

Garden, Orchard & Forest.

VALUE OF TREES.

Forest timber and all vegetable productions are active absorbents of radiant heat, but do not readily reflect it. This being the case, it is easily understood how, in the vicinity of a wooded country, the temperature is more moderate in summer, and for the same reason the frost is severe in winter. Botanists have shown that plants are furnished with innumerable breathing pores, not only on the under surface of leaves, but likewise in the green bark of the stems and branches. It has been computed that no less than sixty-four thousand of these pores exist to every square inch of surface, and from them a continued process of respiration is going on. This emitted vegetable breath must necessarily affect the surrounding atmosphere to a considerable extent. The moisture thus arising, though imperceptible, gradually condenses as it reaches a cooler atmosphere, and in time descends to the earth in the form of dew, rain, snow, &c.

When the trees have been almost entirely removed, a serious decline in the supply of water is observed. This is the case in many parts of the New England States and also in Canada. Since the forests of the Ohio Valley have become decimated, the volume of water in that river is evidently diminishing, and the same is true of the Hudson and other navigable rivers. In the Old World this diminution of water is still more marked. The Elbe, in 1837, showed the summer low water mark to have diminished ten feet in half a century. Some considerable rivers have entirely disappeared, while many others are shrunken to little streams.

On the other hand, restoring trees by planting has had the most beneficial effects. Formerly there were but five or six days of rain during the year in the Delta of Lower Egypt, but since Mahomet Ali planted some twenty million trees, the number has increased to between forty and fifty. The vicinity of the Suez Canal was once a desert, but when the ground became saturated with water, trees, bushes and plants sprung up, and with the appearance of vegetation came also a change of climate. Another example is shown in Utah. The conversion of that desert into a blooming country by the industrious Mormons, has raised the Salt Lake seven feet above its former level.—*New Dominion Monthly*.

APPLES.

Those of our readers who are preparing to compete for the Essays on Orchard Culture, proposed a few weeks since, might derive some facts worth making a note of by a trip up the Annapolis river next June. We give them the benefit of the following:

"Apple trees will grow and thrive on any soil except a wet one, if one condition be complied with, that is, if the land receive annual cultivation. To obtain large crops of extra fine fruit, extra cultivation is necessary. No one should be deterred from planting apple trees because his land is poor; with good culture he will succeed.

"What is understood by good culture is not only the art of knowing, and when and for what purpose to prune, but growing some kind of root crops between the rows. The manuring and culture that these crops require keep the soil in good condition, and will go far in defraying the expense of the orchard. On dry soil fruit trees are much improved by a dressing composed of peat mud, ashes and manure from the barn cellar. A barrow load of this compost placed about the root of each tree in the fall is very effective. The scabby aphid or bark louse can be removed by a wash composed of one and a half pounds of crude potash in a pail of water, applied in the month of June. This is as strong as young trees will bear without injury."

Some Fruit Trees.

"There passed through the Custom House at Horton, last spring, six thousand, seven hundred and some odd trees; these, with the quantity distributed from the nurseries of Berwick and Gaspereaux will exceed ten thousand. This broad-cast scattering of trees has been going on for some years, and there is every prospect of an increase of the quantity."—*N. S. Agriculture*.

PLANTS IN SLEEPING ROOMS.

The question whether or not plants are unwholesome in a sleeping room has called forth a curious diversity of opinion. It is agreed that by day they emit oxygen, and are therefore eminently healthful; but it is generally believed that by night they give out carbonic acid, and are consequently prejudicial to animal life. Recent experiments by Professor Kedzie, of Michigan Agricultural College, may perhaps be regarded as conclusive on the subject.

The professor analyzed volumes of air taken about noon from different parts of the college greenhouse containing 6,000 plants, after it had been closed for twelve hours, and found

that the carbonic acid amounted on the average to 1.30 to 10,000 parts. He then did the same just before sunrise, and found the average to be 3.94, thus, he thinks, clearly demonstrating that the accumulation of noxious gas was greater in darkness than in daylight. At the same time, however, out door air contains four parts of carbonic acid in 10,000. At the worst, therefore, the air in the greenhouse was actually better than "pure country air," and the emission of carbonic acid gas was barely sufficient to counterbalance the production of oxygen during daylight.

Professor Kedzie concludes that, these being the facts of the case where 6,000 plants are collected, a dozen or two in a bedroom cannot be injurious.

THE CALLA LILY.

We do not know of a more beautiful winter blooming plant than the old-fashioned Calla Lily. It succeeds so well in the window, needing very little care, excepting an abundance of water and an occasional dusting of the leaves, that we recommend every lover of flowers to try it. A writer in a Detroit paper gives a very sensible summing up of the requisite methods of culture:

1. After blooming, dry off very slowly but thoroughly.
2. Keep the roots simply from drying out entirely during the season of rest.
3. Start slowly in light, rich soil, with little water at first, increasing as growth increases.
4. Plunge, if possible, in stagnant water until wanted for the house, or there is danger of frost.
5. Re-pot in rich mucky soil.
6. Give plenty of water while the plants are growing and blooming.
7. Give plenty of light and sunshine.

THE FRUIT GARDEN.

The apple is our standard fruit, and may always be relied on with reasonable care. The first care is good food. Some talk about too rich soil. We never saw the soil too rich for the apple. Where any trouble arises in apple culture, it will be safe to attribute it to other causes than rich soil. Roots are often forced by peculiar modes of culture to send their shoots down deep into the ground for food, from injury by modes of surface working, which injure the surface roots. The soil in these deep rooted instances may be rich, but the want of atmospheric influence prevents the proper "cooking" of the food, and then we have what is known as unripe wood. Some writers tell us that in these rich soils we can cure the evil by putting the trees "in grass." This simply means that the fibrous roots can then be near the surface undisturbed, where they ought always to be.

We have no objection to trees growing in grass, but it will lead to misfortune if people do it because they think the soil is too rich. No matter how rich the soil may be for an orchard, if it is put in grass, always top dress when you have the chance to do it cheaply. It does not require expensive manures to top dress an apple orchard. Even ditch cleanings make trees grow beautifully when spread under trees, the roots of which are near the surface.

Kitchen ashes make excellent top dressing for apple trees when put close under the apple trees as far, or nearly, as the roots extend. When there is grass to mow, the ashes interfere with the edge of the scythe. Apple trees are often starved in other ways than by neglect to manure.

The apple borer leads to starvation oftener than poor soil. The supply of food is cut off by every move the borer makes. They work at the surface of the ground. Look for them now. If you have no time, set the boys and girls to work. Say they shall have no apples for Christmas or birthday present if they do not. However get the borers out somehow, if not by wire and jack-knife. If not soon done they will soon get out themselves, and give you more trouble in the future. After they have left, whether by your invitation or otherwise, keep them out; even though you have to lock the door after the horse is stolen. Pepper put on in May and then gassed-tarred, will keep them out; some say it will not, but it will. There is no doubt about it. One peppering will last three years. The weakening of the tree by the borer is why the fruit drops off in so many cases, and is small and scrubby in others. With these cases attended to, there will be little left to worry one but the codling moth.

In grape raising people seem to go to extremes in management. A few years ago the poor plant was in leading strings. I dared not make one free growth, but it was pinched and twisted into all sorts of ways. Now the "prune not at all" maxims are getting headway, and this is as bad, if not worse. First grape growing was such a mystery it took a life-time to study it, and the "old vigneron" was an awful sublime sort of a personage. He is now among the unfrocked and unreverenced. But there is great art in good grape treatment;

and yet this art is founded on a very few simple principles.

For instance, leaves are necessary to healthy growth; but two leaves three inches wide are not of equal value to one leaf of six inches. To get these strong leaves see that the number of sprouts be limited. If two buds push from one eye, pinch out the weakest whenever it appears. The other will be strengthened by this protective policy, and the laws of trade result in favor of large and better leaves on the leaf that follows. Allow no one shoot to grow stronger than another. If there are indications of this, pinch off its top. While it stops to wonder what you mean by that summary conduct, the weaker fellows will profit to take what properly belongs to them. There is little more science in summer pruning than this, but it takes some experience, joined with common sense, to apply it. This indeed is where true art comes in.—*The Gardener's Monthly*.

POTATO TUBERS.

The old idea was that a tuber, as a whole, was but one seed, like a kernel of corn. But we now consider a potato tuber like an ear of corn containing many seeds, each of which is capable of producing a plant equal in strength and value to the combined. Of course there are hundreds of farmers who will and do cling to this old theory despite of all the science and practice to the contrary. We should think, however, that the enormous yield secured from the various new sorts within the past few years and frequently referred to in the agricultural journals, all of which have been produced from cut seed, would begin to awaken the sticklers for whole seed, and set them to making experiments in this direction.

No one will suppose for a moment the yields reported in the case of the Bliss prizes for the Early Vermont and Compton Surprise could have been secured by planting whole tubers.—Those farmers who believe that whole tubers are best for seed, should look at these figures: 511, 607, 437 and 456 pounds, raised by different men in different localities, each having but one pound for seed. We think these facts and figures are worth a dozen theories, and well worth remembering at planting time.

ORCHARD GRASS OR COCKSFOOT.

A correspondent of the *Rural Sun* says: No farmer can afford to be without Orchard Grass. For pasture, Orchard Grass is worth about twice as much as clover. One acre of Orchard Grass will afford as much pasture as two of clover, and cattle will fatten faster on it. A very grave objection to clover, and one which I have never known to happen with Orchard Grass, is that cattle frequently eat too much of it, and sometimes die from the effects thereof. For hay, there is nothing that I know of that can equal Orchard Grass. Clover does not yield as much by about one-third, and I have always found more or less difficulty in selling clover hay, whereas, I have never had enough Orchard Grass hay to supply the demand, the Orchard Grass always selling for from 10 to 20 cents per 100 pounds more than the clover hay.

By cutting Orchard Grass twice, it will always yield enough more than timothy to pay you handsomely for your trouble, and then leave the land in better condition than the timothy. In sowing for hay, I prefer to mix a little clover with the Orchard Grass. Not because I think the Orchard Grass does better when mixed with clover, as some people imagine, but because I think a mixture of grasses will always make more hay, and I think the hay is relished more by stock when mixed.

Some people go so far as to say that Orchard Grass is of very little account unless it is mixed with clover. I made an experiment on a piece of ground in which there was no clover, and by careful working killed all grass. I then, in March, 1872, sowed two bushels of Orchard Grass seed to the acre, by itself, obtained a fine set, and in 1873 I first cut a fine crop of seed from it, and then cut two good crops of hay, after which considerable of an aftermath came up.

If you wish to raise seed, you must sow it by itself. Orchard grass and timothy should never be sown together, as there is nearly a month's difference in their time of maturity. To sum up the whole in a few words, my experience and observation on Orchard Grass has been as follows: For pasture it has no equal; for hay in quantity and quality, it cannot be excelled, and for seed, no other grass is half as profitable as Orchard Grass. Do not be disappointed with it the first year. Like many of our best grasses, it takes two or three years to come to perfection.

A correspondent of the *Live Stock Journal*, writing on the subject of soiling as practiced on the celebrated Beacon Farm, Long Island, says:—

One of the most important products raised on the Beacon farm for soiling, is Orchard Grass. I have done my best, both by precept and example, for the past thirty years or more, to induce my brother farmers to cultivate this highly valuable grass much more extensively than they have done; but I regret to say with very little effect. Pray, now go and see what Mr. Crozier is doing. He has about 170 acres of it, and although it is not growing on his best cultivated fields, yet on the day I examined it, June 13th, it stood from thirty-seven to fifty inches high, and would make from two to two-and-a-half tons of well cured hay per acre—perhaps some of it may turn out three tons. Recollect, this is an uncommonly late season, fully seven to ten days later than our average. For days previous, Mr. Crozier had been cutting this for soiling; most of what was then standing he commenced mowing for hay two or three days afterwards. Cut Orchard Grass just as soon as it begins to blossom, and it is nearly equal to the timothy and far superior to such as is left growing till a portion of its seed ripens. On the 2d of August Mr. Crozier wrote me as follows:

"What should I have done were it not for the Orchard Grass this season? Without it my barns would have been comparatively empty, like those of neighbors and friends. Then what could I do with my stock; it is not fit for beef, and I should not have half hay enough to winter it. Now, with the Orchard Grass, I have fodder enough and to spare."

The great merit of Orchard Grass is that it comes forward very early and rapidly, and gets its growth before any drouth common to our climate can affect it. Thus it ensures the dairyman an abundance of rich grass till July, and hay through the winter. By this time clover is ready to be cut; then follow oats and white vetches grown unmixed, and then Indian corn as soon as tasseled. I do not repeat the other crops grown by Mr. Crozier, as they are more uncommon among the generality of our farmers. I can only add that this whole system of soiling can be easily practiced by any one disposed, and if generally done would add millions to the wealth of the country.

FARMERS VISITING EACH OTHER.

Better, but not a substitute for the interchange of experience through the papers by farmers, is the practice of visiting and talking with each other; examining each other's means and methods of doing business, and exchanging suggestions on the farm and stock management and relative to devices for facilitating work.

Scarcely any farmer will consider his time lost who devotes a certain portion of it each year to this method of acquiring information and suggestions for use in his own husbandry; for there are some things farmers must learn which no amount of newspaper teaching will describe; nothing but actual observation will answer. This sort of education, it seems to us, is too much neglected by farmers. Experience has taught us how profitable it is, how much it saves in the way of experiments, and how much it enriches in the way of suggestions of methods, and by the accumulation of facts that never reach the public, because so few farmers ever write them. It is, therefore, urged here that no possible investment of time can give greater compensation than that expended in exchanging visits with the best farmers of a township or county.

WHAT CONSTITUTES A CAR-LOAD.

Below will be found a statement showing what constitutes a car-load, and though it may not exactly suit everywhere, it approximates so closely to a general average that shippers hereabouts will find it a great convenience as a matter of reference:

As a general rule 29,000 pounds or 70 barrels of salt, 70 of lime, 90 of flour, 50 of whiskey, 200 sacks of flour, 6 cords of hard wood, 7 cords of soft wood, 18 to 20 head of cattle, 50 or 60 head of hogs, 80 to 100 head of sheep, 6,000 feet of solid boards, 17,000 feet of siding, 13,000 feet of flooring, 10,000 shingles, one-half less of hard lumber, one-fourth less green lumber, one-tenth less joists, scantling and all other large timber, 340 bushels of wheat, 360 of corn, 680 of oats, 400 of barley, 360 of flax seed, 350 of apples, 360 of Irish potatoes, 1000 bushels of bran, form a car load.