

It will appear from these statements, that as a general average rule a cube of eight feet will make a ton of timothy, and we should allow about a quarter more for clover. If there is a considerable mixture of clover, as there frequently is, the proper allowance must be made for it, and it will require the exercise of some judgment and skill to get at it. So if the hay is very fine and unusually solid, it will require a less number of feet to the ton.

Now to make a calculation as to how many head of cattle it will do to attempt to winter, farmers call it in the rough about two tons to a cow, and making allowance, of course, for other stock according to the age and size, and for other feeding substances, like roots, etc. As a general rule it is well to stock pretty well up to your capacity, and if likely to come a little short, buy grain.

Oxen vs. Horses for Farm Work.

I have used both horses and oxen on a farm, and so far as economy is concerned, my preference is decidedly in favour of the latter. Of course, one or two horses are indispensable for riding and light work, where speed more than draft is required. But in heavy work, such as plowing, hauling, etc., oxen are certainly ahead of horses in point of economy.

Suppose we take a glance at the comparative cost of oxen and horses. As a general thing, a yoke of cattle can be had for about the same money as a good farm horse. To farm right a man must have at least two horses; than there is the rigging necessary, which will cost some fifteen or twenty dollars more than the ox rig, which will make the difference of the price of one horse and nearly the price of the rigging in getting ready to hitch to the plow or waggon.

With the price of the second horse, another yoke can be bought, and then the farmer has a double team which he can do anything with. Is a tough sod to be plowed, he can roll it over easier, quicker and better than he can with two horses. If heavy hauling is to be done, the two yoke are equal all the time to four horses, except to go a great distance. I have said an extra horse is necessary, but no more so with two yoke of cattle than with two horses instead, as there is always need of an extra horse.

But the grand point in economy is the expense of keeping. Horses require three or four times more attention than oxen. They must have plenty of green feed, beside stabling, currying, etc. Now, oxen want none of these attentions, but in summer time they will do good service on pasture alone, and in winter they will thrive around a good wheat stack. When you wish to hitch up, with oxen it is short work, for the simplicity of an ox rig contrasts wonderfully with the multiplicity of straps, buckles, chains, etc., for the purpose of harnessing up a span of horses. As for driving cattle, it seems like a mean, provoking business. I once thought I never could have the patience, but now I prefer driving oxen to any kind of hauling on the farm. Oxen, when correctly trained, are more obedient to the word than horses, and it is only when cruelly beaten that they are stubborn.

Then why are not oxen more generally used, if they are so much superior to horses? I suppose it is because people are governed in that particular as with almost everything else in the world, by appearance. It looks like slow work, tedious and troublesome, besides, to plow and haul with cattle. But let the man who has tried both, sum up at the end of the year, and he will find that oxen are actually the fastest after all. I

admit, however, it is a little more gratifying to a taste for the fine and graceful to follow a plow drawn by a nice pair of horses. But when I consider the cost, this is a pleasure I must forego, as it is paying too dear for the whistle. Not that I don't appreciate a fine horse, for I do; but I don't want the life and spirit worked out of him by making him do ox service. Then when I hitch him to the buggy or carriage he will contribute, by his life and activity, to my pleasure—and vanity, if you please.

When a horse gets old and worn out, he is fit only to be "traded off," or if not traded off, he is a pensioner at the barn door of the kind-hearted farmer, and finally a feast for the buzzards. But an ox, when he gets old, is put up and stall fed, making first-rate beef quite a difference in the end.—*Cor. Ohio Farmer.*

When to Transplant Trees.

If we may judge by the number of inquiries received at this office, the interest in fruit-culture has never been more active than at the present time. Many persons are asking whether it is better to transplant in fall or wait till spring. This question has always been and seems likely to continue an unsettled one, even among the most intelligent and experienced men. With large fruits, including pears, apples and peaches, much more depends upon the condition and preparation of the ground than upon the season at which the transplanting takes place. At different times, and under different treatment, we have instituted experiments, the results of which we hoped might serve as a guide, but as yet nothing definite on this point has been determined. On four or five occasions, in putting out lots of 200 to 500 pear trees, half would be planted in the fall and the other half in the spring. Twice there was a very noticeable difference in the growth of the trees for a year or two, but invariably this difference would disappear, so that at the end of five years one could not positively distinguish between them. With tall and weak trees there is serious objection to fall planting. The winter and early spring winds will, unless the trees are staked, sway them backward and forward to such an extent as to seriously disturb and displace the roots. This is especially true of cherry and spinning apple trees. When this evil is guarded against, then fall has some decided advantages over spring planting. For instance, in the fall there is less pressing work to be done, and therefore more time can be given in the transplanting to details that are important to the welfare of the trees. Again, the ground is usually during autumn in better order for a longer period, so that there is no necessity of hurrying forward the work, as is frequently the case in the spring. For this reason we have on different occasions recommended fall planting of apples, pears, peaches and grapes, nor do we see any good reason to change opinion in this respect. There is no doubt, however, that, all things being equal, the spring is decidedly the best season in which to do the work. But the frost may remain in the ground till the middle of April. Following this may be a spell of wet weather, keeping the soil heavy and cold, and unfit to plant trees in, and thus the time be so shortened that the job if done at all has to be done in a hurry, in which event many important minor matters are likely to be neglected. Better wait a whole year than run the risk of planting the trees in wet ground under any circumstances.

Before planting see to it that the ground is in good order, thoroughly pulverized by plowing, cross-plowing, and subsoiling, until every

part of it, to a depth of 18 inches, is well disturbed. For fruit trees, ground should be in good heart, but it is a great mistake to suppose that they need to be planted in rich garden soil. Ground that will give 150 to 200 bushels of potatoes to the acre is strong enough for them or for grapevines. Well-rotted yard manure applied a year or two in advance will best bring the soil up to the standard of quality. At the time of setting, some finely-ground bone or super-phosphate of lime to sprinkle around the roots will be of service. As to the season, however, we repeat that with a good soil in good order, properly mellowed, it will be safe to transplant apples, pears, peaches or grapes, either in spring or fall.—*New York Tribune.*

Potatoes on Fall Plowing.

Whatever will in these days of degenerate potatoes—from disease, potato beetles, and other causes—promote growth early in the season, is of value to the farmer. One of the most important of these on clays and loams is fall plowing. These are well known to be the proper soils for the crop, except among market gardeners, where quality is sacrificed to earliness; with such, sandy land highly manured is the best. We have never failed in getting a crop, planted as soon in the spring as the soil was in condition and to hasten this we have planted in well drained soil, plowed deeply in the fall, leaving the surface as rough as possible.

As soon in the spring as the soil is friable, furrow your land. If manure is used place it over the tubers or eyes, when planted, and cover with not less than four inches of earth. Covered thus, with manure, the potatoes will not appear above ground so early as if planted on the manure; but they will appear in due time, and before the crop is ripe will have caught up; and if early sorts are planted, as Early Rose, Early York, &c., the crop will ripen before the season is far enough advanced to generate the condition inducing rot. Of course if the beetle makes its appearance it must be attended to; but these pests are seldom so destructive with early as with late plantings.

A peculiarity of the potatoe is that it requires a cool, moist soil. The hot sun glowing on the bare earth is destructive to this coolness and moisture. If this extreme heat is accompanied with or follows hard showers, it almost always induces disease in the tuber, and consequently rot. For this reason, only rich land should be used, that you may plant the crop close enough to completely cover the ground with foliage; and planted early the plants will completely shade the land before the advent of extremely hot weather.

On new land, or half rotten sod, we should not advise the application of strong nitrogenous manure, for it constantly does depreciate the quality of the potatoe. Mineral manures on soils moderately rich in nitrogen, or those elements contained in horse manure, always give satisfaction. Plaster, marl and phosphatic manure may always be indicated, and upon any soil, after the final working, mulching the land between the rows with long manure, especially horse manure, we have always practiced with the best results; it keeps the earth cool and moist, and feeds the plant just at the time it needs it moist. Thus treated, the tubers will generally be large, healthy, and consequently farinaceous.

If the soil, from having been previously badly worked, or from natural causes, is mechanically disorganized, and is inclined to run together, of course it must be replowed in the spring! This may be lightly done, not more than four or five inches deep, but