

RURAL AND SUBURBAN

PRUNING THE PEAR TREE

To those who possess a garden of fair dimensions there is invariably born a desire to plant fruit trees, and one subject that never fails to attract the would-be cultivator is the luscious pear. Doubtless it has been the lot of the reader to visit gardens where the intentions of the owner have been the very best, but who, through want of knowledge how to prune his pears, has done this important work in a very faulty manner; or he may have left his trees in the hands of a so-called jobbing gardener who possibly has had little or no experience in pruning fruit trees. The result in such circumstances can very well be imagined.

There is the greatest possible satisfaction to be obtained when pruning is properly understood and when the grower is able to show as a consequence of his treatment of his trees a good crop of fruits in the autumn months. The question that arises at the inception of the work is, What is pruning? What is the meaning of the word? Pruning means the shortening to certain well-defined lengths the shoots or growths of trees. The object of pruning is of a twofold nature. (1) It is carried out for the purpose of producing trees of a symmetrical character; and (2) in order to ensure or facilitate the development of blossoms and, subsequently, fruit.

In the present instance I propose to deal only with standard Pear trees and those that are usually to be met with in gardens after growth of several years. Most of us are familiar with such specimens, and few of us know how to deal with them. Fig. 1 represents a nicely grown ten years old tree of Pear Easter Beurre. The tree has been pruned regularly and summer-pruned last season, when it bore an excellent crop of fruit. Readers should make a careful scrutiny of this shapely tree and its several branches, from which it will be observed there are evolved numerous shoots of the past season's growth. Pruning is best done from November to January inclusive, although many growers prefer the last-mentioned month to any other. This will enable the beginner to enter into the work forthwith, but care should be taken that the frost is out of the wood before cutting. No hard-and-fast line can be followed in regard to pruning; as varieties differ so much in themselves. Generally speaking, the rule should be observed of simply keeping the tree in shapely proportions, thinning out the crowded branches and keeping the centre open. Extra vigorous shoots should be shortened back. Light and air are two most important factors in successful culture.

As summer pruning was done in this instance, this leaves less to be done at the present period. That the method of pruning may be better understood by the reader, a section of the tree shown in Fig. 1 before pruning is portrayed in Fig. 2. Frequently where a pear tree has been neglected the shoots are developed in straggling fashion; these should be cut back into shape, and any branches crossing each other and growing towards the centre of the tree must be removed. The use of a sharp knife is most essential, as this will enable the operator to make the cuts perfectly clean, and these will heal quickly in consequence. It is quite possible that some of the branches may be too big to be detached with a knife; in such cases use a saw very carefully, and as a precautionary measure neatly pare off the edges of the damaged bark. Some successful growers make a point of painting the damaged surface of the larger branches with tar, as this acts as a preventive against fungoid diseases and also assists in the speedy healing of the wounds.

Those who have young standard trees in which the shoots are taking an undue lead of others should reduce them to about one-third of their length. Dead-wood should never, of course, be tolerated, and long, unsightly spurs, as well as those of a barren nature, should be cut out.

Fig. 3 shows the same tree as represented in Fig. 1. Here it will be noticed that a great deal of wood has not been cut out, because the tree has been systematically thinned out year by year and superfluous shoots cut back. Note the open character of the head and how well disposed the branches are. In Fig. 4 the reader will notice the same section of the tree as was portrayed in Fig. 2, with the necessary thinning out and cutting back carried into effect. The growths retained give a fair indication of the probable symmetrical shape of the tree in the next fruiting season. From this series of illustrations it should not be a very difficult matter for any reader who is a beginner to deal with his own trees in like manner.

—D. B. C. in The Garden.

PRUNING APPLE TREES

Our great-grandfathers' orchard was the first that we have any recollection of. His first order was to prune and keep it at. At the present time we find no small number who as a rule object to trimming apple trees except in extreme cases. Like many other cranks, I have some peculiar ideas of my own that I wish to go before my brother orchardists who are growing orchards here in the West. My first move in pruning is that very soon after I set my tree I prefer to let it stay untrimmed for a week or ten days. Trees for the Northwest would be preferable if the heaviest branches were grown on the sunny side of the trunk while in nursery. Where this is not the case I go over my trees, which are always set with the strongest branches on the sunny side. In setting I lean the trunk slightly pointing to the sun at 1 o'clock, never further east than half-past twelve. I then examine the tree carefully to see first if there is any serious opening on the sun side. I go around each tree, carefully

fully clipping off just above such buds as are pointing to the centre of such openings. Follow up such a course for two or three seasons, and you will be surprised to see how much you have improved your trees. Next look up the northeast side; if you find any branches shooting out northeast, cut them off, not head them, but cut clean close to the color. This shuts the sap off from building up the northeast side, making it self-protecting. Follow this up with care until the tree is old enough to bear. Then its habits will be permanently established, and will lose its former persistent efforts to grow over to the northeast, as nine out of ten have done here in the Northwest, where they have been set with



1.—Standard Pear Tree Easter Beurre before winter pruning. The tree is about ten years old, and bore a good crop of fruit last year.

unevenly balanced tops and left to their own inclinations afterwards.

For the first year or two I do but little pruning. If branches drop too low I either cut them off where such will not make an opening on the trunk or main branches. The third or fourth year I follow up the main branches, clipping off all small and useless under or inside branches, pruning a little every year, always keeping an opening on the northeast corner of the tree. Two things I am seriously opposed to. One is to opening any considerable space on the sunny side, and on the other hand, I am equally opposed to making any efforts to growing any central stem as we are so often advised to grow.

Again, an open space often revives our trees by letting in the steady direct rays of the sun on the sun side. The central stem theory I have demonstrated on my grounds to be nothing but a theory that will cause much more injury than good. A centre stem runs up above the main side branches, always consuming the lion's share of sap that should be as equally distributed over all the branches as possible. This theory, it is true, grows one-fourth of the apples very fine, but at the same time dwarfs the fruit on the lower branches and places the other so high above the rest that it often makes it difficult as well as dangerous to gather.

A word as to when to prune. Nearly every orchardist has his notion when to prune. I have a notion, founded on my own experience, when not to prune. This is in December, January and February. I like to go over a tree in June that is very heavily set with fruit, taking out here and there small, inferior branches, letting in a little sun and air here and there where it will benefit and not injure. Never prune old trees heavy in the Northwest at any one time. And studiously avoid letting an Eastern expert or a Northwestern ignoramus trim your trees. As soon trust a boy in a powder mill with matches, as either to prune your orchard in the Northwest.

PRUNING ROSE BUSHES

Disappointment surely awaits him who, having procured a dozen or so of rose bushes in the early spring and having carefully planted them just as they came from the nursery, anxiously awaits the blooming season, expecting to be able to gather an armful of such roses, as he sees pictured in the seedsmen's catalogue, and all because he has failed to realize that the proper pruning of a rosebush is one of the most important features in its successful cultivation.

Roses differ so greatly in their habit of growth that no directions for pruning established plants can be given that will not require modification in respect to certain individual plants. There are, however, two rules which must be followed invariably. One that is all pruning should be done before any growth begins in spring, and the other is that all plants which come from the open ground must be pruned before planting or immediately after; such plants should have all weak growth removed entirely and the stronger shoots cut back to within four to ten inches of the ground. If set out just as they are received from the nursery, many of them will die and at the best but a weak growth will be made. No matter how carefully they have been removed, many of the smaller roots will have been destroyed and unless a corresponding amount of the top be removed, there will not be sufficient sap to nourish so many buds.

In dealing with established plants, if quantity rather than quality be the object aimed at, the only pruning necessary is to remove the dead and weakly wood, and only cut back the

remaining shoots to a point below where the winter has killed the immature growth of the season before. If, however, the object be, and it should be, the promotion of a symmetrical growth and the improvement of the quality of the blooms, a different course should be followed, and here practical experience must determine what is to be done in each particular case, always remembering the general rule laid down by all writers on the subject, that "plants of a delicate growth should be severely pruned, while those of vigorous growth should have some of the branches cut out entirely and the remaining ones only moderately shortened." Keeping this rule in mind, it will be found that plants of moderately vigorous growth should be cut back severely, say to four or five buds, always cutting at a bud pointing outwards and, of course, to a point below where the wood has been injured by the winter's frost.

To severely cut back such vigorous growers as Clio, Margaret Dickson, John Hopper, Charles Lawson, Jules Margotten and some others, results in a crowded growth of wood and very few blooms, and it will be found that to remove some of the branches entirely and only shorten the remaining ones a few inches, will throw the whole strength of the plant into the production of bloom. One shoot, however, should be cut back severely in order to promote growth near the bottom of the plant.

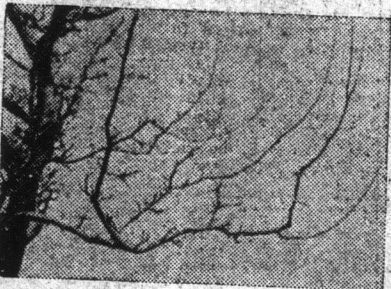
Climbing roses should, after the pruning recommended at the time of planting, have only the dead and weak shoots removed and one shoot cut back to three or four eyes for the purpose just mentioned, viz., to prevent a bare appearance near the bottom.

Some recommend a summer pruning after the blooming season is over in order to remove withered blooms, and to promote autumnal blooms, but the true lover of the rose will have few withered blooms to remove because he will find that one of the greatest pleasures connected with his hobby is that derived from the distribution of his flowers among his friends and in doing this liberally he will probably find that he has done all the pruning necessary.

The tools required for pruning are a good pair of pruning shears and a sharp pruning knife with a hooked blade. The operator will probably discover for himself that a good strong pair of leather gloves are not to be despised.

GRAFTING NURSERY STOCK

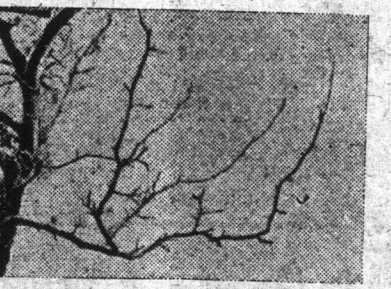
Ninety-five per cent of fruitgrowers purchase trees from some nurseryman who grows trees on the principle of quick returns for his money. In order to get these quick returns, there are two mistakes made. The faster a tree grows the more likely it is to be a failure when removed, as the change is greater. A tree which has made moderate growth is



2.—Section of the Pear Tree shown in Fig. 1. Compare this with Fig. 4.

easier transplanted than one which has made extraordinary growth. The second mistake is in the mating of grafts and stocks. What fruitgrower has not noticed that some trees will persist in throwing up suckers around the roots, oftentimes above where the graft was put on?

There is from one to fifteen days difference in the leafing out of different kinds of apples and a corresponding difference or even greater length of time in going to rest in the fall. If there happens to be ten or fifteen days' difference between the seasons of stock and of the scion, there is sure to be a certain



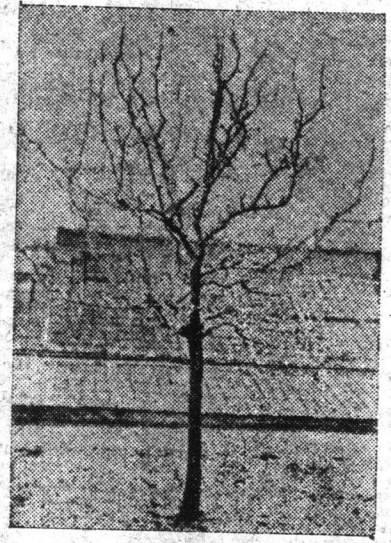
3.—The section shown in Fig. 2 after pruning has been done. Note the difference in the two.

amount of failure as we are working against nature. The roots will be sending up a sap and it goes to form what we call suckers, sometimes from the roots and sometimes from the body of the tree just above ground, showing plainly that one is at rest and the other is not.

Grafts taken from young trees or side shoots from an older one will grow much faster than those taken from the outside of full bearing trees. If left to their own way, they will not bear fruit as soon as the latter, neither

will they stand a severe winter as well. The reason is that the large roots, commonly called "tap" roots, are the ones which send up sap for the forming of wood growth and the surface or small fibres send up sap to form fruit bearing wood. The large roots are deeper down into the soil and are affected by the heat of the soil and continue to send up sap longer than the surface roots which are affected by the early frosts and consequently the wood is not so well ripened and a fast-growing young tree is almost sure to have large roots instead of small ones.

A fruitgrower, in order to be successful, must control the roots and thereby he controls the sap which goes to make either wood or fruit in the same way that a farmer controls



3.—The same tree as shown in Fig. 1 after winter pruning has been done.

bone muscle or fat when he chooses the food for his animals.

I believe that under a powerful microscope the cells of bearing and non-bearing wood will be found to be differently formed; if so, we must start our trees bearing as young as possible. There is no reason why a tree should not commence to bear as soon as it is well established in its place and continually bear every year when the sap is led to do its work rightly.

Influence of Stock on Scion

In respect to the effect of the stock upon the grafts: I have noticed that in some instances, it has a considerable effect on the habit of growth but not so much on the fruit. Twenty-five years ago, I purchased two Duchess apple trees. One of them assumed a habit of growth foreign to that variety so much so that I concluded that it was not a Duchess at all; but, when I picked the fruit and placed samples from the two trees together, I could not tell one from the other. The tree would persist in throwing up suckers which resembled the Spy in growth and in time leaving out. It died when fifteen years old, while the other has never shown any sign of a sucker and is healthy yet.

One of the principal causes of some kinds of apples not being as good as they were thirty or forty years ago, is the practice of taking grafts from young trees exclusively. This practice in about thirty years would result in twenty different kinds of stock, while if scions are taken from one tree for thirty years, there would be only one change instead of twenty. The fruitgrowers of the future will require pedigree stock in trees. A haphazard system leads to great difficulties and many changes in type.

BLACKBERRY CULTURE

Preparing the land for the reception of the blackberry plants means enough plowing, disking and harrowing to make the soil in good condition down deep. Most any farmer can estimate about what this would mean.

The next thing is getting the plants, and the best and safest way is, if you have a patch and can get roots from it you will know they are suitable to your soil, or they may usually be procured from some neighbor, and the greatest cost will usually be the labor of digging them and setting. It will usually cost all the way from \$10 to \$25 per acre for the preparation of the land and price of plants and labor of setting. This, of course, will depend on the cost of labor, price paid for plants, etc. Therefore no set rule can be laid down.

The first year after setting, the land can be cultivated to most any crop that will not shade the young plants too bad; but they must not be shaded, even if you lose the use of the land for the first year, as this would stunt their growth. The second year there may be a few berries, but not many, and the land should be put in something that will shade the land, such as cowpeas, which will also add humus and nitrogen to the soil. This, of course, will call for some labor, but most any man can figure about what it would mean.

The third year after setting there will be a fair crop, which will balance expenses of cultivation and have a little left. The fourth year there will always a "bumper" crop, which pays all expenses for caring for the young plants and leaves a good big profit. Of course the old canes must be kept cleaned out, and in case rust should strike it, try to cut every bit of it out and burn it.

Now the amount of profit which can be made from this berry patch will depend almost entirely on the management it receives. There will usually be from 150 to as high as 250 cases

holding 24 quarts of berries from an acre of good berries. It will usually take about \$1.00 per case to market them, paying for packing, boxes and express. Berries will sell all the way from \$1.00 to \$3.00 per 24-quart case, depending, of course, on the condition of the market. Never sell many berries for \$1.00 per case, for when they get that low stop shipping. They will often sell for \$2.00 to \$2.50 per case, and sometimes they will go as high as \$3.00 per case. It is not very hard to figure the profit, for anything over \$1.00 is usually profit.

Taking an average through the season of \$1.50 per case, an acre ought to yield at least 150 cases; this would mean net \$75. This is putting it down very low, however. But then, taking it as they will run some seasons, selling for an average of perhaps \$2.00 per case, 150 cases would bring in a net profit of \$150. Of course they are not likely to run this high through the entire season, but they usually produce over 150 cases per acre, and therefore it is usually consistent to figure on an average of from \$100 to \$150 per acre.—E. A. Lagergren in The Fruit Grower.

MANY SPECIES OF BIRDS AND BEASTS ARE DISAPPEARING

Almost every year sees the final extinction of one or more animal and bird species. Even in recent years many species have passed into oblivion without so much as the manner of their going being heeded or observed.

The large bounties given by candidates for the favor of the Roman populace in ancient days when wild beasts were pitted against captives or gladiators in the arena of the coliseum assisted in depleting Northern Africa of its larger fauna.

In those days the hippopotamus inhabited lower Egypt, and indeed two were killed by an Italian, Dr. Zeringhi, at Dalmietta, as recently as 1600.

In animal extinction Africa in recent centuries has suffered severely. It has lost the quagga, which was exterminated by about 1865; the bluebuck (or blaauwbok), destroyed by the Dutch in the early years of the 19th century, and the white-tailed gnu, which, it has not entirely vanished is on the very verge of extinction. The misnamed "white" rhinoceros and the South African gemsbok are rapidly approaching a like fate.

When Mauritius was taken possession of by the Dutch in 1598 the dodo was a comparatively common bird. So helpless was this great flightless pigeon, however, and so useful was it for food for seamen and settlers that in less than a century it had completely vanished. Two other great birds of Mauritius, the flightless rail and the giant coot, also perished utterly in the 17th century.

No specimen of the dodo's near relative, the solitaire of Rodriguez, ever reached Europe. Common at the beginning of the 17th century, they were practically nonexistent by the middle of the 18th. The white dodo of Bourbon, first described in 1613, was on the verge of assured extinction 60 years later.

The gigantic aepyornis of Madagascar was still existing, some think, in the 18th century, since one European is stated to have seen it alive in 1745.

The date of the extermination of the moa is still a debatable point, though it is possible that the last members of this huge race were destroyed by the Maori immigrants into New Zealand from three to five centuries ago.

The small black emu of Kangaroo Island, plentiful in 1803, was wiped out in less than a score of years. The New Zealand quail, a common gamebird half a century ago, has been exterminated. The last wild auroch appears to have been killed in Poland in 1627, though degenerate descendants still linger in the parks and reserves of Eastern Europe.

The great auk before 1800 was common even to abundance upon the rocky coasts and islets of the north. By 1825 it had become rare, and 20 years later the last known specimen was wantonly killed.

Whether the animal of which De Flacourt wrote in 1658 was in truth the giant lemur of Madagascar or a form closely allied to it is now impossible to determine; but it is practically certain that this remarkable animal was existing at no enormously remote time.

The Antarctic fur seal—of which it is said that millions were killed by avivorous sealers in 45 years, has ceased to be observed. In 1741 a noteworthy animal was discovered by Behring on the islands off the coast of Kamchatka. This was an enormous toothless manatee from 20 to 28 feet in length, known as "Steller's rhytina."

Steller, the naturalist, who accompanied the expedition, advocated their use as food for the sailors. His advice was faithfully followed, and so assiduous was the pursuit that by 1768, less than 27 years after their discovery, the last rhytina had been slain, and an interesting species completely blotted out.

Of the tortoises, with which the Mascarene and Seychelles Islands swarmed two centuries ago, few specimens have survived to our times, despite the centenarian age attained by some individuals.

The huge tortoises of the Aldabra Islands, so plentiful in former times, are known no longer, save by a solitary species, in their native haunts.

The colossal chelonians of the Galapagos group supplied so delicious and so greatly esteemed a diet that in 20 years the capacity of the ships' crews made sad and irreparable havoc among them.—Chambers Journal.

The soil for blackberries must be well drained, and it should be a strong loam.

Asparagus that daintiest of spring vegetables, is as easily grown in Saskatchewan as is the indispensable rhubarb.

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