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# GREENING'S *Fruit Growers' Guide.*

COMPLETE IN FOUR DEPARTMENTS.

1899

PART ONE—Chapter on Transplanting.

PART TWO—Chapter on Fruit Growing.

PART THREE—Chapter on Marketing.

PART FOUR—Chapter on Spraying.



CHAS. E. GREENING.

AUTHOR OF GREENING'S FRUIT GROWERS' GUIDE.

PUBLISHED BY  
**GREENING BROS., = = MONROE, MICH.**  
MICHIGAN'S LARGEST NURSERIES.  
ESTABLISHED 1857.

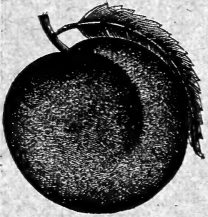
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# GREENING BROS.' NURSERIES.

600 ACRES.

LARGEST AND BEST IN MICHIGAN.

NURSERYMEN—SEEDSMEN—PUBLISHERS—HORTICULTURISTS.

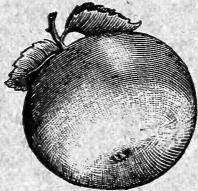


**Banner Peach** for which we paid \$2,500 in cash, new, hardiest of all large, yellow free stone, with beautiful red cheek; ripens after late Crawford; 20 years test; every tree "Trade Marked." Quality equal to New Prolific.

**New Prolific Peach**, Ripens between Early and Late Crawfords, 2 weeks earlier than "Banner"; large yellow. Well known as a leading market Peach; rich, luscious, immense bearer, good shipper, sold under trade mark.

**Brusseler Braune Cherry, New. Latest of all Cherries.** Morello type, very hardy, wonderfully productive, dark red, large, handsome, most profitable of all. "Trade Marked."

**Winter Banana Apple, the King of Market Apples**, Richest flavored fruit ever introduced; large, smooth, very beautiful, red cheeked, bears large crops in two years. Hardy for cold climates. Every tree "Trade Marked."



**Conrath Raspberry.** Finest blackberry grown. Large size, delicious flavor, vigorous grower, ripens 10 days earlier than Gregg and is the best market berry grown.

**Cream Beauty Rose**, In this we have the long sought hardy cream yellow rose; exquisitely tea scented, perpetual bloomer, and a climber. The most valuable acquisition of recent years in the rose line.

A Full Line of all kinds of Choice Fruits and Ornamental Trees, Vines and Shrubs.

Send 10 cents for our Elegant Illustrated Catalogue, containing over 100 Colored Illustrations.

Address

GREENING BROS., Monroe, Mich.

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**BLOCK OF TWO YEAR OLD WHOLE ROOT BRUSSELER BRAUNE CHERRY.**  
The Latest Ripening Cherry in Cultivation.

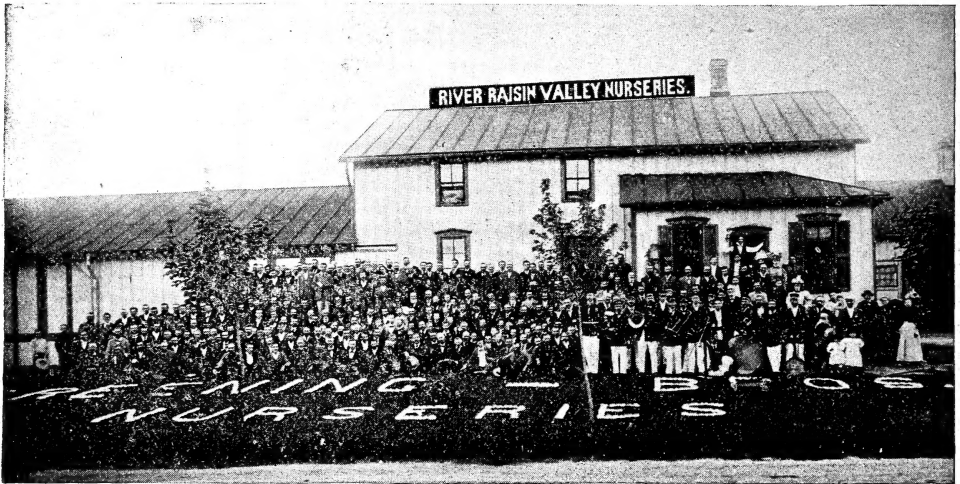
## To Our Patrons and the Public:

We are almost daily besieged with questions relating to **Planting, Pruning, Cultivation, Soil, Spraying, Gathering, Marketing,** etc. of orchards and fruits. Inquiries have been constantly increasing from year to year in the progress of our business until, finally, we are brought face to face with the problem of preparing a work which would cover all of the questions usually asked. To supply this information in a concise and convenient form, the author has prepared this pamphlet, entitled "**GREENING'S FRUIT GROWERS' GUIDE,**" believing that it will fill a want which has been felt for many years, and trusting that the matter contained in its pages will bring increased profits to those engaged in fruit growing, and joy and pleasure to all who are interested in the progress of horticulture. The information herein contained is gathered from a life-long experience in nursery work and fruit growing, and the author has also been guided by the valuable information gained while on the lecture platform, addressing horticulturists, in fourteen different states. It contains facts, not theories. It is written in the plainest of language, so that any person of ordinary intelligence can read and understand it. It treats of the subject from the time of planting up to the time the fruit passes into the hands of the consumer on the markets, and may be referred to with the utmost confidence. We believe that no apology is due for the use of so many pictures, which are not only very beautiful, but which also furnish material for careful study.

**FOR THE OVERWORKED BUSINESS AND PROFESSIONAL MAN,** for people living in crowded cities, and for all who need nature's remedies to build up a broken down constitution, nothing offers more real health-giving enjoyment, recreation and fun than a country home, lined and dotted with beautiful trees and shrubbery; an orchard or a garden of choice fruits—the food of God's own giving—the free use of ripe, fresh fruits; a stroll out in the open air among the trees, where the wine is nature's purest nectar; where nature's alternatives and sedatives are abundantly supplied by a beneficent mother. To those, this book will be a welcome guest in its handy and condensed form.

**FOR FRUIT GROWERS AND FARMERS** this book will lead the way to success in fruit growing, and spare them much worry when in need of advice. It will save them many costly experiments, and will help to increase their profits. The latest methods and practical ideas are brought out without restraint; many practical and useful hints are presented, boiled down to occupy the least possible space, for busy people to read.

**GREENING BROS.,**  
MONROE, MICH.



### GREENING BROS.' FAMOUS MEETING OF HORTICULTURISTS.

Photograph of the Company Taken After a Tour Through the Nursery Grounds.

A gathering of over 300 leading fruit growers, prominent horticulturists, and representatives of the press, who came to inspect our stock and look over our grounds.

After inspecting the nursery the party returned to the office, where a lunch had been prepared, and immediately afterwards an impromptu meeting was called, the band played, and speeches were made. It was while the guests were thus assembled that the photo was taken. The speakers all had a good word for Greening Bros.' stock. One enthusiastic grower said: "The half has not been told me. If I were to plant 500 acres I would buy every tree from Greening Bros." Another expressed himself—"May Greening Brothers live forever, and may we never die." Another one said: "I have visited many nurseries, but the stock of trees I have seen today excels in all respects any that I have ever seen. This firm deserves success and is getting it."

A representative of a newspaper published in Essex County, Canada, wrote:—

"It will pay any man who wants first-class trees to visit this nursery. One could not help being struck with the uniform size and shape of the trees. No unsightly knots, no dwarfed or crooked trees, no diseased plants are seen, and our ideas of what a first-class tree should look like were considerably changed, as we compared their trees with those we have been in the habit of purchasing. Peach trees of only four months' growth stand six feet high. They seem unable to grow stunted, deformed, gnarled and twisted little trees like those imposed on the people of Essex County last spring, from Eastern nurseries."

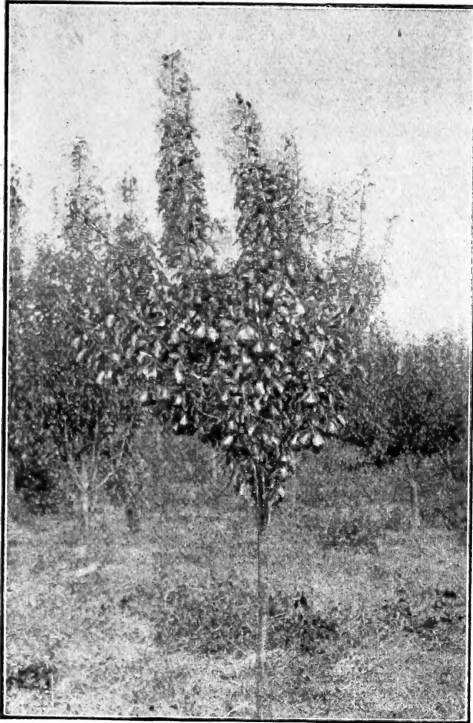
## PART ONE.

# Chapter on Transplanting, Soil Culture, Pruning, Etc.

### PREPARATION OF SOIL BEFORE PLANTING.

In heavy or gravelly soil a green crop turned under, such as peas, corn, buckwheat, or crimson clover, will be found of inestimable benefit. Soils of sandy nature are improved best by the application of stable manure, which should be applied freely and turned under before planting. Soils rich in plant food, such as new land, old meadows or pasture lands, require little if any manure at planting time; such lands should if possible, be planted to hoed crops the year before. The orchard being planted is for a lifetime; care in preparing the soil and selecting a piece of land adapted for the purpose should not be overlooked. It is necessary to work up the ground, especially heavy soil, good and deep before planting. If in a yard where a plow cannot be used, have the ground spaded deep for several feet around, and mix in with the soil some thoroughly rotted manure. Drainage on wet, heavy soils is necessary; deep plowing and subsoiling is also very essential.

"Love thy neighbor as thyself;" persuade him to set out trees.



**C. DE NANTES PEAR TREE.**

Three years old. The most profitable late ripening pear in cultivation. Photographed from orchard. Our trees have wonderful bearing qualities.

**SELECTING A SITE FOR AN ORCHARD.**

In the matter of selecting a site for either one or different kinds of fruit, the question of soil and location is of great importance. A location having good surface and air drainage is in most instances preferable to level lands. Under-drainage on level lands makes the soil loose, fertile and warm. Mistakes are often made by planting on soil too flat, low and cold. One needs to study climate and elevation as well as soils. We have frequently met with some great surprises on soils which we considered undesirable for certain kinds of fruit. Much depends upon the chemical and physical condition of the soil, also elevation and climate. Soils range from heavy, damp clay to fine drifting sand with little fertility in it. Either extreme is undesirable. Certain fruits, such as pears, will succeed in quite heavy soils, while peaches, plums, quinces and cherries will succeed best in soils of a loamy, sandy or gravelly nature. Certain varieties of peaches will produce good crops of choice fruit even on light, sandy soil that would not grow any other crop with success. A good deal depends upon conditions which should be carefully studied by the planter.

**VARIETIES TO PLANT.**

The selection of varieties is very important. Mistakes in selecting varieties have been made by the best and most experienced fruit growers. It is well to observe and profit by the experience of others. With most varieties it is purely

a question of locality and soil. Experience in many things is the best teacher. We must make use of the experience of others, who have gone over the road and paid the bills for such experience. In planting an orchard for market, it is well to consult for advice those who have knowledge, observing carefully the success and failures of varieties fruiting in the vicinity. It is also well to consult a reliable nurseryman, and in this connection we cheerfully offer our services. Our extensive Experimental Orchards, and our wide range of experience and knowledge in growing fruit for market, enable us to give correct advice to planters. We will answer all questions in this respect honestly and fairly. Planters may consult us with utmost confidence.

**THE BEST STOCK TO PLANT.**

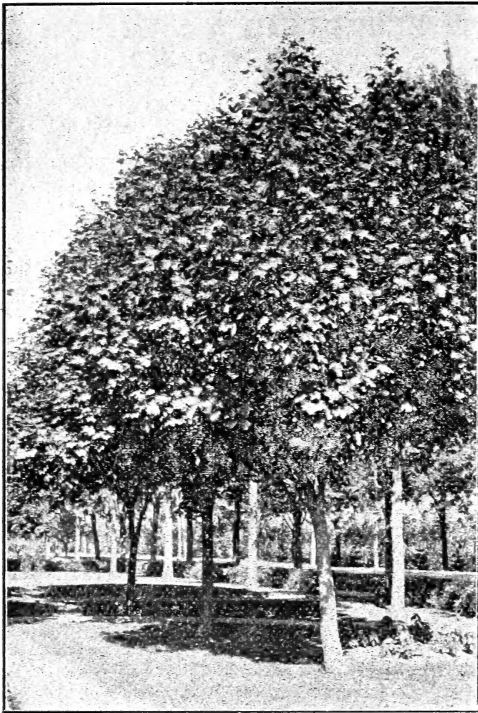
The best stock to plant, irrespective of climate and location, is such as is grown in a cool, temperate and healthy climate. Take Michigan for instance. No disease or injurious scale insect has had its origin here. It is generally conceded by leading entomologists that the San Jose scale cannot live north of latitude 42°. Trees grown in this climate are hardier and better adapted for transplanting than those grown in milder climates, and will make lasting and profitable orchards.

**DISTANCES FOR PLANTING.**

Apples,	30 to 35 feet apart.
Pears, Stand.	16 to 20 feet apart.
"    " Dwarf	12 " 16 " " "
Cherries	16 " 20 " " "
Plums	16 " 20 " " "
Peaches	16 " 20 " " "
Quinces	12 " 16 " " "
Apricots	16 " 20 " " "

Grapes	8 ft. apart.
Gooseberries	4 to 6 feet apart.
Currants	4 to 6 " " "
Raspberries, Red	2 x 7 " " "
Raspberries, Black,	3 x 7 " " "
Blackberries	3 x 7 " " "
Strawberries	1 x 4 " " "

Fortune will smile on him who plants largely of the Brusseler Braune Cherry.



### NORWAY MAPLE. GREENING PARK.

A beautiful, hardy shade tree. Very desirable for parks, avenues or yards.

wounds thus made will callous over very soon and throw out strong roots, making the tree vigorous and lasting.

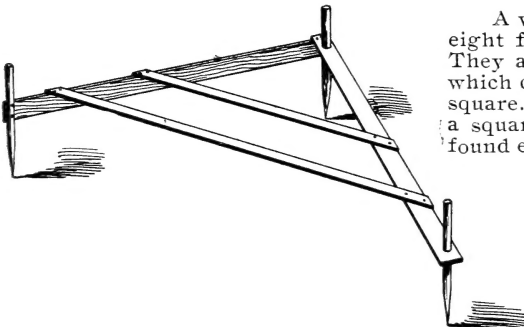
### CROWN PRUNING.

The work of pruning the tops of trees may be done either before or after planting. If done after planting, care should be exercised not to loosen the trees in the ground. We advise top pruning with a pruning shear on grapes and small fruits after planting.

**Pruning Apple, Pear, Plum and Cherry.**—Prune off all branches except the upper three or four; these cut back to spurs about six inches in length. Good judgment is necessary in selecting branches for the crown, such as will form an evenly-balanced head.

**Pruning Peach Trees.**—Cut back the entire top to three feet from the ground after being planted; prune off all branches, leaving four or five spurs about two inches long at the top. In other words, trim to a straight whip with a few spurs at the top two inches long. Where no branches are found at the top after heading in, trim to a straight whip. Peach trees of smaller grades should be headed a few inches lower.

### THE PLANTING SQUARE.



A wooden square is made out of fence boards eight feet long, dressed and perfectly straight. They are nailed so as to form a true rectangle, which can be done by using a common carpenter's square. In platting an orchard always begin on a square, and the device here illustrated will be found excellent. By sighting across the field over the stakes on the planting square a perfect square of the orchard is obtained.

### STAKING OUT THE ORCHARD.

After the ground has been squared up and stake placed at each corner of the ground to be planted, stretch a strong wire (No. 8) from stake to stake, staking the distances

### NUMBER OF TREES AND PLANTS TO AN ACRE.

At 4 feet apart each way	2723
“ 5 “ “ “ “	1742
“ 6 “ “ “ “	1210
“ 8 “ “ “ “	681
“ 10 “ “ “ “	435
“ 12 “ “ “ “	302
“ 16 “ “ “ “	170
“ 18 “ “ “ “	134
“ 20 “ “ “ “	109
“ 25 “ “ “ “	70
“ 30 “ “ “ “	50
“ 33 “ “ “ “	40

### INSTRUCTIONS FOR TRANSPLANTING.

Immediately after receiving your trees or plants from the nursery, moisten thoroughly and wrap or cover to prevent drying out, after which take them home at once, and heel in without delay. Cover all the roots good and deep, and moisten the soil if necessary. Be sure to keep the stock moist all the time until planted.

### ROOT PRUNING BEFORE PLANTING.

The roots of all kinds of trees, grapes, gooseberries and currants should be carefully pruned before planting. For this purpose use a sharp knife, and cut off all the ends, also broken and bruised roots, smoothly from the under side. The



the trees are to be planted along the wire, and proceed in this way until you get around the field. Use wire instead of a rope line, and have a rim soldered around the wire at the exact distance you desire to plant the trees apart, all along the wire, then stretch the wire with the rows, and drive a stake exactly at each rim on the wire; after you have completed the staking out of your orchard in this manner you will find it to be straight every way.

### HEELING IN BEFORE PLANTING.

Dig a trench 15 to 18 inches deep, loosen the lower band of bundle, wet the trees thoroughly, place them into the trench and cover carefully, pressing the ground down with the foot. Trees which are received in the fall for spring planting should be heeled in during the winter 18 inches deep, placing the trees at an angle of 45 degrees, opening up the bundles and being careful to fill in the soil among the roots. The trees thus heeled in should be well banked up over winter and planted out early in the spring. For heeling in over winter select a place where water will not stand, away from buildings and meadows, out in the open field, where mice will not injure them. Heeling in over winter applies to tender trees and plants, especially peach trees. At least two thirds of the bodies should be covered. Many leading fruit growers recommend fall shipment, and heeling in over winter; the advantage claimed is in having the stock for very early spring planting.



#### BURBANK PLUM TREES.

In Nursery, one year's growth, on Myrobolan, plum root. Beat them if you can.

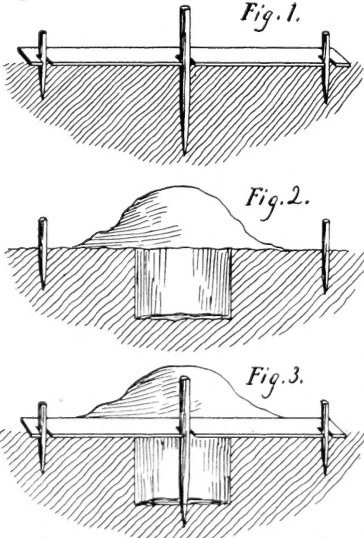
### THE PLANTING BOARD.

This is a board five or six inches wide and about five feet long, notched as shown on illustration. It is used in digging holes, so that the stake may be placed exactly where it stood before digging the hole. Before digging hole place planting board with middle notch against the stake, and drive small stakes in end notches as shown in Fig. 1. Next remove board and dig the hole, leaving end stakes in place, Fig. 2. After the hole is completed replace the board in two end stakes and drive center stake through center notch, then remove board and end stakes, leaving the stake in the hole as shown in Fig. 3. The idea of this device is to get the stake exactly to the place where it stood before digging the hole. In planting, set trees tight against the stake, and always on the same side of the stake throughout the field, and you will find your orchard to be perfectly straight in every direction.

### PLANTING THE TREES.

When the soil is well prepared, a hole should be dug large enough to admit the roots in their natural position, say two feet square and twenty inches deep. The earth to fill in and about the roots should be well pulverized; then fill the hole with loose earth enough to cover the roots; then fill in fine, mellow soil between and around the roots with the hand, arranging all the roots in their natural position, and packing the soil carefully around them. Fill to the top and press down the earth around the tree with the foot; throw a bucket of water around each tree to settle the ground, and scatter a little soil on top to prevent baking. Dwarf Pear should be planted four or five inches deeper than they stood in the nursery.

Avoid remorse in old age by planting an orchard now.

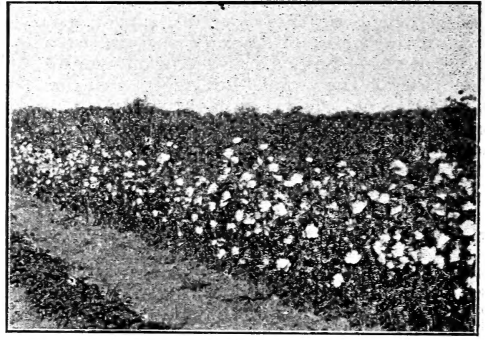


bring the tree about an inch lower than it stood in the nursery; place the tree in position, then fill in fine, mellow soil between and around the roots with the hand, arranging all the roots in their natural position, and packing the soil carefully around them. Fill to the top and press down the earth around the tree with the foot; throw a bucket of water around each tree to settle the ground, and scatter a little soil on top to prevent baking. Dwarf Pear should be planted four or five inches deeper than they stood in the nursery.



#### **DWARF PEAR.**

One year old. A wonderful growth in one season. Photographs don't lie; some of these trees stood six feet high.



#### **ALTHEAS,**

A beautiful shrub that blooms in great profusion late in the fall. Nearly all shades of colors can be supplied.

### **PLANTING GRAPE VINES.**

Plant 8x8 feet apart for trellis and 6x8 feet for stake culture. Dig holes same as for trees. Place the vine in the hole so that the first two buds next to the stem will come on a level with the surface; spread the roots in their natural spreading position, fill in the earth over the first layer of roots and press down the soil firmly with the foot; then spread the second layer of roots, fill in the balance of the hole and press gently with foot. After planting trim the vine back to two buds. A strong stake four feet long should be driven in at each vine to support the canes the first two years.

### **PLANTING SMALL FRUITS.**

The soil should be mellow and rich. Plant Red Raspberries 2x7 feet apart; Black Raspberries, Blackberries, Dewberries, 3x7 feet apart. Conrath and Columbian Raspberries, on account of their vigor of growth, should be planted 4x8 feet apart; Currants and Gooseberries, 4x6 feet apart; Strawberries for field culture 1x4 feet, and for garden 1x2 feet apart. Plant small fruits about one inch deeper than they stood in the nursery, except strawberries, which should be planted so as to leave the crown even with the surface—too deep planting would smother the plant. Spread the roots in planting small fruits as much as possible, and press the earth over the roots firmly but gently. If planted in the fall, cover with coarse manure to prevent the plants being heaved out during the winter. After planting cut back the tops to four to five inches from the ground.

### **PLANTING ORNAMENTAL TREES.**

Plant same as fruit trees, except that larger holes should be dug to accommodate the roots. The ground should be pressed down firmly over the roots with the foot. Two-thirds of the tops should be cut off on all ornamental trees, except Cut-leaved Birch and Horse Chestnuts, which should not be headed in. Care should be taken to prune the tops so that the trees will make a well balanced and uniform top. The forming of the crown is regulated entirely by the pruning. On some kinds of trees it may be advisable to tie to a strong stake to hold the tree firmly to its place. Wrap Maples with building paper four or five feet from the ground up to keep out borers. Irrigate in dry seasons.

### **PLANTING AND PRUNING SHRUBBERY AND ROSES.**

Make the soil rich by applying well rotted barnyard manure which should be worked in with the soil. Trim off all the ends of roots; plant shrubbery two inches and Roses four inches deeper than they stood in the nursery, pressing the ground firmly over the roots. Cut back tops on Roses leaving four inches above ground. On shrubbery trim up lower branches so as to form a well balanced head and cut back top two-thirds. All sprouts growing out of the ground on roses should be removed as soon as discovered, and should be cut close to the stalk so as to prevent further sprouting. Where this is overlooked you will generally find that the wild root will smother the grafted part of the rose plant, and you will get a big growth of wild stock but no flowers. Cover Roses during the winter with leaves or straw. Cut back hardy Hydrangeas severely each year; other shrubbery trim out the old wood and head in a trifle each year.

### **EVERGREENS.**

Soak the ground thoroughly after planting, and apply a thick covering of rotted manure over the surface for several feet around the tree to retain the moisture in the soil. Shade the trees with cloth, burlap or paper to prevent the hot sun from striking the tree for the first two or three weeks, or until the tree starts to grow.

**We have a hardy, tea-scented, climbing, perpetual-blooming cream rose. We have named it "Cream Beauty."**

**TULIPS.** (Greening Park.)**HYACINTHS.** (Greening Park.)

Sectional views of GREENING PARK in early spring. Beautiful Hyacinths with delightful fragrance, queenly, gorgeous Tulips in profusion. Tom Thumb, Arbor Vitae, Evergreens in the background, trimmed in ball shape; highly ornamental and very desirable for lawn or park.

## PART TWO.

# Chapter on Fruit Growing.

### PRACTICAL HINTS.

**Cultivation.** Make it a point to cultivate your orchards at given times, just the same as you do your corn, potato or root crops. If you do not make up your mind to do this better not plant any trees. Cultivate to drive the tree as hard as possible the first years. After the first year avoid cultivating deep. Plow shallow in an orchard; if you turn up roots it will result in injury. Keep free from weeds and animals.

**Crops to grow in an orchard; What and when.** Hoed farm crops, such as corn, beans, potatoes, tobacco, etc., may be grown the first two years in a peach orchard; the first three years in a plum and cherry orchard; the first three or four years in a pear and quince orchard, and the first five or six years in an apple orchard; winter banana apple orchard the first three years on account of early and abundant bearing. Orchards should not be seeded down to grass. As cropping the land exhausts the plant food in the soil, exceptions should be made to the above rule where the soil is in poor physical condition when the soil should be improved by keeping out all farm crops and applying the proper fertilizer. **Keep out all farm crops from bearing orchards.**

**Implements.** A disc or spring tooth harrow seems to be about the best all around implement to use during the dry summer season, especially in light soil. A man with harrow and team can cover a large space in a day, and keep down all the weeds in a large orchard at a nominal expense if worked at the right time. In heavy soils shallow plowing in the fall is very essential. Harrow and work crosswise and lengthwise. Use a hoe around the trees.

**Manuring.** In bearing orchards liberal manuring broadcast is advised. Barnyard manure stands in the lead as an all around fertilizer. For peaches, cherries and plums a fertilizer rich in potash and phosphoric acid is best. **Ashes** in sandy soils or on lands deficient in potash, are of inestimable value. They should be spread broadcast over the surface and harrowed in. The value of ashes as a fertilizer for fruit crops is not being sufficiently appreciated; indeed, they are highly recommended by such authorities as Prof. Bailey, and we notice that all fruit growers using them usually grow the finest fruit. Every bushel of ashes should be saved and kept in a dry place for future use. **Plowing under green crops**, leguminous plants such as crimson clover, are excellent for recuperating bearing orchards. Sow during August, work in with harrow, and turn under the crop the following season when in bloom.

**Wash the trees** every spring with weak lye or soap suds. The best tree wash which can be applied to trees is composed in the following formula:

**The California Tree Wash.** Slake eight pounds of fresh lime with hot water, and thin with water so that it can be stirred nicely; add two pounds of sulphur, mixing thoroughly; take five ounces of sulphuric acid and dilute it with two-thirds water; mix the whole so as to make a thick, heavy whitewash. Apply to the body and large branches with a brush.

**Fruit is Nature's medicine; it will cure all ills except laziness.**



Perhaps the finest block of plum trees ever grown in America. The growing of such wonderful trees accounts in a great measure for the wonderful growth of our nurseries.

mation has progressed very far. Thinning increases the size of the fruit remaining, and increases the profits every time it is done right. It requires some nerve to do thinning properly. Try it on a row of trees in your orchard and report results to us.

**To Make Trees Bear.** To promote fruitfulness on trees which have attained bearing size and which show no inclination of beginning to bear the following method will be found effectual and safe. Take a sharp knife and make three circles two feet from the ground around the trunk of the tree, about four inches apart cutting way through the bark. The interruption caused in the flow of the sap will check the growth of the wood and tend to the formation of fruit buds for the next season. This should be done in July the season before.

**When to Prune Orchards.** From careful observation, and many years of actual experience we recommend pruning orchards during March. If there is so much to be done that more time is required, part may be done in February.

**Pruning Tools, How to Use.** Provide yourself with a good pruning saw, a strong, sharp pruning knife, a large and a small pruning shear, and a suitable ladder. In pruning make your cut so as to leave a small shoulder below, inclining the cut inwards so as to come out even above. Many orchards are ruined by cutting the branches too close to the body below, making a large and ugly wound which seldom heals over. When large branches are cut off, paint the wound with white lead paint to prevent cracking.

## THE APPLE ORCHARD.

Prune every year. Aim to develop and maintain a uniform, well balanced head. Avoid cutting off large limbs if possible. Prune during March. Note the habits of the tree; if spreading in growth confine your pruning more to the side branches, if pyramidal in growth, thin the center, so that the sun and air will have free access. Sun makes color; the richer the color, and larger the size the greater your profits. Don't prune off too much, but at the same time don't be afraid to take off where necessary. After a tree is planted the head should be trained in the right direction, and balanced so as to be able to carry a heavy weight of fruit without bending to the ground or breaking. We wish to impress the reader with the importance of heading in the young apple orchard each year; the cutting out of all suckers and shoots which might interfere with free circulation of air. It

**Keep Out the Borers.** Fruit trees, especially peaches, are apt to be troubled with borers. The best remedy which has come to our notice is to mound up in the fall, leaving it until the following July, then hoe away and if the borer has made a start dig it out.

**Spray your orchards** when there is danger of being injured by insects or fungous diseases. (See spraying, page 16.)

**Read the North American Horticulturist,** published by us, and issued monthly; the most complete Horticultural adviser in circulation. Send fifty cents for a year's subscription.

**For Healing Bruised Trees.** Take clay soil three parts and one part of fresh cow dung, mix thoroughly to a paste; then carve the edges of the wound with a sharp knife, so as to leave a smooth edge all around the wound. Apply the mixture about one inch thick over the wound, and bandage with cloth torn into strips.

**Read about** our new, late ripening peach, the "Banner" offered for the first time, also the other specialties of highest order, the Winter Banana apple, New Prolific peach, Wickson plum, Brussels Braune cherry, the latest and largest of all cherries in cultivation, etc.

**Thinning.** An important operation with a good fruit crop is to thin it. It must be done at the right time however to insure good results. It should be done on peaches and plums before the seed form.

Flowers are the sweetest things God ever made, and forgot to put a soul into.—Beecher.

also pays to thin the fruit. Fertilize to keep up the vitality and bearing power of the tree. A crop of crimson clover or field peas plowed under occasionally is of great benefit to the bearing orchard. Apply ashes whenever they can be obtained. Spray for sound and large fruit. It pays to plant good varieties. We recommend the **Winter Banana** apple as the finest, best and most profitable winter apple in cultivation. It bears very young, is hardy, very productive, a strong vigorous grower, and an apple famous for its high quality, beautiful color and shape.

### THE PEAR ORCHARD.

To produce the ideal tree, pruning the first few years is the most essential point. A rule which should be remembered is to prune trees so far as possible with a pruning knife or shears. The idea is to form the framework of the tree while young, or before it begins to bear. The first few years cut back the leading top shoots a third or a half of the preceding year's growth. Straggly growers like Clapp's, Vicar, Nellis, etc., should be pruned from below so as to keep the branches off the ground when fruiting; at the same time the tops should be shortened in. With varieties such as C. de Nantes, Kieffer, and others of erect growth, the pruning should be confined to heading in and thinning the top. Thinning is strongly advised. Cultivate constantly, and fertilize thoroughly. Remove all the black and scaly bark on the trunk, and large branches, with a sharp knife. Cut out the black surface bark down to the fresh under bark; don't overlook, as it will eventually kill the tree if left on. For market plant the C. de Nantes pear which ripens late and brings big prices. **Dwarf Pears.** Plant four to five inches deeper than they stood in the nursery. Head in same as with Standard Pears, fertilize with stable manure.

### THE PLUM ORCHARD.

Feed the bearing plum orchard heavily with ashes and manure. Keep up the growth and vitality by constant and thorough cultivation. The plum is very likely to overbear, and it will pay to thin. Shortening in the tops, especially on young, fast growing trees, should not be overlooked each year, especially with Japan varieties; in some instances quite severely, from one-third to one-half of last year's growth. Spray for insects; see spraying page 16. Cut out black knot and burn the affected parts as soon as discovered. We recommend the Japan varieties for profits, also freedom from insects and diseases. Our leaders are Wickson, the latest and largest of all Japan varieties, also Burbank.

### THE CHERRY ORCHARD.

Use ashes for fertilizer, spreading broadcast over the ground around the tree. Avoid banking up ashes against the body of the tree, as they will injure the bark and kill the tree. Remove suckers from trunks; head in some each year while the trees are young, and thin the tops moderately. Cherries will thrive in places where other trees would fail, and will bear fine crops under conditions very unfavorable to all other kinds of fruit. They respond, however, to good cultivation and are profitable to a degree, if cared for and sprayed. Watch the slug which eats the lining off the leaves. Apply slacked lime or dry ashes to destroy slugs. We are introducing this season the **Brusseler Braune Cherry**, originated in Poland, which we predict will occupy front rank among profitable and fine cherries. It ripens two weeks later than other sorts now in cultivation, is of Morello type, very hardy, fruit large, of brownish red, thick meat, small pit.

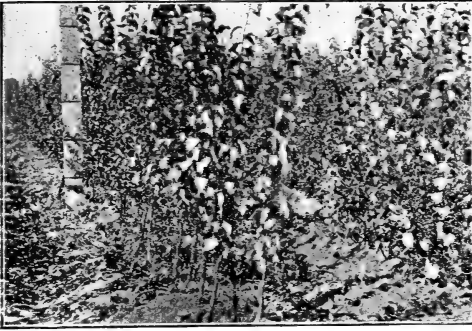
### THE PEACH ORCHARD.

The matter of soil for a peach orchard we find from experience to be of less importance than we have formerly mentioned. Some great surprises have been sprung on us, since



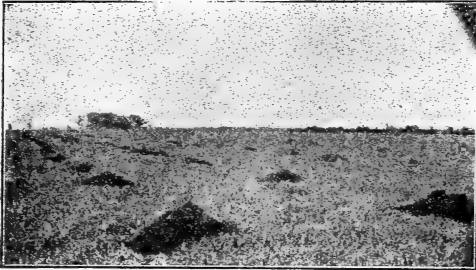
**BLOCK OF WINTER BANANA APPLE TREES**

Containing over 100,000 trees, ready to be dug for orchard planting. There can be no disappointment in planting such trees.



### QUINCES. ONE YEAR OLD.

LOOK LIKE TWO-YEAR OLD, don't they? A result of proper soil culture and whole root system. U C?



### HERE LIES THE SECRET.

BETTER THAN A GOLD MINE IN KLONDIKE is the 100-acre field shown in above illustration. All will be planted the coming spring. Four successive crops of peas have been plowed under, and a good dressing of rich stable manure has been applied. Thus we lay the foundation for our future crop of trees. Come and see results.

trees. Prune to three or four main branches the first year and these head in about one-third of growth. The second and third year head in a little closer and remove small branches one or two feet up on the large limbs. Aim to build up a strong framework, such as will carry a heavy crop of fruit. Remove suckers. Prune to umbrella shape, open in the center. Follow up the heading-in method right along, at first to build up the tree, and afterwards for the purpose of thinning the fruit, which in most all cases is set much too heavy. **Thinning** by hand and before there is much growth of seed is absolutely necessary when large and fine fruit is desired. Thin so as to keep the fruit two or three inches apart. Prune during March when tree is dormant. Apply ashes for fertilizer in liberal quantities, where the soil is deficient in potash; this applies especially to sandy soil. For market select varieties of good size, fine color, high quality, and above all, hardy sorts and good shippers; varieties like "Banner," and "New Prolific," which will always command the markets, no matter how plentiful fruit may be. It will pay the reader to study into the high qualities and market value of these great fruits, and to read the indorsement by growers and authorities.

### THE VINEYARD.

For a vineyard select a good, healthy, strong soil, well drained, and if possible, an elevated location; if sloping towards the South, so much the better. Run the rows North and South. Plant eight feet apart each way. Plow deep, or subsoil the ground before planting. Keep the soil well worked and use barnyard manure and ashes as fertilizer. Remove all sprouts coming out of the ground on bearing vines. Train your vines on wire trellises. Tie

writing up our last catalogue, and facts, though stubborn things, must be taken into consideration if we desire to be honest in our views. While we would not advise planting on heavy clay soil, yet, we find that fine fruit may be grown on almost any kind of soil. It is true some varieties prefer a light, while others seem to succeed best on a heavier soil, and it is well for those planting on a large scale to study these things to a certain extent. We would recommend good cultivation the entire season. Some will argue that it is wrong to cultivate a peach orchard after fruiting. We have watched these things for many years and have come to the conclusion that this theory is wrong. The best way is to keep the trees growing all the time during the summer and leave them to ripen up of their own account in the fall. If the soil is not worked so that the buds ripen in August, a new growth will often start just before the close of the growing season, causing the buds to swell, and new shoots to start, only to be injured by frost. We condemn summer pruning, except to keep off suckers. The matter of pruning is of prime importance in peach culture. There are so many ideas among the leading growers about pruning, (some good, some foolish), that we must draw to a large extent on our own knowledge in laying down a method of pruning which should be followed by our thousands of patrons growing peaches. A peculiarity of the top is that it makes a much greater growth, under favorable conditions, than the root can possibly maintain in full vigor, especially during its first fruiting years. In pruning, the habits and peculiarities of varieties should be studied, as well as soil and location. Peaches naturally grow an open head, but in most cases it is necessary to thin for an open top, so that sunshine may reach the fruit, and produce color. The first year after planting be careful to form your head in the right proportion and shape. Prune to secure a body 24 inches from the ground to the first limb on bearing sized

Stand by the three big "Bs"—The Banana Apple, Brusseler Braune Cherry and Banner Peach.

up the vines at least three times during the season. Heading in the overhanging branches on bearing vines to ripen the wood and fruit, should be done with a sickle or sharp corncutter about August 15th. Place the posts for wire trellises 24 feet apart. Brace the end post securely. Fasten the wire with staples driven three-fourths the way in. Posts should be at least 8 feet long and set  $2\frac{1}{2}$  feet into the ground. Fasten the first wire 24 inches, the second 44 inches and the third 64 inches from the ground. Use No. 11 wire. Plow shallow up to the vines in the Fall and away from them in the Spring, and cultivate thoroughly during the Summer.

### THE QUINCE ORCHARD.

Prune in tree form. Remove suckers and dead branches. Trim in symmetrical form; thin out branches moderately in center when too crowded. Fertilize with rich stable manure; cultivate often; thin out when bearing too freely. Select a sandy or loamy soil.

### PRUNING GRAPE VINES.

**First Season After Planting.**—Cut back all young wood except two buds, allowing one of these to grow up.

**Second Season.**—If the cane has made a growth of 4 feet or over the first season, cut down to within 2 feet of the ground, allowing no more than four of the upper buds to grow; all lower ones should be rubbed off during May. In case the vine has made but a feeble growth, it should be cut down again to two buds and treated same as the first season.

**Third Season.**—If the vine has made a strong and healthy growth the two previous years, two or three of the strongest canes should be left to produce fruit. These canes should be left about 2 feet long, starting at the first wire or a little below. In case the growth from the previous year is light, leave only two canes near the first wire about 12 inches long, all other suckers to be cut off.

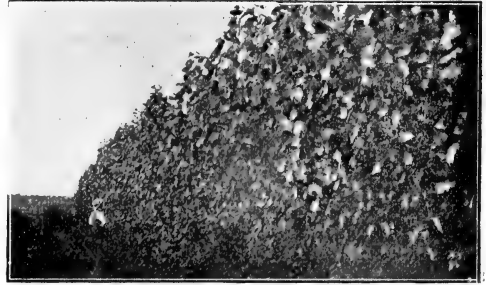
After the third year good judgment should be used not to overtax the vine. Usually from 8 to 10 feet of young bearing wood evenly proportioned all over the vine, either as **canes or spurs** is about the right quantity of bearing wood to be left on a good healthy vine. One or two spurs three buds long should always be left near the first wire to produce new canes for the coming season. If trained for an arbor, all young shoots should be cut back to three buds after the fourth year, this produces a dense mass of wood and foliage and often an abundance of fruit of fair quality.

### CURRENTS AND COOSEBERRIES.

One-third to one-half of the young wood should be cut off each year. Old stems which produce but little fruit should be cut out. On bearing plants remove all branches which hang over and touch the ground. Cultivate shallow and often. Apply rotted manure as fertilizer. For destroying insects see Spraying.

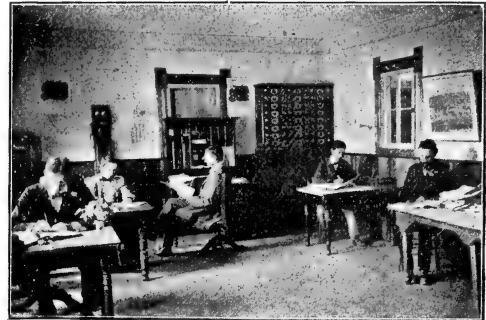
### RASPBERRIES AND BLACKBERRIES.

After the young leading shoots have grown out about 20 inches the first season, pinch back to 12 inches. After the first season all young shoots should be pinched back according to their strength, to 18 to 30 inches from the ground. This should be done as soon as the shoots are high enough, beginning about the middle of May. Each leading cane should be pinched only once during the summer. All old canes should be cut out in the fall. Three or four of the best young canes should be left in a hill to bear fruit the coming



**CAROLINA POPLAR. TWO YEAR.**

A RUBBER NECK is required to stand before and look up at the tops of our two-year-old Carolina Poplar. You can almost see them grow.



**AGENTS' DEPARTMENT.**

A HEAP OF FUN.—Our agents frequently furnish amusement, as well as plenty of work for us to do, handling the orders. "I stade ofer nite wid a hors," stated one agent in his weekly report recently. Another writes: "Sent kata-lok (catalogue) and agents' pokitbuk." Fun, indeed!

**The pen is mightier than the sword; but the Banner Peach is mightier than either.**



#### WONDERFUL GROWTH IN ONE SEASON.

A block of Carolina Poplars, showing six months' growth, measuring over ten feet high.

or other green crops turned under, also some ashes. In the fall, after the ground is frozen, spread a good covering of straw or leaves over the plants for protection during the winter and remove the covering before growth starts in the Spring. We advise early Spring planting. The first season all blossoms should be removed, so as to throw the entire vigor towards producing plants for the next season's crop. Usually after one crop is taken they should be plowed up, unless the plants are healthy and appear to be able to bear another crop. Old patches of Strawberries do not pay.

season. All others should be cut close to the ground. The pruning should be done during March; this is done by cutting back all the side branches on the young canes to spurs 8 to 10 inches long. Red varieties of Raspberries are not as long lived as black sorts, and usually require replanting on new ground after three or four crops have been taken off. A sandy, black or gravelly loam is best. To prevent rust on Blackberries use Bordeaux mixture (See Spraying). Cut out all diseased canes. **For profits the Conrath Raspberry leads them all; it is early, very large, hardy, etc.**

#### STRAWBERRIES.

The soil for Strawberries should be made very rich. A sandy or gravelly loam is best, a black loam next, then clay. For heavy soils only the most vigorous growers should be selected. Strawberries are of two classes: the Pistillate and the Staminate. The Pistillate sorts are destitute of the stamens and require a row of Staminate (or perfect flowering) sorts to be planted among them at intervals not exceeding a rod; the former, if properly fertilized with good, perfect flowering sorts, are more prolific than those with perfect flowers, or the sorts known as Staminate. For field culture set in rows  $3\frac{1}{2}$  to 4 feet apart, 12 inches in row; for garden, 15 inches apart each way, leaving pathway every third row. To produce extra fine, large fruit keep in hills, pinching off all runners as soon as they appear. Apply vegetable manure, such as muck, rotten turf, wood soil, clover

## PART THREE.

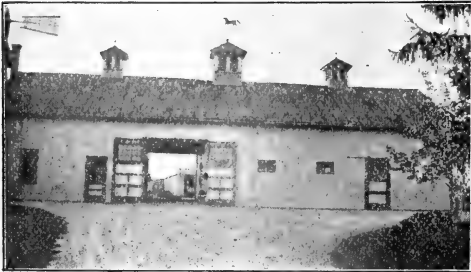
# Chapter on Marketing Fruit.

The subject of Marketing is one of great importance. Many who are successful in growing fruit for market are often inclined to trust to good luck in disposing of their products. **The question of marketing occurs to many about the time they are ready to ship.** Few realize the importance of organization and co-operation in marketing fruit. There have been some wonderful achievements along this line and some sad disappointments as well. The success in co-operative marketing seems to rest upon the managing power of the association, and also depends in great measure upon the honesty and sincerity of the growers. Few or many may club together and form an organization, appointing some interested party of business ability to attend to the selling, shipping, etc., allowing him a small remuneration for his services. It is a mistake to divide up shipments too much. Find a well known and established house in whom you can place your confidence,





Interior of our mammoth storage and packing cellar. The largest building of its kind in the world.



Greening Bros', private stables, conveniently arranged, on modern plan; an elegant home for our dumb and faithful friends.

for yourself a reputation for good and honest grading and packing. Secure strong and neat packages of full measure; don't try to pass off a short measure for a full one. In very warm weather cut holes in tight packages in which you are shipping fruit, for circulation of air. Give good full measure. Grade closely, pack honestly, pick carefully; sort out bruised fruit, and never mix windfall with hand-picked. All fruits should be hand-picked, and handled to avoid bruising. Windfalls should be marked on the outside of package, as such. When packing in barrels, kegs, or boxes, shake gently when half full and repeat when nearly full, to settle the fruit.

**Marketing Apples.**—Gather when ripe, before they drop or are blown off by the wind. Use good judgment as to the right time to gather. If picked too soon, poor flavor and wilting of the fruit will be the result; if left on the tree too long they will drop off and cause loss. Usually, the best time to pick Winter Apples is from September 25th to October 10th.

Place the fruit in barrels or boxes, put them in a cool, dry place, and let them remain open, standing on end, until ready for shipment; then empty carefully on straw, hay or blankets, re-sort and pack all sound fruit in barrels. Another method is to put them in a pile outdoors and cover well with straw or cornstalks, letting them remain in this condition until there is danger of them freezing, when they should be barreled up or put on shelves in a cool cellar. Always begin to pack (also mark the varieties and the grade) on the end intended for the head.

Use windfalls and culls for drying, cider, jelly or vinegar. **For a table apple of richest quality, for family use or market, the Winter Banana apple stands at the head.** No fruit grown excels this apple in flavor. It is large in size, perfect in shape, and beautiful beyond description. It bears full grown fruit in two years. The tree is thrifty and hardy.

**Marketing Pears.**—Gather before they get too soft. Pick before they get thoroughly ripe. Early varieties soften quicker than late, and for this reason require quicker handling. Strong crates either half or full bushel, packed solid, are very appropriate for shipping pears. Make two grades, and don't ship culls. Plant the best varieties, such as **C. de Nantes, a variety that brings big money,** late in the fall and early winter.

**Marketing Plums**—Plums are classed with soft fruits and must be handled accordingly. Many of the European sorts are very poor shippers, and the growers are delighted at the

and give them all of the business you can. Don't overlook the value of a home market, if you have one, and don't refuse a reasonably fair cash offer for fruit in the orchard. Be cautious in shipping to unknown parties. Treat with mistrust letters of alluring and tempting character. Try to keep posted on the market. Read one or more Horticultural papers; they are the best instructors as to markets, etc. Send us 50 cents for one year's subscription for the North American Horticulturist, a monthly fruit growers' Journal, published by us for the benefit of patrons. It tells all about markets, fruit crops, etc. Don't wait until the last moment before deciding what kind of package you are to use. It is poor economy to hire cheap, green, and unreliable help for picking and packing. Never tolerate rough and reckless handling of packages containing fruit. Haul fruit in a spring wagon. Ship directly after picking, as every moment's delay, decreases the value of tender fruits. Stamp your name and address on every package; mark on the outside of every package the variety contained. Avoid shipping soft fruits, such as berries, so as to reach the market on Saturday evening or Sunday morning. Remember that good choice fruit, well handled, properly graded, and neatly put up will always sell at good prices. Aim to grow such fruit, and then put it up in good shape. Ship in refrigerator cars if it is possible to obtain them, all kinds of small fruits, including peaches, plums and cherries, especially for distant points. Fruit dealers are not fools, and it is a difficult matter to deceive them by dishonest packing. Establish

**Banana Apples are better than honey.**



### JAPAN IMPERIAL TREE.

Leaves 24 to 36 inches wide, fan shaped, with stems 15 to 24 inches long. Very rapid grower. A decided novelty for parks or front yard.



### WINDSOR CHERRY. ONE YEAR OLD.

Attention is directed to the thrifty growth, large and healthy foliage; a result of whole roots, proper culture, rich and well tilled soil.

to a science, and the sooner fruit growers find marketing their fruit products. Pick carefully by hand. Handle with greatest care, grade every package, no matter how nice they appear on top. Bring under shelter and grade from benches or use a **peach grader**. We wish to add here, that **we are manufacturers of the "Ellithorpe" peach grader, which we can recommend as a machine which will grade out three exact sizes of peaches, and which we guarantee will not injure the fruit in the least. This grader has a capacity of over 500 bushels per day, and with one man will do the work of grading that would require 15 to 20 people. The price of this wonderful machine has been reduced to \$25.00.** In packing shake the package gently from time to time until filled. Ship only two grades, and mark each grade on the outside of package. Sell or ship immediately after packing. Haul with spring wagon. Sort out all soft fruit before packing; throw it away, rather than mix in and spoil the sale of good fruit. Go over your trees at least three times, picking the best colored and ripest each time. Consult dealers and shippers as to kind and size of package to be used, and get a full supply in time to avoid disappointment and loss. Cover fruit with a cloth to keep off dust and sun. Sell all you can at home if you can get fair prices, and ship the balance.

**Marketing Quinces.**—Pick when golden yellow, except **Champion**, which colors after being picked, and should be picked later than Orange. Handle quinces as carefully as peaches, as every bruise will turn brown and spoil the looks of the fruit.

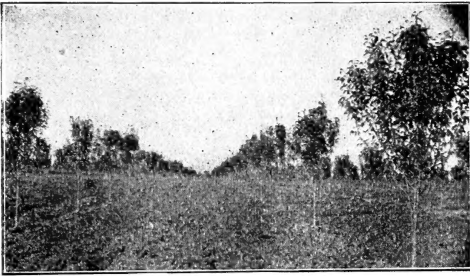
**Marketing Grapes.**—Gather when fully colored and sweet. Too many grapes are picked too green, and are a great detriment to the market early in the season. Unripe grapes are injurious to health, and are relished by no one. While picking handle very carefully, lay them gently into the basket. Use a strong stiff basket, eight or ten pound. Two pickings should be made, as those most exposed to the sun will ripen first. Use a spring wagon for hauling. Grapes may be kept for a considerable length of time after picking, and even into the winter, if handled with great care, and if kept in a cool cellar or storage, where the air is not too damp, and the temperature even.

advent and introduction of a class of plums that can safely be shipped to distant markets, namely, the **Japan sorts**. We have kept "Burbank" and "Wickson" plums on shelves in the office for 30 days during very warm weather. Pick before getting soft. Ship or sell promptly. Use a strong, stiff Climax basket, either one-fifth or quarter bushel. If shipped in large baskets, they rarely ever reach their destination in good condition. Unless there is a through freight line affording quick transportation, we would advise shipping by express.

**Marketing Peaches.**—The peach business has undergone somewhat of a revolution the past 8 or 10 years. Ten years ago early sorts were considered the most profitable; lately early sorts have not only proven a failure in market but in many cases it would have paid the grower to let them rot on the trees rather than to have shipped them. We write thus to impress the reader with the importance of planting varieties that are firm, and good shippers. Such as Banner, New Prolific, Smock, etc. Those having early soft kinds, should arrange to dispose of them at home, as they rarely reach the market in condition to pay baskets and freight, and generally are the means of pulling the market down. Rather feed to the hogs than ship such fruit. **Grading and Packing.** We wish that we were able to put it down in words strong enough so that it would be fully understood by growers of peaches, how important it is, that the grading and packing is done straight and carefully; also that the fruit should average evenly throughout the package in size and quality. How many growers curse the commission merchant, when they are often to blame themselves. Few realize that failures in fruit growing are often the result of crooked or careless packing. The handling, packing and marketing of fruit has got down this out the more successful they will be in



NEW PROLIFIC PEACH ORCHARD of John Clark, Chelsea, Mich., crop of 1898; yield, 700 bushels per acre, of which ninety per cent sold as first-class fruit.



OUR C DE NANTES PEAR ORCHARD, containing twenty-five acres. A source of great profit

**\$2.50 in one day in our Conra'h patch** at fifty cents a bushel. It is not to be wondered at that the different Agricultural Experiment Stations where it has been tested give it such high praise. Women are preferred as pickers, then girls, then boys. To have picking well done requires close supervision. To be successful, your picking must be well done at any cost.

Avoid jolting in carrying berries to market or depot. Have commission men report condition on arrival, and bring every influence to bear on railway and steamboat men to have them handle the crates carefully.

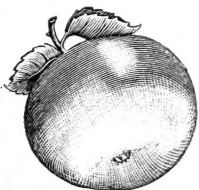
**Marketing Currants**—Currants are to be picked when fully ripe, and shipped either in one quart boxes, the same as berries, one-half bushel shallow crates or boxes, or Climax grape baskets.

**Marketing Gooseberries**.—Usually, the proper time to pick gooseberries is just before they begin to ripen, while yet green. On account of their strong and tart taste they are very desirable for canning, pies and jelly. They also make one of the finest and most palatable catsups of any fruit grown; if this is new to you, "try it," and you will be surprised. When the fruit is left to ripen on the bushes the berries are very sweet and delicious, and there is occasionally a good demand for ripe berries; it is always well to find out from the merchant who handles your gooseberries whether he wishes them green or ripe. One of the best packages to use in shipping gooseberries is the Climax 12 to 15 pound grape basket; one-half bushel crates or boxes are also very desirable. A good way to clean gooseberries, after being gathered, is to run them through a fanning mill, with cloth over the sieves; use judgment in applying this method, so as not to bruise the berries. Gooseberries are classed with hard fruits, and can be shipped long distances.

**Marketing Berries**.—Provide neat crates and baskets. Do not be tempted to use a dirty basket or crate, even if given you. In selling, everything depends on having fine, large fruit put up in attractive packages.

Give each picker a stand, which can be made of lath, to hold four quart boxes, and instruct them, and see to it that they handle the berries much more carefully than they do eggs. If you have a good variety and have cared for them well, there will be very few small ones. Round up the box well and turn the stem ends of the top strawberries down. This gives a showy appearance, and is much better than topping off with extra large ones. Customers like to receive a full quart, and just as good berries at the bottom as at the top of the basket. For a market five hundred miles or more distant, berries **must** be picked in a very firm and partially green condition and shipped per express. This condition can only be learned by experience.

If possible, engage one party to take all your berries at a uniform price. An enterprising groceryman for your home trade, and a reliable commission merchant if you are obliged to send to a city. You will not be likely to make a bargain in advance with a commission merchant unless your berries are well known to him. In a home market it is a great advantage to be able to deliver your berries and have them off your hands. Price paid pickers is two cents for red, one and one-half cents for black-caps, and fifty cents per bushel for picking **Conra'th Raspberries**. This variety, on account of its large size and large clusters of fruit, will fill a quart basket quicker than any other sort. One girl last season **actually earned**

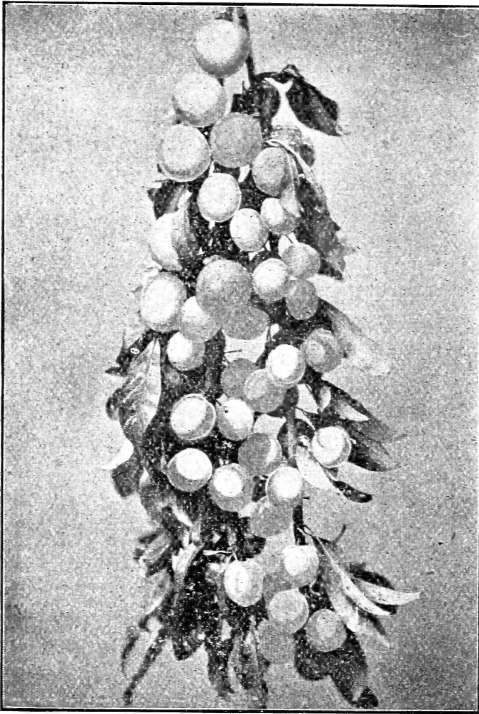


Winter Banana Apple.

**Winter Banana Apple, The King of Market Apples**, Richest flavored fruit ever introduced; large, smooth, very beautiful, red cheeked, bears large crops in two years. Hardy for cold climates. Every tree "Trade Marked."

**Brusseler Braune Cherry, New, Latest of all Cherries**. Morello type, very hardy, wonderfully productive, dark red, large, handsome, most profitable of all.

This book is protected by U. S. Copyright. Don't Infringe.



BRANCH OF BURBANK PLUM, taken from a three-year-old tree. Fruit picked from this tree and laid away in our office on a shelf wrapped in wax paper, kept 30 days in perfect condition.

## PART FOUR.

### Chapter on Spraying.

Spraying is to destroy insects, to ward off fungous disease in its various forms, to improve the quality of fruit, or to stimulate the growing functions of trees; if done at the right time and in the right way, it is exceedingly profitable. The necessity of spraying is recognized by all successful fruit growers and horticulturists in general throughout the country. Our treatise would be incomplete without giving information on spraying; we accordingly publish a spraying calendar which contains all that is necessary to know to successfully combat the insect pests and fungous diseases which infest orchards, vineyards and gardens, and damage or destroy fruit crops.

**NOTE.**—Get a spraying apparatus of a size commensurate with the area of your orchard. In the use of the various solutions, much care should be given to their proper strength, and to the purity of the chemicals. See that the solutions are kept continuously stirred. Spray late in the afternoon or in cloudy weather, except where noted below. Use pure, clean water. Run the solutions through a screen. Mount the apparatus on a cart or wagon. Use the celebrated "Vermorell Nozzle." Use a strong hose, of sufficient length to spray one or more rows at a time. For large trees use a pole to elevate the nozzle up into tree. Write us for low prices on a first class spraying outfit.

### SPRAYING FORMULAS.

**KEROSENE EMULSION**—In making the kerosene emulsion for spraying trees for lice, be sure to follow the correct method: Dissolve in two quarts of water one quart of soft soap, or  $\frac{1}{4}$  pound of hard soap, by heating to the boiling point. Then add one pint of kerosene oil and stir violently for from three to five minutes. This may be done by using a common force pump and putting the end of the hose back into the mixture again. This mixes the oil permanently, so that it will never separate and it may be diluted easily at pleasure. This mixture should be diluted to twice its bulk with water or about 14 times as much water as kerosene. The kerosene emulsion is successful in destroying cattle lice and sheep ticks, as well as all varieties of plant lice.

**BORDEAUX MIXTURE.**—Four pounds of sulphate of copper are dissolved in six gallons of water; in another vessel four pounds of fresh lime are slaked in six gallons of hot water. After the latter solution has cooled, slowly turn it into the other solution and add twenty-eight gallons of water. This when all is thoroughly mixed and strained, is ready for use. In straining this mixture reject all the lime sediment, using only the clear liquid; strain the whitewash through a coarse gunny sack stretched over the head of a barrel.

**COPPER SULPHATE SOLUTION.**—Dissolve one pound of copper sulphate in 25 gallon of water. Do not apply this solution to foliage. It must be used in spring before the buds break.

**FOR ROSE BUGS AND PLANT LICE.**—Quassia chips one pound; boiling water three gallons. Apply as a spray to rose bushes, and to kill plant lice.

**TOBACCO FOR APHIS, PLANT LICE, FLEAS, ETC.**—Tobacco one pound; boiling water three gallons. Strain when cool, and use. Very effective, especially on green plant lice, on roses and apple trees.

**FOR SAN JOSE SCALE.**—For Winter Wash. Use two pounds of whale oil soap to one gallon of water; spray or wash while solution is warm. For Summer use when trees are in foliage. Spray with kerosene emulsion, one part of emulsion to five parts of water. Several treatments may be necessary to entirely destroy the scale.

Speak kind words and you shall hear kind echos. Plant good fruit and you shall reap good fruit.



### **BLOCK OF BANNER PEACH TREES. FOUR MONTHS' GROWTH.**

Attention is directed to the fine and almost complete stand of trees, large, clean, and healthy foliage, straight and smooth bodies, large and thrifty growth. With such trees we hope to reach the greatest possibilities in the nursery business. It is our aim to be strictly "up to date" in every respect. Try us and see.

**PARIS GREEN AND LONDON PURPLE.**—Never use stronger than one quarter pound to 50 gallons of water. Slake thoroughly with hot water two pounds of lime and mix with the water. Be sure to have the lime well slaked before mixing.

**SPRAYING APPLES.**—For prevention of apple scab fungus on both leaves and fruit, spray with Bordeaux mixture before blossoms open. To destroy the aphid or plant lice, spray with kerosene emulsion before the pests appear. To destroy the codling moth, canker worm and curculio, spray with Paris green or London purple,  $\frac{1}{4}$  pound in 40 or 50 gallons of water, soon after blossoms fall, and again two weeks later, using at the same time the Bordeaux mixture for the apple scab. To destroy the web worm, spray with London purple or Paris green as soon as they appear. This application should be made during the middle of the day, when the worms are out of their webs feeding on the leaves.

**SPRAYING CHERRIES.**—For insects, and diseases of the Cherry, spray with the same materials and at the same periods as recommended for apples.

**SPRAYING PEARS.**—The pear slug can easily be destroyed by dusting air slaked lime over the trees or using Paris green, 4 ounces to 50 gallons of water, as soon as it begins operations. Pear and Quince leaf blight can be controlled by spraying with Bordeaux mixture. The codling moth and curculio should be treated the same as recommended for apple trees.

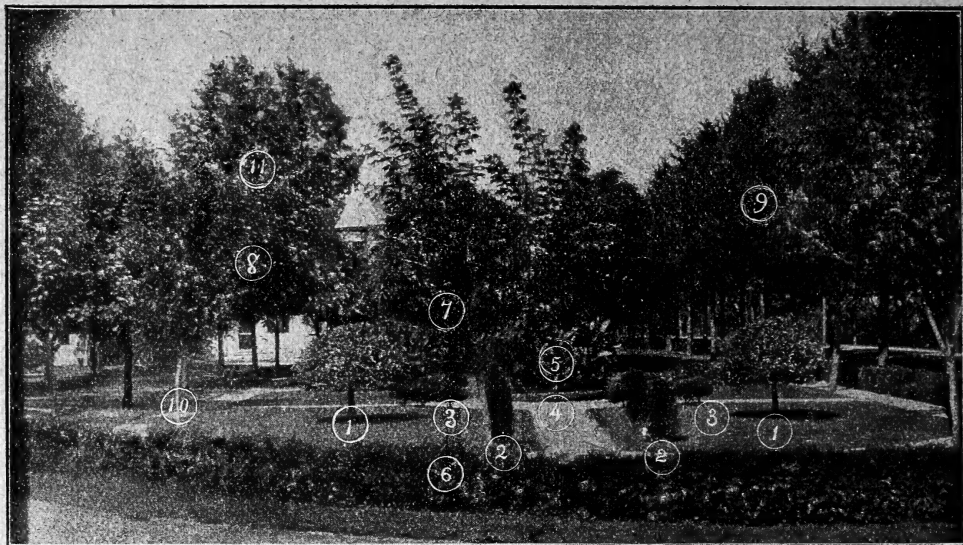
**SPRAYING PLUMS.**—Destroy the aphid with kerosene emulsion applied with a fine spray nozzle. The curculio can be destroyed by spraying with 3 ounces Paris green to 40 gallons of water. First application should be made as soon as blossoms have fallen, and repeated at intervals of a week or ten days. Four applications should be sufficient. The addition of Bordeaux mixture to the above applications will increase their efficiency and help to control black knot, rot and other fungous diseases. Other insect enemies of the plum will be destroyed by this method, but in all cases be particular to keep the poison and water constantly stirred. For shot hole fungus, spray with copper sulphate solution, before buds start in the spring, and with Bordeaux mixture in mid-summer. For slugs use same as for pear.

**SPRAYING PEACHES.**—If attacked by the peach aphid, spray with kerosene emulsion. The plum curculio frequently attacks the peach, in which case spray with Paris green, three ounces to 50 gallons of water, adding also two pounds of lime; be sure to keep it well stirred and use with caution. Never use Paris green or London purple on peach trees unless lime is added. **For curl leaf** spray before buds start in the spring with copper sulphate solution, apply thoroughly. After buds have started spray with Bordeaux mixture, and repeat again in about ten days. Plant varieties that are less subject to curl leaf, such as New Prolific, Banner, etc.

**For Grape Rot and Mildew use the Bordeaux Mixture.**

**SPRAYING CURRANTS AND GOOSEBERRIES.**—To destroy the worms spray with Paris green, one ounce in twelve gallons of water, as soon as the worms appear. For the second brood use powdered hellebore. To destroy the yellow aphid spray with kerosene emulsion early in the season. To prevent mildew, use one-half ounce potassium sulphide to one gallon of water.

The "Cream Beauty" Rose is a constant source of joy.



### THE IMPROVEMENT OF A HOME GROUND, ILLUSTRATED.

(Section of "Greening Park," 100 by 150 feet.)

Above is an illustration of a portion of one of our parks, the part shown lying to east of the residence of C. E. Greening, a portion of which is seen in the background. This park was planned and planted for the sole purpose of beautifying the surroundings of a home. How well we have succeeded in this, we leave for our readers to decide. We know that it suits us and that visitors express their admiration. The thought occurred to us that this beautiful little park would be a fit subject for illustration in this catalogue, as it will likely convey ideas for the improvement and embellishment of a yard, which may prove of use to our patrons.

To the right of the cut is shown a section of the highway—Greening Avenue—a macadam roadway, built at our own expense, lined on either side with a double row of **Silver Maples**, (fig. 9); bordering the park on three sides, is an **Arbor Vitæ** hedge, (fig. 6) so pruned and cared for as to present symmetry pleasing to the eye. To the left of the park, bordering a driveway leading to the residence and to the highway, are two rows of **Norway Maples**, terminating, as will be seen, among a thick cluster of trees, consisting of twelve **Norway Maples**, (fig. 8), planted in a group, in a square. These, with their compact heads and large dark green foliage, form a pleasing contrast with the more open and spreading **Box Elders** or **Ashleaved Maples**, (fig. 7). Two umbrella shaped **Kilmarnock Willows**, (fig. 1), fill up what would otherwise appear a vacant square, and add grace and beauty to the scene. The cute little ball shaped trees, (fig. 3), are **Tom Thumb Arbor Vitæ**, these border a gravel walk around the centre bed and consist of a group of sixteen trees pruned in the shape of a ball with short stems about six inches high. The tapering or pyramidal trees, (fig. 2), are **Pyramidal Arbor Vitæ**, of which there are eight, four on each side of the centre bed. The large tree with spreading branches, (fig. 11), is a stately **Carolina Poplar**, towering far above the nestling cottage, and affording protection against the scorching rays of the sun, as well as serving to make the scene more complete and beautiful. To the left, (fig. 10), stands a shapely **Cutleaved Birch**. At the season when the photograph was taken, the centre bed, some twelve feet in diameter, was filled with stately **Cannas** (fig. 5), their large glossy foliage and gorgeous flowers of variegated color presenting an imposing appearance. Where the **Cannas** are now, was in the early spring a mass of gorgeous **Tulips**; beyond these, nearer the house, was a magnificent bed of **Hyacnths**, (see page 23). Two beds not in sight on the picture, one on either side, are filled with **Geraniums** and **Coleus** in all shades.

The size of this beautiful spot, presenting the combined efforts of both man and nature, is but 100 feet wide by 150 feet in length. It will be noticed that it contains but few flowers. We love flowers, but like to see them massed in groups or as a border for a garden, or even as a banking for the house. Where shade is desired there should be plenty of trees. A well kept lawn, dotted and lined with trees, shrubs and plants, is always charming. Well kept gravel walks, such as are shown in the picture, (fig. 4), add grace and beauty.

Dear reader, it does not require a very large yard, nor a great amount of money, to have all this beauty and pleasure. In these days of hustle and toil, of strenuous effort and sharp competition, it is refreshing, indeed, to retire at the close of day in the hot summer months, to a place of repose and comfort among the trees and shrubbery, where man is drawn closer to nature and nature's God.

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