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The Why and the How of a Yearling Tree

The President of the Western New York Horticultural Society, William C. Barry, in an address delivered before that body some time ago, gave some very valuable suggestions to fruit growers as to how to bring fruit trees into bearing earlier. He laid great stress on careful planting, and in particular cautioned fruit growers against injuring the tree in any way by careless handling. He declared that trees would respond to good treatment and come into bearing much earlier, thus saving the fruit grower large unnecessary expense. It is an established fact, therefore, that young trees properly treated will come into bearing earlier than is commonly to be expected, and this article is written to show that a fresh dug yearling tree is most desirable for the fruit grower to plant with this end in view.

In the first place it must be understood what is meant by a yearling tree. The root system on this tree is in reality three years old. The natural seeding takes one year to develop from the pit or seed. Then it is transplanted in the nursery row and budded during the summer months to some particular variety. This little tiny bud or "eye" remains dormant in the body of the natural seeding one inch above the ground until the following spring when it begins to grow and the nurseryman removes the top of the natural seeding just above this "eye," and keeps off from the seeding all the natural suckers that spring up, thus giving the budded sprout an opportunity to draw all the substance from the root system of the tree. In this way it makes a remarkable growth in one year, attaining a height in Western New York nurseries of from two to six feet, depending on the variety, the culture, the soil and the season, and in Southern and Western nurseries growing much more rapidly and producing a larger tree of spongy texture.

To begin with, you must insist that your nurseryman gives you a fresh dug yearling tree rather than one that has been dug in the fall and kept in a modern packing house or cold storage plant all winter. Many planters reluctantly do not dig them in the fall so there is an opportunity of getting the one-year trees fresh dug, if you deal with a reliable nursery firm and insist that you be given such trees.

The one-year tree can be easily dug, in the spring by the nurseryman while the buds are still dormant and all the fibrous roots preserved intact. This is a great advantage in transplanting. These young tender roots are capable of adapting themselves to their new home at once and thus the little tree, if the ground is in good condition and if the earth is packed firmly around these tender roots in the process of planting, will suffer practically no set-back at all and start to grow just as vigorously as if it had remained in the nursery row. There are practically no failures at all such as fruit growers experience in planting two or three year old trees.

Then too, you should be able to buy these trees at a cheaper price than the two-year-olds. The nurserymen dislike to sell them because they must go through the nursery rows and dig up the cream of the flock, leaving the smaller ones to develop into a smaller grade of two year trees in the next season, but usually they are listed at a much cheaper price than the two year first grade trees because the expense of growing them in the nursery another year is eliminated. The cost of transportation and boxing is much less and this is an added inducement both to the fruit grower and nurseryman.

A very important consideration in regard to the yearling is that the fruit grower can head the tree high or low to suit his taste, that is the limbs that are to form the frame-work of the trees can be started high or low and as many of these limbs as are desired can be al-
The Standard Grades of Two Year Trees

Many people would like to know just what is the best grade of two-year-old trees to plant. It is well to understand at the very outset that the size of a fruit tree at planting time should not be the first consideration. A tree may be good looking and big too, but have no intrinsic value. Yet we know of course that quality and size together make a very fine combination. Varieties and kinds differ very much in their habits of growth and tree characteristics. For instance a Stark apple tree will usually make a very big growth at two years here in our Genesee Valley nurseries and a Jonathan usually makes a poor showing alongside of it. Yet there are few planters who would want to set out a Stark apple in preference to Jonathan. A sour cherry grows low with a spreading head. The sweet sorts, on the other hand, run taller. The same is true of pears and plums. They have their own distinctive habits of growth in the nursery row. Then too, the section where the trees are grown counts wonderfully. It is absolutely impossible here in Western New York to put the growth into a two-year-old tree that Southern and Western trees make in the same time. These points are important and should be considered carefully by the purchaser of trees. Character counts for more than size.

But there are certain standard measurements that serve to indicate the first, second, and third grade of two-year-old trees. The pictures on this page are actual photographs of first, second, and third grade apple trees such as our nurseries will send to customers. The height of the first grade is from 5 to 7 feet, the second grade approximately 4 to 5 feet, and the third grade 3 to 4 feet; all measured at the collar with the root system excluded. Some nurserymen, and in fact this practice is quite general in the wholesale market, insist that a tree shall have certain measurements at the collar just above where the bud was inserted. Thus the first grade must measure 11-16 of an inch in diameter, the second or 4 to 5 foot grade 5-8 inch, and the third grade 1-2 inch. Everything that makes a sturdy healthy little tree under this height and caliper is classed in the fourth grade.

We do not insist on caliper in our nurseries unless the planter so desires, but we take special pains to see that the tree conforms approximately to the proper height for its grade, and that above all things, it has character, namely, a well developed head, a good root system, and a clean straight trunk. These things are all important.

Experience shows that it does not make any material difference in the quality and future growth of the tree what size at two years old it is when transplanted except that the orchardist will not, of course, get the immediate growth on a smaller grade that he would on the larger grade. The limb growth on all of them must be cut back so that in reality the root system and the body of the tree are the things to be looked at first.

The two year cannot be headed at any height like the yearling. All the limbs, however, should be removed with the exception of four and these cut back to about six inches from their origin. Care should be taken to cut so that the topmost eye will be on the outside of the limb. Thus a more spreading head will be secured.

Many people see no reason for thus cutting back the tree, and as they like to see it look as big as possible, they leave the limb growth just as the tree is sent them by the nurseryman. There would not be any serious objection to this plan now that we have come to see that the less pruning a young tree gets the better; if it were not for the fact that the tree cannot withstand the shock of transplanting and maintain all its limb growth. It must therefore be cut back. This consideration is of vital importance, so much so that probably one half the failures of properly dug and handled trees are due to this neglect of pruning at transplanting time.
The Orchard—How to Make It

The Orchard Site—Distance to market, means of transportation, storage, labor, competition and by-products enter into the problem of determining the orchard site. These economic factors deserve careful consideration for they cut a large figure and vary considerably for different sections. The location of the orchard should not be on low land ground especially in sections where late spring frosts are prevalent. Such land does not provide good air drainage. Pockets on rolling ground should also be avoided for they furnish a settling place for cold air that has no chance to get out. Hill tops are not desirable especially where severe cold winds sweep over them and where the ground is more or less apt to be washed by heavy rains. Northern or Eastern exposures on slightly rolling ground are usually given the preference by experienced orchardists, although southern slopes often give splendid satisfaction; the only possible objection to land sloping in this latter direction is that the trees are more or less subject to late spring frosts.

Soil. Deep, well drained soil gives the best results. Of course much depends on the kind of trees planted. Apples prefer a rich sandy loam or clay loam. Cherries and plums do well on medium soils. Peaches are at their best on warm, light sandy soil. In general, however, it may be said that poor drainage or what is known as "wet feet" is not desirable for any tree. On the other hand, excessive dryness on soils that are porous and devoid of humus will do harm in two ways: The trees do not make a suitable growth and severe cold accompanied by dry winds causes so much evaporation of water from the limbs of the tree that the roots cannot obtain sufficient supply and it is winter killed.

Preparation of Soil for the Orchard—It is very essential to induce strong healthy growth during the first few years of the tree's life and nothing is more important than to have the ground in good condition at planting time. There are three main factors to be given consideration. The physical character of the ground should be in the best possible state. Deep plowing and thorough harrowing are most essential. Then the life in the soil is important. We know that there are soil bacteria, germs life that grab the nitrogen in the air and fix it. Anything that gives these sources of plant food an opportunity to do their work increases soil fertility. The chemical supply, or in other words the food for plant life, can be best increased by the application of barn-yard manure or the plowing under of crops of clover, vetch and rye. Commercial fertilizers may be used also but not without most careful study of what element or elements are lacking in the soil.

It is well from a practical point of view to have some hoed crop on the land for one or two seasons before the trees are planted, as it will subdue the weeds and make the land easier to handle.

When to Plant—Most kinds of trees with the exception of peaches and sweet cherries may be planted to advantage in the fall. Even peaches will do well planted at this time in the warmer sections of the country. A most desirable time is early spring before the trees to be planted have begun to swell their buds to any appreciable extent; not so early, however, as to get on the ground while it is still cold and wet. Much will depend on the season, but usually from April 10th to May 1st is the best time.

Distance for Planting—It is pretty well established by our modern orchardists that, in the past, trees have been planted entirely too close. Plans should be made from the beginning that will take into account the size of the trees when they reach full maturity and the fact that they will then require air and sunlight around them in order to give the best results. No definite rules can be laid down but the following are approximate distances:

Apples 25 to 30 feet for fillers, 40 to 50 feet for permanent trees. Standard Pears 20 to 25 feet apart. Dwarf Pears 10 to 12 feet. Peaches, plums and apricots 18 to 20 feet. Sour cherries 25 to 40 feet, Quinces 10 to 12 feet. Grapes—rows 10 to 16 feet apart, 8 to 10 feet in rows. Currants and Gooseberries, 4 feet apart. Raspberries and Blackberries, 4 by 5 feet apart.

Planting Table

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Fillers and Intercropping—Most people do not care or cannot afford to wait for the permanent trees planted in the orchard to come into bearing, and the difficulty is overcome by planting cultivated crops between the trees such as beans, potatoes, etc.; also bush fruits like blackberries, raspberries, and currants. When this practice is resorted to, it is imperative to keep up a high rate of cultivation and fertilize the ground so as not to rob the trees. Fillers are now extensively planted between the permanent trees. Peaches and plums are often used between apples with splendid results. In these days however, when spraying has been reduced to such a science, it is much more desirable to plant quick bearing varieties between the permanent trees, as they require the same treatment and are just as profitable. They should be removed in from 12 to 15 years to make way for the permanent trees.

Systems of Orchard Planting—The following plans are suggested by the Michigan Agricultural College Experiment Station:

There are several systems of orchard planting,—the square system, in which the trees are set at the corners of a square, making the rows equidistant in both directions; the quincunx system, which is the same as the square system, except that a tree is planted in the center of the square, and the polygonal or equilateral triangular system, in which the trees are equidistant apart in all directions.

Of these, the square system is the most commonly used. While it does not permit of planting as many trees per acre as the other systems, it has the advantage of being easily laid out, is the easiest to cultivate and permits of systematic and definite thinning when the trees begin to crowd each other.

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It is easily modified into the rectangular system, in which the rows are farther apart in one direction than the other. The quincunx system permits of the planting of a great many more trees per acre than the square system. The number per acre will be increased from 45% in small orchards or 98% in large orchards. The advantages of this system are similar to those of the square system. The popularity of both is due to the possibility of planting the trees quite thickly, and of thinning with a fair degree of success at whatever distance the trees are set. In such cases early bearing and maturing trees should be used as fillers and planted intermediate between the permanent trees. As indicated in the diagrams, the first proper thinning of the square system is performed by removing every other tree and alternating in the rows, and leaving the orchard in the quincunx system. This in turn may be thinned by removing the central tree, leaving the orchard in the square system again. Thus an orchard set 20 feet square, when properly thinned, leaves the trees 40 feet quincunx or in squares 28.28x28.28 feet, running diagonally across the field. This, properly thinned, leaves the trees in squares 40 feet apart.

The polygonal or equilateral triangular system is popular because it distributes the trees evenly over the field and permits of planting the greatest number of trees per acre at a good distance apart. Approximately 15% more trees (Continued on page 8)
WE ARE, rather proud of the fact that our Bulletin in a comparatively short time has found its place as one of the leading publications in the country devoted to fruit growing and nursery work. Our readers are all over the broad land. We have won the confidence and respect of hundreds of the most discriminating orchardists and horticulturists from Maine to Texas, and we are planning to go on increasing this list and increasing in efficiency from year to year. We attribute our success to just one thing. We have aimed to give our readers a simple, plain exposition of the truth.

At the present time, Ellorla, Belle of Georgia, Champion, and Carmen supply fully one half of the peaches produced east of the Rocky Mountains, according to J. H. Hale, the Peach King.

The great problem of this age is the question of distribution. B. F. Yoakum, the noted railroad man, figures out that it cost in 1911 just $7,000,000,000 to distribute 86,000,000,000 worth of products from the farm to the consumer. City people would do well to sit down on this matter before blaming the farmer for the high cost of living. It would seem now that the time is ripe for a real earnest consideration of this question. We must understand that the poor have the same opportunities as the rich. If we are to improve their condition, we must seek to improve the condition of the rich.

An Age of Unrest

Are we not deluged these days with all kinds of schemes for our physical, intellectual, moral and financial improvement! It is a question at times whether all the people back of them really have the interests of our people as a whole at heart, or whether they are not taken up merely as a means of affording their promoters an easy living or some little distinction and fame.

Back of it all, however, is a great upward evolutionary movement. There is no doubt that the problems of our age are significant as the beginning of the 16th century or the latter third of the 18th, and that the advances of ambitious and designing men have been made in a spirit which may be called extreme individualism in religion. In the 18th century, this principle was established in the state. Now the great pendulum is swinging with terrific force. There are far other the way, and, in applying socialist principles, that we may deprive the individual of his rightful ownership in the great socialistic machinery of the state.

There are big problems pressing hard for immediate solution. The enslavement of the poor in our great cities, the injustice of the powerful combinations that crush out the small competitor in order that they may occupy the field alone and make their own price, the rights of labor and capital under the new and present industrial system as it now exists in our large cities and populous population,—these problems demand the best thought of our citizenship both in city and country.

To solve these problems, we need statesmen who will advocate the right regardless of popular clamor, men who, if they cannot get the law to follow them, will go to defeat with their cause rather than be accommodates in folly or wrong. The politicians whom we do not need, those whom in the end we will defeat, are those who deal with the people as if they were flatter us with glowing promises today that they may rob us tomorrow.

And to be able to put men of the right stamp in public office, we must have a mass of intelligent, enlightened citizens, citizens of the right stamp, who demand and insist upon the little least talk about "moral uplift" and get down to the old-fashioned doctrine of common honesty, there would be much hypocrisy among us and a good deal of trickery and trickery and trickery.

If our teachers and preachers and newspaper men cannot little talk about the future of our country.

Everybody is becoming educated these days, yes, but intellectual training alone is not enough. The true problem is to educate the intellect, alone is not enough.

The demand of the hour is:

"God give as men!" a time like this demands.

Strong minds, great hearts, true faith, and ready hands;

Men whom the spoils of office cannot buy;

Men who possess opinions and a will;

The honest,—the poor,—and lie;

Men who can stand before a Demagogy;

And his treasurer, who lives on grafting in the great socialistic machinery of the state.

"I know of an orchard of twenty-five acres of apples that has paid more than 10% per year for four years on a valuation of $1000 per acre."

—John C. Case, Ex-President New York State Fruit Growers' Association.

—Our Consulting Department—

In addition to sending our customers our Bulletin quarterly, we invite them to make use of our Consulting Department whenever in need of advice about trees. We have saved thousands of dollars to our customers by calling their attention to some weaknesses in their orchard plans, and thus affording them an opportunity to correct the matter before it would have been too late.

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The Dansville Nurseries

25,000,000 Trees Here—150 Firms

Written for the Dansville Breeze by Martin King Jr., Dec. 9, 1912

KING'S FRUIT TREE BULLETIN

IN CONSIDERING the factors that have contributed most to the wonderful growth of the nursery business in this town, adaptability of soil deserves perhaps the first place. The soil survey of the town of Dansville made by the Department of Agriculture shows eighteen distinct soil types. We have the Genesee silt loam of the valley floor, a rich deposit that was laid down mostly by a process of sedimentation during the epoch when a glacial dam to the north of Rochester held back the water and the whole Genesee Valley from Irondequoit Bay to Dansville—a distance of 55 miles—was a "finger" lake similar to the lakes of the central part of the state. This rich loam in the valley below Dansville grows fine cherries, peach and apples. Extending up the slopes of the hills that surround our town there are fields of Dunkirk clay and silt loam best suited for pears, and some varieties of apples and plums. Then we have a ridge of Canadice loamsembracing many soil types to the east and south, fine ground for cherries, peach and apples. Splendid stands of peach trees have been grown on the slopes of Canadice fine sand and gravelly loam south of the village. In fact, no two fields here have soils exactly alike; and, with so many types to choose from, the experienced nurseryman gives great care to the selection of ground for planting. Many of them lease fields five miles outside the village where they know they can grow good trees.

Next in importance to the question of soil is the fact that this section is absolutely free from San Jose Scale or other dangerous plant diseases. Dansville nurserymen are proud of the fact that they have succeeded, in cooperation with the state nursery inspectors in keeping this scale out of Dansville. Every scion or seedling that is shipped in here is given a thorough inspection and if the nurseryman gives great care to the selection of ground for planting. Many of them lease fields five miles outside the village where they know they can grow good trees.

Leaves the nurseryman is an interesting study for a student of economics or of sociology is to come to Dansville and acquaint himself with the condition that is prevalent among Dansville nurserymen. It is a fact that there are some 150 independent proprietors in the town for the most part skilled workmen who served their apprenticeship with some other grower and, as soon as they were able, started out for themselves. Nothing like it will be found in any other section of the country. Dansville nurserymen who visit other nursery centers are surprised to find everybody working for some big company and are absolutely at a loss to account for the fact that none of these men ever think of attempting to start an independent concern. It is so different in Dansville. There is what may be called "local inspiration"—an inspiration that every workman feels. He looks forward to the day when he, too, will be the proprietor of his nursery, and his name will appear in R. G. Dun and Bradstreet's. The historian of Dansville, Mr. A. O. Bannon, noted this fact as far back as 1902. He says in his history: "A large number of the most successful and largest planters today are men who a comparatively few years ago were working for other nurserymen. This was largely due to the efforts of the local workmen, who were anxious to take advantage of the splendid reputation of the local stock and advantages of soil and climate they have shipped in millions of stock contracted with local nurserymen to mature them here. The germ of the whole movement, however, began to grow back in the seventies. Some of the more independent of the nursery workers of those days went in for themselves and their success inspired others to follow their example. It stands to the credit of the men that broad minds and high character ran the larger nurseries in those early days that, far from attempting to freeze these small fellows out, they (Continued on page 12)
Pomological Districts as Defined by the American Pomological Society

**District No. 1.** Maine above 500 feet elevation; New Hampshire, Vermont, and New York north of latitude 44°; Ontario north of Lake Simcoe and east of longitude 50°; Quebec, New Brunswick, and Prince Edward Island. The dominant natural orchard district of the district is the St. Lawrence Valley. Many of the hardier fruits flourish within its borders.

**District No. 2.** Nova Scotia: Maine below 500 feet elevation; New Hampshire; Vermont; and New York south of latitude 44°, except Long Island; northern New Jersey above 500 feet elevation; Pennsylvania east of theSusquehanna River and above 500 feet elevation; and Maryland west of the Susquehanna River. The portion of the state lying north of the Ohio River; Ohio and Indiana north of latitude 35°, and portions of Michigan, Illinois, and Wisconsin south of 41° latitude. The Annapolis Valley of Nova Scotia, the North Atlantic coast, the lake region of northeastern Ohio, and the Hudson River Valley are the leading features of District No. 2. This may be considered the northern grape, peach, and winter-apple district.

**District No. 3.**—Long Island; New Jersey, except a small portion north; eastern Pennsylvania; Maryland below 500 feet elevation; and Maryland below 500 feet elevation. This is the Delaware and Chesapeake Bay district. Though only a small portion of the district, its productive capacity of the fruits that succeed within its borders is great.

**District No. 4.**—Pennsylvania above 500 feet elevation and south of latitude 41°; Maryland, Virginia, North Carolina, South Carolina, Georgia, Mississippi, and Alabama. The Missouri-Mississippi delta, and Ohio and Indiana south of latitude 40°; southern Illinois below the general elevation of 500 feet, from the Wabash to the Mississippi; Missouri south of a line from near St. Louis and along the elevation of 1,000 feet to the southeast corner of Kansas; Oklahoma below 2,000 feet elevation; and Arkansas north of latitude 35°, also south of it wherever the elevation exceeds 500 feet. The Allegheny and the Ozark mountains and the valleys of the Ohio, the Tennessee, and the Cumberland, and portions of the Wabash, the Mississippi, and the Arkansas rivers are embraced within this district. Portions of it are noted fruit regions, while throughout its vast territory the hardier deciduous fruits flourish. Many of the varieties recommended succeed best in certain localities within the district. An exception to the general character of the district occurs in those portions of Kentucky, and Tennessee lying along the Tennessee River, where varieties adapted to culture in districts 5 and 7 generally succeed.

**District No. 5.**—Eastern North Carolina, South Carolina, and Georgia below 500 feet elevation; and Florida north of latitude 30° east of the Chattahoochee River and above 100 feet elevation; and most of the southern part of the state. Portions of this district are adapted to the more tender fruits of South Florida lying south of latitude 29°, and are indicated by the letter s in connection with the standing.

**District No. 6.**—Florida south of latitude 30°, the remaining portions of the State with elevations below 150 feet, and those portions of Alabama, Mississippi, Louisiana, Arkansas, and Texas lying below the 100-foot contour line as it skirts the coast from Florida to the Rio Grande. This is the southern peninsula and the Gulf Coast district. The successful culture of citrus and other subtropical fruits and nuts is restricted to the peninsula portion of Florida and to the Delta of the Mississippi. Tropical species are only recommended for the more southern portions of Florida lying south of latitude 29°, and are indicated by the letter s in connection with the standing.

**District No. 7.**—Florida west of the Chattahoochee River and above 100 feet elevation; Alabama, Mississippi, Louisiana, and Arkansas above 100 and below 500 feet elevation; and Texas south of Red River and above 100 and below 1,000 feet elevation. The portion of the district lying west of the Missisipi River and north of the Chattahoochee, Arkansas, Pearl, Mississippi, Arkansas, Red, Sabine, Colorado, and Rio Grande valleys. The climate in the eastern and large portion of this district is favorable for the growth of a large variety of fruits. A wide range of the more tender varieties and species is adapted to culture in the district.

**District No. 8.**—Illinois north of the 500-foot contour line as it crosses the State between 38° and 39° latitude: a very small portion south of Wisconsin: Iowa south of about latitude 42° 39'; the Missouri River Valley portion of southeast Missouri and Kansas below 2,000 feet elevation; Illinois north of a line drawn from near St. Louis and along the elevation of 1,000 feet to the southeast corner of Missouri; and the eastern and northern portion of the district are its dominant features. The hardy deciduous fruits succeed in most portions, and commercial fruit growing is a rapidly developing industry.

**District No. 9.**—Wisconsin except the small southwest corner; Minnesota; upper Michigan; Iowa north of about latitude 42° 39'; North and South Dakota east of the Missouri River; and the northwestern portion of South Dakota. This district embraces the upper lakes, including Winnipeg, the upper Mississippi and the Red River valleys. Only the hardier fruits succeed, but fair progress has been made in recent years in developing varieties adapted to this region.
Section 9.—Peaches (Amygdalus).

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<th>Size</th>
<th>Shape</th>
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| Section 7.—Grapes (Vitis).

Key for Grapes, Raspberries, Blackberries, Currants and Gooseberries

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Section 11.—Plums (Prunus).

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Section 2.—Apricots (Prunus).

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Section 13.—Raspberries (Rubus).

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Section 6.—Gooseberries (Ribes).

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Section 3.—Blackberries and Dewberries (Rubus).

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Look.—An Exceptional Bargain

By special arrangement with the manufacturers here in Dansville we offer a fine rocking chair and 474 first-class trees and vines, enough to plant out a complete up-to-date home fruit garden all for $225.00.

This is one of the most comfortable, and best all around rockers we could find. We guarantee it to be high class in every respect, made of thoroughly kiln-dried oak, showing a rich quarter on arms and front, tastefully upholstered in genuine Spanish leather with detachable spring seat, and beautifully finished in early English, Golden oak or fumed oak. It is an ornament as well as a necessity to every home. This rocker and 474 trees and plants for $225.00.

Round Table Talk with Professional Fruit Growers

Most of the things written in our Bulletin are very familiar and common-place truths to you. We leave you to judge, however, whether we have not tried to give something definite and worth while to the man who is not so well informed as you are on orchard methods and practices. We call your attention especially to the fact that we have not tried to boom particular varieties or "some wonderful new kind" in order that we might sell them at a fancy price. This, as you know, is a criterion that should be used in the selection of fruit stock.

Now, gentlemen, you will be in the market this year or next year in three years for a large number of trees. You know the varieties you want and you know something about nursery methods in the large nurseries of the country.

To those of you who have not dealt with us as yet, we extend a cordial invitation to read the article in this number on the Dansville nurseries and to come to Dansville next summer and let us show you through these nurseries as our personal guests, and hope to get your patronage and we want to number you among our list of satisfied customers.

To our old friends among the fruit growers, we extend greetings, and simply remind you that we are still at the old stand and at your service whenever you want to increase your plantings.

King Brothers Nurseries,
Dansville, N. Y.
The Orchard—How to Make it

The proper location of any tree in the field can be easily found, thus the hole-digger may use his shovel handle as a temporary stake and align it with two stakes in each of the two directions at right angles. The location of the handle indicates the center of the hole. In planting, the tree should first be used as a temporary stake and aligned with two stakes in each of two directions at right angles. In this method any number of men may plant trees in the field at the same time, and the work may begin in any part of the field.

What to Plant—The whole success or failure of the orchard depends on the kind and variety of trees selected. Do not experiment with anything new unless you intend your work to be only an experiment. The best recommend the orchardist can have for any variety is that it has proved to be successful in his locality or in other sections where the soil and climate are identical or nearly so with those in his section. The American Pomological Society and the State Experiment Stations have been of some value in furnishing planters with definite information along this line. Do not hesitate to consult these experiment stations experts on horticulture.

It is never advisable to plant more than four or five varieties in a commercial orchard. Experience has shown time and again that it is much easier to dispose of fruit from an orchard if it has only a few varieties. Then, too, it is important to consider the nature of the market to be supplied. If it is a local and select one, only varieties that would supply a succession of high quality fruit should be used. For the distant market, the color and size of the fruit is the most important factor, and no doubt will be for some time to come although the public of late is beginning to show some discrimination as to the quality of the fruit rather than its size and color.

Planting the Trees—It is essential, as said before, to prepare the ground in a thorough manner. You cannot run the hard over it too many times before planting. You may lessen the labor by plowing along the line of tree rows, but the holes must be dug much deeper than the plow will go and this work has to be done by hand. The manner of trimming the tops and roots is very important as is shown in another article in this paper. Set the trees a little deeper than they stood in the nursery and be sure to pack the dirt firmly around the roots. Do not be afraid that you will make it too firm. The tree has a poor chance to live unless the roots come into close contact with the earth. This point is insisted on because so many people are careless about it and the tree suffers as a result. The last two or three inches on top of the ground should be loose to afford a dust mulch and thus prevent the evaporation of moisture from the ground around the tree. Never throw sods or coarse manure into the bottom of the hole, thinking to furnish fertility to the tree. They are sure to cause injury by heating and absorbing moisture. These things will do fine on top around the tree as a mulch.

After Care—Give the young orchard good care. By so doing the trees will come into bearing earlier and remain in a condition of health and thrift. Thorough and systematic cultivation to keep down weeds and conserve moisture is the first requisite. Be sure, however, not to bark or injure them in driving through with the horses. Cover the ends of the wattle trees and hames with burlap or light a cord on the trees wired to the horse will save many limbs from being nipped.

The methods of controlling insects and fungus diseases should all be known by the orchardist. It is a simple matter to become familiar with the best manner of spraying and other means of control. The young trees need to be watched and given immediate attention at the first sign of disease or insect attack.

The Fruit Tree

A FRUIT tree is a symbol of home and comfort and good cheer. It is the emblem of good works.

By the wooded shed or the pump, or against the barn or over the garden fence, the apple or the peach tree connects us with the world of life and space that stretches out to woods and farms. We rest our affections on it, as a midway place between ourselves and the immensity of the heavens, the fields and the monitor of the home. It is an outpost of the birds. It feels the first ray of morning sunshine. It proclaims every wind. It gaily lies in the sun's soft glow. It wears its leaves, and setting the snipping frost is in its blossom and its fruit.

I often wonder what must have been the loss of the child that had no fruit tree to shelter it. There are days like the days under an old apple tree. Every bird of the field comes to it sooner or later. Perhaps a humming bird once built on the top of a limb, and the marks of the old nest are still there. Strange insects are in its knots and wrinkles. The shades are very deep and cool under it. The sweet smells of its blossoms connect us with the history of the fruit that comes out of a blossom is beyond all reckoning, the magic growing week by week until the green young balls show. It is not a plant of earth, but a garden in the house that holds the tang of summer in them. And who has not watched for the first red that comes on the side that hangs toward the sun, and waited for the first fruit that was stiff enough to yield to the thumb! Verily, the old apple tree carries all the memories of the years.

The worth of a fruit tree is very real, quite beyond any figuring in dollars and pounds. I think we do not know how good a teacher it has been or how much it has steadied the lives of many folk. An orchard is only a family of fruit trees.

Orchards are also very real, but I hope that we do not lose the feeling of the tree. Our ancestors who planted trees and ate the fruit when the orchard becomes almost a sacred spot. A fruit tree in full load is one of the most marvelous objects in nature. We can not understand the wonder of the world's endurance is produced, and how such color and substance and flavor and faultless form are derived of the crude elements of soil and sun and air. It is a great union of a part of the infantile vegetable and the adult. It is a blending of the life in the fruit with the life in the tree. There is an end to plant life, but not to the life of the fruit.
The Rich Harvest
By Bruce Kenneth

"SO YOU are going to leave me, Jim, and try your luck in the city. What can be the matter with the boys of this age."

Mr. Norton shook his head slowly and his eyes wandered over the fields toward the distant hill. His son, Jim, leaned against the fence, gazing at an auto slowly climbing the road.

"Well, father," he answered, "you know our ideas differ. You gave me a good education, and I wish to make something of myself. But I see no opportunity on the farm alone."

"Yes, I know; you have these new ideas of progress and experiment. You say my method is old fashioned and out of date; that I am robbing the land and getting no benefit. Well, maybe I am, maybe I am."

Old Norton took off his hat and ran his fingers through his hair.

"It may be the harvest this year, father?"

"Poor, my boy, poor," he answered, putting on his hat. "Well, I must be about the chores. We'll talk about this later, my son. Don't leave the old farm, my boy, mother and I need you."

Jim Norton stood for some time, his mind occupied with many thoughts. He was young, bright and ambitious. He had been trained ready for the battle of life. He had advanced ideas of farming and tree raising, and he knew the farm could not succeed unless his father gave him help. To carry out his ideas, Jim needed money, but his father was set in his methods, and would not consent to his son's plans. Young Norton decided to give up the farm, and seek success in the city. This decision greatly worried his father and mother, for Jim was the only son. Something must be done to keep him. Jim was sickly, and many, or heartily, would be troubled. With these thoughts running through his mind, Jim turned from the fence and entered the house.

"Don't you tell me what has been troubling you for some time?"

He told her all, for he knew that in her love for him she could find a remedy. He recounted his ideas, his ambitions, his father's old ways and methods. He could not carry out his father's plan, so he must seek for the city. They remained silent for some time gazing at the scene around them, thinking deeply. A gorgeous moon floated in the heavens, shedding its bright moonbeams. The trees in the orchards, and silver rays were reflected from the gleaming apple trees and the green trees. A hazy mist filled the country. The healthy, stately little peach trees stood in long straight rows, like soldiers. The whole scene painted with moonlight. Below them lay an ideal farm, for a man of big progressive ideas ran it.

"Ah," muttered Jim Norton, "that is my idea of an ideal farm. I would live and the content on such."

Essie turned to him, and why not succeed, as has this man? All this belongs to my father. He struck out on new lines, but was robbed by many nursery firms in whom he trusted. But once, while at Normal School our professor wanted some tiny seedlings for an illustrated lecture on grafting. A young progressive nursery farm gave them to him. The professor praised them highly and mentioned the thought of some trees from them, and lo, here is the result."

She pointed to the luxuriant orchards shining in the moonlight. Jim eagerly leaned toward her. Here lay his opportunity, his hopes for success.

"Who are they," Jim cried eagerly, "and I shall see them now."

"They are King Brothers, nurserymen of the world famous Genesee Valley, they will help you. Oh, if you will but decide to take up grafting in silver and profession and go to these men for practical advice, I know you will succeed. Think of their honesty, think of their eagerness to help all, think of your ambitions."

"And your love," he cried. "I will, I will go to them. I see it all now."

He clasped her hand in his, and they slowly drove over the hill in the moonlight. A new light had broken on Jim, and the next day he poured out his story to his father. Jim told him of King Brothers; he told him of the success of Essie Merrill's father, he showed him where they could not fail. Old Norton shook his head slowly.

"Why, my boy, once I bought trees from an agent, at fifty cents apiece, and they were no good."

But father, these men are not agents. They follow the best methods known to practical and scientific horticultural experts. Give me, and give them a chance.

The old man stood thoughtful for a moment. Then he suddenly held out his hand to his son. "Stay with me and I will furnish you with money. Go to them for stock and advice and I will try and help you in your work."

In AFTER YEARS

Years had passed. Standing on the brow of a hill, hand in hand, were two happy people. Jim Norton and Essie Merrill. Before them, on the distant hill, stood the luxuriant Genesee Valley, the healthy glowing trees were shining in the bright sunlight. The whole farm was rich with its abundant crops, and better orchards could be found in the entire county, and all this was Jim Norton's.

"And you have succeeded," Essie said, waving her hat toward the valley. "Ah," Jim cried, "I am a happy man. The richest farm for my labor; and the best and most beautiful girl for my future life."

But their beauty was not all. He had given her and her close to him. She gazed up into his eyes and asked suddenly:

"And her name is?"

And he answered, "Essie."

Your Farm an Investment

The appearance of your property goes a long way toward fixing its value. Paint and shrubbery will return returns incredible, and every farm house may be made more pleasant and attractive by a little attention along this line. A man who regards his farm merely as an investment should remember that any improvement, which increases the value of the holding, increases his capital. Some farms would be worth much more if they were not so shabby and unkempt.

You can help your farm by putting trees on either side of the road about 100 feet apart. This not only adds to the beauty of the landscape but gives distinction to the section where the practice prevails, all of which is bound to make a great difference in the actual value of the farms along such a highway.

Many farms have very few if any trees growing on them. "As the natural forests are being rapidly cut away," says Pennsylvania Farmer, "it is becoming necessary to plant trees for a wind break for the farm buildings, and endure the extreme cold winds of winter, and in summer such a grove is without price on account of the shade and comfort that may be enjoyed. Thus plantings of this class answer a two-fold purpose. First, to protect from the time in course of time, and protection, as well as their aesthetic value. For telegraph poles and fence posts, catalpa and black locust are suitable, making very rapid growth. The soft and hard maples are ideal trees for shade. The nut-producing trees should have an important place in the farm plantings, not only on account of the nuts, which are in demand, but also the high value of the timber. The hickory, walnut, butternut, and chestnut will grow on most soils."
The Home Fruit Garden

THERE are so many people to whom it would be a source of real pleasure and health to have a little fruit garden in connection with their home. In the hope that some may become interested in this, I am giving a number of facts extracted from Farmers' Bulletin No. 154 which may be had free complete by applying to the Department of Agriculture at Washington.

A "fruit garden consists of an assemblage of fruit-bearing trees and shrubs, maintained for the purpose of supplying the family with fruits. Although fruit gardens are most popular in this country, they are intended to accomplish results similar to those of the vegetable garden. In distinction from an orchard, the fruit garden is more restricted in area than market purposes, and consequently comprises a much greater variety of fruits.

Considering the general desire for and appreciation of fruits, it is amazing that even those who have suitable situations and facilities for raising them, and who fortunate with the results, would become a reality. From markets, have not established home fruit gardens.

With the growth of the commercial fruit interests of the country, the home fruit gardens have been less popular. Only a few years ago the owners of home gardens not only led in the production of fruits, but were our authorities as to how and where to them. Today these gardens, while less numerous or important, are overshadowed by the orchards where fruit is grown for commercial purposes.

The inhabitants of this country are notably a fruit-loving and fruit-eating people. Notwithstanding this, however, fruit culture has been much neglected, and few persons who consume fruit are actual growers. The possibilities in fruit culture upon which great efforts are being directed by that familiarity with which they come through their culture. The cultivation of fruits teaches discrimination. A grower is much more intelligent than one who has not had the advantage of tasting the better dessert sorts as they come from the tree. If every purchaser were a good judge of the different kinds of fruits, people would be grown for fruits of high quality, to produce which is the ambition of every amateur, as well as of every professional grower. It is the advantage of the home garden that it can be changed, and much of the fruit is now practically useless and entirely unproductive, it can be made to produce fruits in sufficient quantity to give him a regular place upon the market of fare, and at the same time add greatly to the attractiveness of the table and healthfulness of the diet. The home production of fruit stimulates an interest in and a knowledge of the various fruits and their cultivation required by that familiarity with them which comes through their culture. The cultivation of fruits teaches discrimination. A grower is much more intelligent than one who has not had the advantage of tasting the better dessert sorts as they come from the tree.

It is to be hoped that the encouragement of the cultivation of fine fruits in the home gardens will do much toward teaching buyers this discrimination.

But to one who is interested in growing and cultivating a taste for quality, the maintenance of a fruit garden brings pleasant and healthful employment, and as one's interest in growing plants increases, so will it prove a hardship, will become a great source of pleasure. The possession of a tree which one himself has planted and raised becomes an added interest in its product, as well as in the operation by which it was secured. The unfolding of the leaf, the exposure of the blossoms, buds, the development of the flowers, and the formation of the fruit are all processes which measure the skill of the cultivator, and when the cropping results of the home garden are compared with those which can be attained in a crop of perfect fruit, the man under whose care these results have been achieved will himself have been made happier and better.

To those familiar with the facilities at command for the culture of fruit and the general intelligence and wide knowledge of the value of successful fruit gardens about city, suburban and country residences can be explained only on the ground that those who would be most to advantage of the character of the soil and maintainance have no object lessons or literature at hand to guide them in laying out such gardens.

In order to prove a source of constant pleasure and to gravo these, it must claim the attention of the owner from early to late autumn; its products, too, must be the most attractive in proportion to their size. The question of longevity is of no moment; immediate fruit production is the object.

Since one does not choose the site of his residence on account of the character of the soil of the locality, but because of other natural advantages of the place, it is obvious that the soil at the disposal of the grower will frequently be ill-suited to the purposes of a home fruit garden. For a commercial place on an extensive scale it would be out of the question to attempt to suit the character of the soil to the needs of the plant, but with a small area the case is quite different. If the soil is heavy it can be lightened with sand. If it is not desirable to increase the proportion of clay, which it contains; if it is lacking in organic matter the addition of leaf mould and well rotted manure or the turning under of some leguminous crop will improve it. If a border of peas, will accomplish the desired result; if the soil is loose and sandy, losing its store of plant food readily, this fault can be remedied by the addition of manure, such as compost; the addition of clay; the amount of clay to be added must be governed by the degree of stiffness desired in the soil.

Sand will lighten and facilitate natural drainage but if the soil be unduly moist the only safe and satisfactory remedy lies in thorough under-drainage. This can be accomplished by the adoption of the method of trenches. Drains may be dug and a stone or brick built to allow the superficial water to escape, or, what is better, agricultural tile may be laid in the bottom of trenches. If the soil is very stony or retentive, the tiles should not be laid over 2 ft. 3 feet apart. If the soil is porous, the drains may be placed farther apart and buried deeper. A double purpose is served by underdraining. The superficial water which tends to make the soil cold, sour and 'late' is removed, thus making possible, by the admission of air the acidity is slowly over come. The processes of oxidation and nitrification are also affected because conditions for action, and the available foods, these being added nothing to the soil in the way of plant food, the mechanical operation of removing water and admitting air will facilitate the liberal dressing of manure, for the store of plant food which was withheld from the plant is allowed to become available. There is little wonder in the light of these facts that early agriculturists propounded the axiom, 'Tillage is Manure.'

The holes in which trees, vines, or shrubs are to be set should be ample, so that the roots of the plant may have full spread without beating them out of their natural course. The hole at the bottom of the hole should be loosened a space depth below the line of excavation. The soil placed immediately in contact with the roots of the newly set plants should be rich for soil, free from seed, or partially decayed organic matter. Firm the soil over the roots by trampling, as this brings the soil particles together and at the same time in the depth of the roots of the plant. A movement of soil water is thus set up and the food supply of the soil brought immediately to the use of the plant. When the operation of transplanting is complete, the plant should stand one or two inches deeper than it stood in the nursery.

The special adaptations afforded by dwarf trees and by specialized combinations of low-growing and high-growing plants, certain well-known systems of pruning and training these, and the general information as, for instance, the grape vine, which readily lends itself to arbor training, may be utilized for screening tender or shade-loving plants.

Strawberries adapt themselves to almost any situations if the shade is not allowed to become too dense. Among flowering plants none will thrive better under such conditions than pinks, hollyhocks, and begonias. Perennials like lilies, lemons and radishes may be successfully grown under a canopy, as they will be out of the way before a dense growth is formed. Asparagus may be successfully grown under a shade of this character, as will, because of its early habit, make a large share of its growth before the tangle grape has produced a shade dense enough to interfere with the young, tender shoots.

The vine may be utilized as a cover for walks and other purposes over given level cuttings. A cozy summer veranda may be covered by grape vines, thus securing the double advantage of a cool, shady nook during summer and a source of leafy debris for the garden. In a garden a small ash house as shown in Figure 1 can be made to support a grape vine capable of producing 300 clusters of grapes. In which this vine may be grown, only 25 feet wide and 80 feet deep, also can supply foot room for 15 other grape vines, several dozen strawberry plants, a row of currants, and a limited supply of vegetables and annual flowers, besides a few square yards of beautiful turf. The plan of this garden (Fig. 1) shows the arrangement of the plants. The grape vines are trained to the high, tight, board fence which separates the lot from that of the next neighbor. The currants are planted near the side of the enclosures, while the main walk occupies a corresponding position on the opposite side. The area between the walk and fence on one side is given up to strawberry beds that between the walk and currant bushes on the opposite side forms the flowers and vegetable plot.

Where there is more land at one's disposal...
there may be both a fruit garden and a vegetable garden. An area 60x80 feet set apart as a fruit garden will accommodate 442 fruit-bearing trees and 1820 vegetable plants. The general plan will serve as a guide to planters in any portion of the United States, but the sorts chosen must be adapted to the particular section of the country in which the work is to be executed.

As will be seen by Fig. 2, this garden is planned to utilize the space to the best possible advantage. In order to secure large returns the soil must be cultivated and well enriched, walls, if any are to be maintained as permanent features, should only exist where necessary for ease and comfort in getting about. On account of the small area occupied and the ease of care required to secure the result desired, the culture of such a garden must of necessity be done by hand. If the grape vines are trained on the high renewal system, they will serve both as a screen for the rest of the garden and as a source of fruit supply. A good wire fence should, however, be constructed on the line between adjoining properties. The grape plants are not farther than two feet from the boundary fence.

**Fruit-Bearing Plants That can Be Grown on an Area of 60 by 80 Feet**

Thirty-two grapevines, dispersed at intervals of 10 feet around the entire garden. Three rows, each containing 6 trees, dwarf pears, 18 specimens in all (rows Nos. 2, 10, 14). One row, 6 specimens, plums (row No. 4). One row, 6 specimens, cherries (row No. 8). One row, 6 specimens, blackcurrants (row No. 12).

Three rows, 40 specimens, blackberries (rows Nos. 3 and 5). Two rows, 40 specimens, blackcaps (rows Nos. 7 and 9).

Three rows, 300 specimens, strawberries (rows Nos. 11, 13, and 15).

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**The Farmer's Fruit Garden**

U.S. Dept. of Agriculture; Bulletin No. 109

"No farm, no matter what its main branch of agriculture forms its main purpose, is complete without its family orchard," says A. V. Stubenrauch, of the Illinois Experiment Station. "The fruit production of the farms of the country are not adequately provided for in this respect. The principal reason for this, as given by Mr. Stubenrauch, is that "too often the family orchard is viewed from a commercial standpoint—that is to say, natural difficulties which would render a commercial orchard impossible, are looked upon as insurmountable by the country gardener. This is wholly an erroneous point of view. Special practices which would be impossible and impractical in a commercial orchard are not only possible but profitable in the family place." Such an orchard may not be profitable from a purely pecuniary standpoint, but as a source of beauty, variety, amusement, and healthfulness of the diet it has a value which is none the less important because it can not be computed in dollars and cents. Careful attention, however, to details of culture, management, etc., is necessary to secure the most important returns to which special attention must be given. A thorough and frequent cultivation to conserve soil moisture in time of drought, and to cause regular and uniform ripening of the wood before the full frosts, the selection of a location for planting which has good air drainage, in order to prevent as much as possible against late spring frosts. With the more delicate fruits "laying down" and covering may be found necessary in severe winters.

In large and small orchards the trees for the home plantation two ideas should be kept in view: (1) The trees should not be larger than is actually necessary, and should be arranged so as to allow most convenience in working—that is, the rows should be made as long as possible. (2) The trees should be the best—the best are always the cheapest, at any price, for this purpose—and should consist of those varieties not only adapted to the locality and the purpose of the grower, but also selected to furnish a fairly continuous supply of fruits, both for table and culinary uses. The kinds of trees suitable for the home garden will have to be governed by the locality and the individual preferences.

The diagram suggests a plan of a fruit garden of one acre, and "shows how great a range of fruits can be grown even on so small an area. Individual tastes vary, and some may not care to have all the fruits mentioned, preferring rather to have more of some favorite ones. By a judicious selection of varieties and by giving good care, it is calculated that an acre laid out as suggested in the diagram should yield an adequate supply of fruit for both the table and for "putting up" to satisfy the demands of even the largest family."

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**Possibilities of a Ten Acre Apple Orchard from Planting to Bearing a Profitable Crop**

IT WILL cost you just $126 to buy 700 yr. apple trees at 18 cents each, and this number will plant a ten acre field setting the trees twenty-five feet apart each way. The cost of fitting the land and planting the trees should not exceed at the outside $74 for the ten acres. Thus the initial investment is approximately $200 besides the land.

It is not advisable to plant peach trees between the apples as fillers, for they require radically different spraying and treatment; besides they are apt to overgrow the apple trees with their roots and injure them. Quick-bearing varieties may be planted between the permanent trees, such as Ann Arbor, Grimes Golden Delicious, Wealthy, and Yellow Transparent. For the permanent trees, Baldwin, Spy, and Golden Delicious are the leaders in the East. When planted in alternation, the Red Delicious, McIntosh Red, Rome Beauty, and Jonathan should also be given consideration. In the more Southern sections, York Imperial, Wine-

dix, and Keener, are best. Do not plant more than five kinds in the orchard. It is harder to find a market for too many kinds and handle them.

Professor H. E. Van Denan thus describes the method of planting in squares with the use of fillers: "What I think would be the best style of apple orchard planting is to set the trees in plain squares 25x25 feet apart. Such varieties as are intended for permanent uses should be set at the fifty feet checks and the others in all the interspaces. This makes three fillers or temporary trees to every permanent tree. If all fillers could be three varieties used and have them all arranged for progressive thinning. The diagram shows how this can and should be done.

**Olive Orchard**

Top cut, No. 1, represents orchard complete with fillers. No. 2, middle division, shows orchard after first thinning, which may occur about the end of the 4th year. No. 3, right division of trees in the row, the permanent trees left at the end of about 15 years.

"By this plan the entire ground will be occupied by the trees for the first few years before they are old enough to bear, and when cultivated, garden or fillers may be sown between them. When about fifteen years of age they will show the first signs of contact, and then the first cutting out must be done. And there must be no waiting for 'one more good crop' or any such thing. When the trees need to be taken out they must come out. Each alternate row diagonally when removed will leave the remaining trees a little more than thirty-five feet apart and they can stand so for about ten years longer. When crowds have signalized the trees the fillers must be taken out, leaving the permanent trees 50x50 feet apart and they will need that much room for full development if they stand in a region where apple trees grow to normal size."

During the first few years it is profitable to grow some pelargonic crop between the trees such as beans. It is true that the small leaves make this crop about 30% less than it would be if the trees were not present. Assuming, therefore, that the net returns from an acre of beans would be about $16, it is evident that the young orchard only takes $4 per acre or $40 per year for ten acres from what the net pays could be. For the landscape field were given over entirely to some farm crop. A crop like beans which does not draw much fertility
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Peartrees, 6c each
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Kieffer—Bartlett
Chips—Seckel
Seckel—Flemish Beauty

PumTrees, 5c each
2 yr., 2½ to 3 ft.
Lambland—German prune

Beauty of Naples—Baldwin
Bucke’s Pride—Shaw, Danson
Apple Trees, 8c each
2 yr., 2½ to 3 ft.
Baldwin—N. Spy
King—R. L. Grieve’s Home Beauty
Ben Davis—Golden Russet
Genie’s Golden—York Imperial
Star—Wolf River, Wealthy

Michilin Red—Wineap
Duchess Red—Duchess Ron, Russet

Cherry Trees, 4c each
2 yr. 2½ to 3 ft.
Black Tartarian—Gor, Wood
Napoleon—Schmidt’s Bug
Windsor—May Duke Orlinun
Mount祲ure—Fy, Richmond
Baldwin—English Morello

from the ground is to be preferred. It is not necessary to cut and prune the young trees if they have been planted properly. Yearling trees headed back to from 18 to 24 inches so as to make low heads will be only injured by the use of the pruning knife; and the age at which they will bear a profitable crop considerably increased. They should be watched carefully, however, after planting, and any four or five suckers distributed as evenly as possible around the trunk of the yearling and not all at the same height allowed to grow. Simply pinch the others off with the thumb and finger and keep the bottom of the tree free from all suckers. Then keep out of them afterwards with the pruning knife. As a writer in the latest Horticultural Number of the Rural New Yorker expresses it, “The apple tree of the low-headed type, which had been pruned but little if any after time of setting until fruit production had commenced, produced fruit sooner than those orchards in which a so-called perfect system of pruning was inaugurated from the beginning, and is well known to farmers, and to help the orchard if the ground is in good condition, as it should be, when the trees are planted. This rule of course does not apply if annual crops are planted between the young trees. In such a case, you must put back what you take off.

It is highly desirable, however, to sow a clover crop in the orchard whether the trees are young or old. Opinions differ as to what to sow, but crimson clover is very popular in South Jersey and Delaware and regions having such climate. The most successful clover crop in the north is vetch and rye mixed at the rate of one bushel of each per acre. Vetch is a wonderful nitrogen gatherer; and, if the practice of sowing it with rye is kept up from year to year and the crop plowed under in June, it will add wonderfully to the humus content and fertility of the soil.

The early bearing varieties will come into fruit in about five years from time of planting. An average yield of 20 boxes the ten acres will be a profitable crop. Remember there are orchards in Western New York that yield an annual net income of over 10% on a valuation of $1000 per acre.


deal everything possible to aid and encourage them.

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