

Garden, Orchard and Forest.

Old and New Apple Orchards.

The inquiry is made: "Shall I continue my old apple orchard, of which some of the limbs are dying, or cut the trees down and plant a new one? And shall I plant on the same ground?" In answer,—keep the old orchard as long as you can get anything from it. Do not plant on the same land; but while you keep the old trees in good condition as long as practicable, have a young orchard coming on in another place.

If you cut down your old trees and plant a young orchard, you will be without fruit for several years. Old orchards well managed will grow and bear good fruit for some twenty years longer than if entirely neglected. At the west, apple trees at forty years have seen their best days, and cannot be relied on very much longer. At the east, they are usually good till sixty years, and under favorable influences will often last till seventy or eighty. We have seen a tree known to be about one hundred years old, but this was an unusual exception. The oldest thrifty and bearing trees we have known stood on the borders of gardens, where at least half the roots were in a cultivated and constantly enriched soil. Those standing neglected in grass and weeds, at the same age, were declining, the limbs dying, and some had gone to decay.

For an old orchard standing in grass, we would not recommend unconditionally ploughing up the sod. A portion of the roots is necessarily cut or torn more or less by the plough; and while such a root pruning (performed of course while the trees are dormant,) may do no harm at all to a young and thrifty orchard, it might tend to check the growth of old trees, unless the mellowing of the surface might counterbalance the effect. It is safest, therefore, to top-dress the ground where old or decaying trees stand, with manure in autumn or winter, and to keep the grass grazed short in summer with sheep, these animals also destroying the codling moth in the fallen fruit. Cut out all the dead limbs at the same time, and reduce the amount of the top by thinning out evenly the small shoots or branches. By thus reducing the number of shoots, those that remain will make as vigorous growth, and bear as good fruit as younger trees. We have known some which had already lost a part of their branches by old age, restored to vigor and to a moderate degree of productiveness, by stimulating the roots and thinning the top. It is important, however, to continue annually the care they receive, or they will soon fall back again.

All this care is not great, and is well repaid by the crops which the old trees will continue to afford while the young trees are coming forward into bearing.

When it is not practicable to obtain large supplies of manure for top-dressing, it may be best to break up the grass sod under the trees by a shallow ploughing, early in spring before the buds swell; and by keeping the surface clean and mellow through the summer, a small application of manure broadcast will afford important assistance. A dressing of ashes, leached or unleached, if not more than fifty bushels per acre, will be useful to most soils. If the soil in which the trees stand is deep, and the roots extend downward several feet, the ploughing may be done without fear of injury. If, on the contrary, the sod happens to be quite shallow, and nearly all the roots are near the surface, greater caution must be used with old trees, although with younger orchards the small amount of mutilation which the roots thus receive is overbalanced by the benefit of the cultivation.

In all these cases judgment must be exercised, and the treatment be adapted to the circumstances of the case. The disastrous results which have followed the ploughing of orchards, have usually come from ploughing while the trees were growing, the effect of which is like attempting to transplant at midsummer.

Needless injury is often done to the roots of trees by the absence of proper implements. As we have already stated, the plow should never be used after the buds begin to swell in spring; but to keep the surface clean and mellow, the work should be done with the assistance of such implements as never tear roots. Immediately following the plow, late in spring or early in summer, Shares' harrow is the very best thing that can be employed. The teeth ride over the roots and all other obstructions, like the runners of a sled, at the same time that they mellow and turn up the soil to the depth of three or four inches. Later in the season, a shallower, finer and smoother mellowing is given

by the use of the smoothing harrow,—which, unlike the common harrow, never tears the roots, but rides over them. It also smooths and prepares the surface of the orchard for the convenient gathering of the fruit, and for the reception of windfalls. Just before the fruit begins to fall, if the surface can be finally made smooth with a roller, it will be in as perfect condition for the gatherer as it can be made.

There is a practice which we have never tried, but which appears to possess some advantages and no drawbacks, namely, sowing oats in the orchard soon after midsummer, or so late that it will only give a crop of leaves before frost. The object is to afford a soft bed for falling apples, and to contribute in some degree to enriching the orchard, the small coat of vegetable matter being plowed under early in spring. There may be some other annual crop which would be better than oats, and the subject is worthy of attention. If the owners of orchards, old or young, by giving more attention to their cultivation, could increase their crops and augment their value and market price, the labor and care would doubtless be amply repaid.—*Country Gentleman.*

Alfalfa or Lucerne Grass.

Orchard grass and perennial Italian rye grass, one acre of each, sowed the first week in April last, drew my attention yesterday, as I made a casual tour of observation over the experimental grounds of the Illinois Industrial University. The grasses were all sowed immediately after spring wheat, and have remained undisturbed since the grain was removed, some time in August. The stand of Alfalfa is pretty fair, but the growth has not exceeded ten or twelve inches in height, and the stems and foliage are scarcely larger than those of white clover. So far the frosts have done little more than to scald some of the exposed leaves, and it is to be hoped that the grain stubble and weeds now present on the ground will afford protection during winter, so that the extent and value of the second summer's growth may be determined.

The stand of orchard grass is good, and the amount of herbage, as compared with timothy, sown at the same time and on similar soil, is five or six times as great. Evidently, then, for fall and winter grazing, orchard grass sown in the spring will afford from three to four times as much pasture as blue grass or timothy sown on the same soil, and under the same circumstances. But the extraordinary growth made by the perennial rye grass, its considerable resemblance to the unpastured blue grass on rich lands at this time of the year, its deep, rich color, and its vigor and freshness, was what principally drew my attention and led to making these notes. The amount of herbage, as compared with the adjoining acre of orchard grass, was as much greater than the orchard grass as the orchard grass was greater than the timothy. As herbage and as hay, perennial rye grass is not as much sought for by stock as timothy or blue grass, nor is it as nutritious; but sown in the spring it will yield for fall pasture ten or twelve times as much as either. Where it was sown the soil is deep and rich and moist, and the season has been favorable for grass growth—particularly that of rye grass. If it should prove hardy and stand our winters, and if it should be found to resist drouth as well, certainly no grass I have ever seen, sown in spring, will furnish anything like the amount of fall and winter pasture.

Let me be understood. I do not undertake to say that spring sown rye grass will make as good fall and winter pasture as an old summer-saved blue grass or timothy pasture, but what I mean is, that when spring sown, on a soil and with a season which suits, rye grass will produce from five to ten times as much herbage as any other grass sown at the same time.

The great want of the country now is fall and winter pasture—some other grass besides blue grass that will come on and make good crops the first year (which blue grass will not do for three or four years), grow in cold weather and be frost proof the season through.—*B. F. J., in Country Gentleman.*

POTATOES PLANTED DEEP.—We tried the experiment this year, on several alternate rows of potatoes about thirty rods long, of planting a part about two or three inches deep, and another part five inches deep. The latter invariably produce about 20 to 25 per cent. more potatoes, the treatment in every other respect being the same. They were cultivated flat, which always give more than when ridged.—*Country Gentleman.*

Fruit Trees.

So many persons now set out fruit trees that it seems as if it is hardly worth while to say a word in encouragement of the practice; but a large number of those set out are not because people have thought much about planting or care very much for them, but chiefly because they have been bothered by some peddler to such an extent that they had to give an order so as to get rid of the fellow. So little do people who give orders care for the trees under such circumstances that there is often trouble with regard to paying freight on them, and, in order to protect themselves, the companies often insist on freight being paid in advance by the sender of the trees; and in this way the legitimate nursery business is embarrassed by reason of these pestiferous peddlers.

Supposing the trees are received and paid for, there is still much indifference about setting them out and subsequent care, and, in consequence, many die, or, if they live, struggle along and come to little account.

It is strange that people should have no better reason to give for purchasing such trees than that they could not get rid of the peddler without; though they know that they must pay high prices for poor trees, which may never turn out to be as represented after all, unless the peddler of trees is a purer being than the peddler of other articles. Still it is well that some trees are planted, and even trees bought under such circumstances as these may as well be cared for, for they will, or at least may, be of some use in the end.

Many set out fruit trees because they are taught to believe that great profits will result from the sale of the fruit in time. We do not urge planting on this ground, because money is really seldom made by these spasmodic attempts, but by those who understand fruit culture thoroughly, and make it a chief and leading business. Fruit trees, by the average owner of land, should be planted for family reasons, that is to say: in order to have a supply of fruit always at hand on one's own place. It may be that one will discover that profit can be made of the fruit as well. There will then be the chance to take advantage of these circumstances, and to set out especially for the purpose.

Many persons ask what land is best for certain fruit trees? what manures are best to use? There is no doubt but that some soil is better for trees, and some manures more effective than others, but this is rather in a professional sense, where special excellence is desired, and need not worry the average man. There is no soil nor any manure that is ready to one's hand but is quite good enough for ordinary persons.

The trouble with most people, and the reason that trees so often fail is that the roots are allowed to get dry. Dry roots is a worse condition of things than poor roots; and then the earth should be hammered in very tightly about the roots, and the trees severely pruned. Not one tree in ten thousand need die if these simple things are really attended to.

The after culture of trees is very simple. Keep out insects from the stems of the trees near the ground; do not disturb the surface roots by digging or plowing near them, and spread on the surface above the roots now and then something to eat.—*Thomas Mehan, in Weekly Press.*

Prof. Wilson on Bone as a Fertilizer.

Within the last fifty years science and art have been prolific in increasing our knowledge of agriculture. From the former we are being taught the relation soils and climate bear to their respective crops; by the latter large areas of land are cultivated, and fertility increased by changing the physical properties of the soil, in rendering it more suitable for a diversity of culture.

Each plant requires for its full and complete development not only a proper preparation of the soil for the seed, but the presence of the mineral or earthy matter, which enters into its structure in sufficient quantity, otherwise the agriculturist has no reward for his labor, time and capital.

It would be interesting, no doubt, to many of you to discuss at length the relation the animal kingdom bears to the vegetable; but this would carry us beyond the ordinary limits of space and intentions of this paper; but suffice it to say that each is dependent on the other for its existence. From every spear of grass, from every grain of corn, the animal derives the mineral portion of its structure; the excess necessary for continuance of life is again voided and returns to the soil, or,

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