

Turnips, carrots, mangel-wurtzel, cabbage, &c., when boiled and mixed with flax-seed meal, form another useful variety.

3½ gallons water
2 lbs. linseed meal.
5 lbs. barley meal.
10 lbs. chaff.

(From the New England Farmer for November.)

We think it is not well to allow the cattle to roam over the fields after this time, browsing the trees, and shivering with the cold, even if there is no snow on the ground. They may, it is true, pick up a part of their living, but they waste their manure, and get roaming habits. They had better be kept in the barn and yard, and fed from the ample store which has been provided for them. Take good care of them in the early part of the season, and get them accustomed to quiet habits, and they will not fret off the flesh which they have accumulated in the pasture. Give them plenty of salt, a mess of root daily, and a foddering of corn stalks, or husks. A variety of food is agreeable to them, and promotes their appetite.

Cattle that are being stall-fed require particular attention. Do not surfeit them with too large quantities of food. Give them no more at one time than they will eat up clean. Pumkins and apples, with shorts and meal, make a good variety of food. Use up the perishable articles first. If your hay is not of the best quality, be sure and cut it and moisten it, and mix the meal and shorts with it. Give them plenty of good bedding and keeping them clean.

HINTS ON KEEPING SHEEP.

It has been stated in some of the agricultural papers of the day, that sheep are profitable to the farmer, not only from the product of wool and mutton, but from the tendency which their keeping has to improve and enrich his land for all agricultural purposes.

Sheep are profitable to the farmer who has a broken or uneven farm, and his pastures have been suffered to grow up to bushes, or where the soil has become exhausted by excessive feeding, and will produce more of the grasses, excepting what the New England Farmers term June grass or white top. Land that has been thus reduced will keep sheep better than any other kind of stock; but to think of eradicating the husks, and thereby give the pasture a smooth appearance, and have white clover flourish in the place of June grass, is a supposition not generally acknowledged by the community, where experience has proved to be the better teacher in regard to what kind of stock will best improve our land.

For instance, where a pasture is in good condition and produces clover, timothy and red-top, let it be stocked with sheep, and in most of our hill towns in Cheshire county, or even in the State, in fifteen or twenty years, timothy or clover will be nearly or quite eradicated, excepting where the sheep may chance to lay, which is generally on the brow. In those localities white clover may flourish to some extent, but it will be refused by the animals; therefore, it will be of no practical utility to the pasture unless a portable fence is substituted, and that would not pay in so rough a country.

It has been supposed by some that as many cattle and horses can be kept with a certain portion of sheep as without them, and without any injury to the farm for other purposes. One writer states that a proportion of six sheep to a horse and cow on the same keeping; that would be allowing about one-fifth for rubbish for the sheep, on which to feed; consequently, the quality of hay must be an inferior kind.

Sheep kept on rubbish left by other animals, may survive but cannot flourish in the winter season, without extra feed. In grazing time, sheep don't stop to crop the rubbish until they have exhausted their curiosity in search of clover or some of the best grasses, and in a pasture that will keep six sheep, one horse and one cow, the sheep, I venture to say, will consume one-half of the clover in an ordinary pasture. Consequently, instead of eating the poorest, they will consume the very best of the feed.

The farmer is more subject to loss on sheep than on neat stock, very few wool growers, who keep from one to two hundred sheep, but will realize a loss annually of ten per cent. Although constant care and attention to their wants are carefully looked after, yet disease overtakes numbers of the flock; while they are treated with the utmost vigilance as rare animals it would do very well; but this is practical only with a very limited stock.

Let the principle be observed, for experience has shown that between sheep well and tolerably fed, there is a difference of one-third, in regard to the quantity of wool obtained. And then again, it is only by such abundant food that the smallest amount of mortality as well as the largest increase, and that development of their animal organism which gives the sheep in all periods of its age the highest capacities of breeding and fattening, can be secured.

J. Whitney.

East Sullivan, N. H.

MANGOLD WURTZELS.

Mr Editor:—For some time past, I have been desirous of placing before the readers of the *New England Farmer* a statement concerning the raising a mangold wurtzels. Every farmer is interested in the production of all articles by which he can the better improve the condition of his stock, and if by the production of these vegetables he can do that, he will give his attention to it.

For the past two years I have raised mangold wurtzels, for the purpose of trying the experiment, and of satisfying myself as to the profitableness of the production. This year I planted a small piece, 4 rods by 5, containing one-eighth of an acre of land. I plowed the land last fall and put on a good coat of manure. This spring I cross-plowed and harrowed it. I planted the seeds in hills one and a half feet apart. Many of the seeds, owing to the wetness of the spring, or from some other cause, rotted, and did not germinate, and plants from other hills were transplanted to supply the deficiency. The weeds were kept down by hoeing two or three times during the summer. This fall I gathered 160 bushels from the piece of ground. Many of them were very large, weighing from 12 to 15 pounds; and one measured 29 inches in circumference, and weighed 16½ pounds. Many of them measured 25 inches in circumference. At this rate 1280 bushels can be raised from the acre, or allowing only 1000 bushels to the acre, which I consider a moderate crop, for land under good cultivation, can farmers raise anything which will be more profitable? I planted these roots on moist land, and am satisfied that I cannot raise anything so profitable for stock from the same piece of land. I hope the farmers in this vicinity will consider this subject, and try the experiment, to satisfy themselves of the expediency of raising these roots for their stock.

If none of the seeds had rotted, I am satisfied that the crop would have been larger, for none of those which were transplanted grew as large as those which remained in the original hill.

Epping, N. H., Oct. 9th, 1858. B. F. P.

HOW TO MANURE TREES IN GRASS LAND.

Very few persons manure trees growing in sod or grass land in a judicious or economical manner. The general practice is to dig the manure in, within a diameter of six feet, having the body for the centre. The tree takes its food from the young rootlets, whose mouths extend just as far on every side, as the branches of the trees; hence, this manure applied close to the body of the tree, is not where the roots take it up; and, of course, but little of its value is absorbed by the tree. If you doubt it, just try the experiment on two trees. Serve the one as above named, and the other, as follows, viz:—Mark a circle around the tree, having for its outline the exact radius formed by the overhanging branches, dig on the inner side of this circle a trench two feet wide, and one foot deep; mix well-rotted manure half and half with the best of the soil, or the earth dug out of the trench, and fill the trench with it; then replace the turf, and wheel away the refuse, or extra earth, rake clean and smooth, you will have a good growth of tree, your fruit large and more fair, and no unsightly or unnatural hillock or mound around the body of the tree.

BUTTER MAKING.

"*Can we make more Butter by churning all the Milk than the Cream only?*"

Most assuredly we can. Almost every one who has had experience