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U.S. DEPARTMENT OF AGRICULTURE  
MIG 211 18211

# Washington Nursery Company

Growers of Clean, Well-Rooted  
Hardy Nursery Stock  
Shade and Ornamental

*On the Yakima Indian  
Reservation*

Toppenish, Washington



## Unsolicited Comments from Satisfied Customers, Agents and Deliverymen. We Have Scores of Similar Letters on File. Space Permits Use of but Few. Names on Application

Lenore, Idaho, May 24th, 1912.—“People are getting interested in this section in fruit, and you are entitled to the business as your stock is surely first class.”

Lakeview, Oregon, May 27th, 1912.—“Everybody is so well pleased with trees. Your methods are certainly good; can do business for you with pleasure.”

Huntley, Montana, June 8th, 1912.—“Our trees delivered this spring were certainly the finest lot that ever came into Huntley, and we are getting some excellent advertising through customers who received them. The deliveryman said they were the best he ever handled, and he has delivered for several nurseries every year. He had trees from other nurseries at his garage at the time ours were being delivered and the comparison was something painful—for the other fellows. An old nurseryman and experienced planter said our trees had the best root system he ever saw.”

Newberg, Oregon, March 28th, 1912.—“I have had a chance to compare the root system of your apple trees with those of several other nurseries this spring, and must say you have them all beaten. In the other fellow's lot, what might have been a splendid tree is spoiled in digging—yours were cut long and there were no split up roots. You can rely on my future orders for apple trees.”

Tacoma, Wash., May 5th, 1912.—“Mr. \_\_\_\_\_, deliveryman of Milton, Wash., also handled other trees too, but said ours were far ahead of any he had ever seen and would handle no others this year.”

Clagstone, Idaho, May 4th, 1912.—“The stock you sent my customers this spring was fine and gave satisfaction in every instance.”

Helix, Ore., March 29th, 1912.—“We are well pleased with your stock.”

Portland, Ore., April 1st, 1912.—“Mr. \_\_\_\_\_ writes that you sent us a fine looking lot of trees.”

Valleyford, Wash., April 2d, 1912.—“Every customer was well pleased with the stock and when in need of any more I think you will get their orders.”

Jerome, Idaho, April 7th, 1912.—“Trees received in good shape and perfectly satisfactory.”

Missoula, Mont., April 8th, 1912.—“One thing I want to tell you, that all of the customers are well pleased with the stock you delivered to them. I never get tired of recommending your stock.”

Ford, Idaho, April 8th, 1912.—“The stock is in good condition and the best I have ever seen in any country.”

Post Falls, Idaho, April 12th, 1912.—“The trees opened up all O. K. and were a fine lot. Everybody pleased.”

Sandpoint, Idaho, April 12th, 1912.—“Will say they were the nicest trees that came to this town. I saw some of the other nursery stock; they were very poor beside of ours.”

Sunnyside, Wash., March 11th, 1912.—“The trees were received in good order and are planted, and we shall endeavor to take proper care of them. We wish to thank you for your liberality and assure you we shall always speak a good word for the Washington Nursery Company.”

Kiona, Wash., March 14th, 1912.—“They are as fine trees as I ever saw. Thank you very much.”

North Yakima, Wash., March 30th, 1912.—“The trees you sent came in good time and in good condition. Ora hauled them out and heeled them in and told me they were the best lot of trees he had ever seen.”

Independence, Ore., March 10th, 1912.—“Trees and everything giving splendid satisfaction, both here and Monmouth.”

Centerville, Wash., March 25th, 1912.—“The trees and berries arrived last week in excellent condition and are fine. We surely are pleased with them and are certainly grateful to you for your splendid treatment of us.”

Rosemary Orchard, Pendleton, B. C., May 1st, 1912.—“I beg to inform you with much thankfulness and pleasure that your trees arrived perfectly safe, with the card notice to be on hand upon their arrival. They are the finest trees I have ever seen, surpassing all my expectations. I may tell you that the one-year-old Spitzenberg trees you sent me three years ago are bearing this year.”

Sheridan, Ore., July 29, 1912.—“Will you accept an order from me for 150 to 300 fruit trees, mostly Newtown Pippins, for delivery at Willamina, Oregon, any time in November? These trees are for the purpose of resetting tracts in a large orchard here of which I have charge, and the people seeing the condition and growth of trees I bought from you in the spring of 1911, wish me to get trees from you for replacing missing ones in their orchard tracts. I have not counted up yet to know just how many I will need, but will do so on receiving answer from you, and let you know at once. I wish to do the replacing by the last of November. My trees I purchased from you and planted in March, 1911, numbering 870 trees, have done splendidly and exploded the idea of not planting irrigated trees on non-irrigated land. I lost from death or failure to grow four trees out of the shipment of 870. Kindly let me hear from you about this matter.”





Photo of yearling apple buds in our nursery taken in October. Spitzenberg at the left, Jonathan at the right. Note the splendid stocky body and the full height. The gentleman in the foreground stands 5 feet 10½ inches.

Fall 1912 ————— Sixth Edition ————— Fall 1912

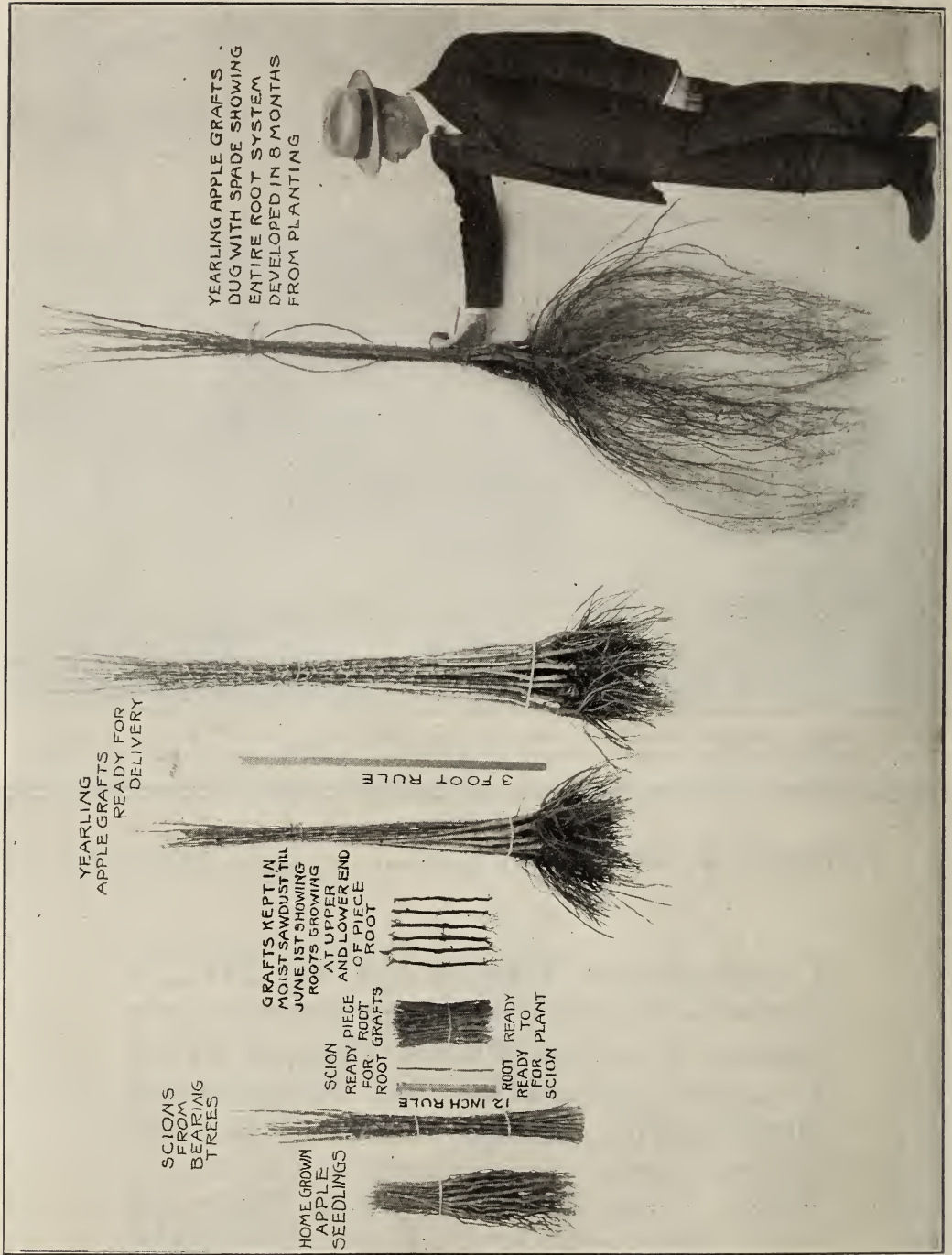
## Complete Descriptive Book

Apples, Cherries, Plums, Prunes, Pears  
Peaches, Strawberries, Raspberries  
Blackberries, and other Fruits and Berries

Shrubs, Vines, Roses, Flowering Plants and  
Bulbs, Shade Trees for the West and Northwest

# Washington Nursery Company

Toppenish, : : : Washington



Building a grafted apple tree. Here is shown the yearling apple graft from its inception as a seedling through the grafting process and its final completion as a full yearling apple tree, the last picture showing a group of these trees with all the roots dug with a spade to indicate the exceedingly large fibrous root system which our trees put on in one season's growth.

## To Our Friends and Customers

We are reprinting in this, our sixth edition, practically all the introductory matter which appeared in the fifth edition, issued last season.

Time has proven that every statement we have made will bear the closest scrutiny and that we have without question the finest location for growing good stock it would be possible to obtain, and that we do grow a class of stock absolutely unsurpassed in quality and without question free from pest or diseases so common to stock grown in less favored localities.

We have earned the title, "The Greatest Apple Nursery in the West." Our continuous large sale of apple trees keeps us in the front rank in the production of this standard of all fruit trees, but in growing these large blocks of apple trees we have not neglected the other staple fruits, nor the shade and ornamental stock, on which our trade has grown to very large proportions.

**Apple Seedlings.** We have finally demonstrated that we have a location for growing the best apple seedlings it is possible to obtain. Our stock is all propagated on these clean, healthy roots, guaranteeing to our customers the best apple trees it is possible to obtain. We also grow our own French pear stocks, on which we propagate our pear, as well as our peach and cherry seedlings on which stock of this character is also propagated.

### We Irrigate Our Stock

So many times is the question asked, and so often do prejudiced competitors refer to irrigated trees as inferior, that we want to here emphasize the fact that our trees are grown on irrigated land and that this accounts in a large measure for their superior quality.

The average annual precipitation in the Yakima Valley is about 9 inches. But little of this comes during the growing season. The soil is exceedingly fertile, the summers are long, with plenty of sunshine. With water at our disposal, judiciously used, coupled with continuous cultivation, we keep the tree growing during the season in which it should grow. By watering for the last time in early August, followed by the same persistent cultivation, we "finish" our trees in a manner that the nurserymen in other sections cannot approach. They are generally compelled to see their trees suffer and their growth retarded during July and August for lack of water, then when they should be "ripening" the tree and hardening the fiber preparatory to digging, the trees often start a fresh growth, due to September and October rains. Our trees meanwhile are fully matured and ready to dig and deliver in prime condition.

We talk especially on irrigation under separate head on page 5. Read carefully the arguments of disinterested writers and you will agree that trees grown under irrigation have many advantages over stock grown elsewhere.

Our greatest ambition is to deliver to every customer more than his money's worth. We often say to our customers: "We like your money, but we like your good will more." We would rather not have your order than to feel that we would fail to satisfy you. We handle from 6,000 to 10,000 individual orders every year, and a complaint from any one of these customers is always promptly adjusted.

Descriptions herein are accurate, but allowance must be made for variations in time of maturing and ripening due to difference in elevation, climate, etc.

### Yakima Valley

Ever since we started here, we have expressed our faith in our choice of location for the propagation of nursery stock. Results have proven that we made no mistake, and after eight years' experience growing trees on the Yakima Indian Reservation, in the heart of the far-famed

Yakima Valley, we believe there is no spot on the continent more favored for the production of clean, healthy, well-rooted trees.

### No Pests or Diseases.

The Indian lands have been cultivated but a few years, mostly as hay and potato ranches, hence there are no old orchards or forest trees nearby to harbor pests or diseases. This fact will appeal alike to the commercial orchardist or the small planter, as it guarantees clean stock, which all should demand. However, as "eternal vigilance" counts in this business as in every other, we take no chances, and are properly equipped with spray outfits to forestall the encroachment of any form of contamination.

### Soil is Suitable

The soil is a rich sandy loam, deep and well drained. Lying practically dormant for ages, it has stored in it all the essential elements for plant and wood growth, and the trees we grow here are ample proof of this fact.

### Climate Almost to Order

The climatic conditions are ideal. Mild winters, early springs, long growing seasons, no late rains to start a new growth of wood, and no damaging frosts till the wood fiber is thoroughly hardened, all combine to produce a well matured, tough, hardy tree that will stand transplanting under any of the varied conditions to be met with in any climate.

### Methods of Cultivation

These advantages, together with thorough cultivation under the personal supervision of the management, based on long experience and a practical knowledge of tree and plant life, all result in the development in our trees of splendid fibrous root systems which have made them famous throughout the entire fruit planting section.

### Varieties Carefully Separated

Of utmost importance to our customers is the assurance that they will obtain varieties ordered. A visit to our nurseries will reveal the care with which we guard against error by a system in grafting, planting, budding, digging and shipping that is as near perfection as we can make it. All of this is the outgrowth of years of experience in the growing and handling of trees, and in office management.



Budding crew at work in our plant inserting buds on our splendid, home-grown apple seedlings in August. These buds will make no growth until the following spring, and when they start the seedling top will be cut off, leaving the buds to make their growth during the next season, when they will attain a size similar to those shown in photo on page 1.

### Our Organization

Growing, selling and delivering departments are each in charge of a member of the company, an expert in his line. This insures to each and every customer that his trees will be properly handled and that his order will receive careful attention, also that he may depend upon receiving the kind and quality of stock ordered. We keep an exact count of the total trees in each variety in our plant, aggregating the sales and checking off the totals each week, and when a variety runs low we stop the sale. In this way we avoid overselling, and customers are assured of getting what they order.

### Inquiries and Letters

All inquiries for stock are handled by our Sales Department, and every attention is given to written or personal requests for information, as we take pleasure in furthering the interests of the horticulturists of the country.

### Our Salesmen

We are represented by salesmen in almost all portions of the West. Our constant aim is to secure the services of honorable, experienced men. Customers are requested to write us of any misrepresentation on the part of any one claiming to be our salesmen. Every one of our men carries proper credentials, including a certificate of agency bearing our seal. If our salesman fails to call on you, write us and we will gladly give you every assistance in making up your order, which can be sent direct. Prices are the same, whether you buy of us direct or through our salesmen.

### Quality and Prices

We are not unaware that you may occasionally be offered certain stock at slightly lower prices than ours, but when you consider that quality in trees is just as varied as in any other commodity, you will demand the best, regardless of a minor difference in price. Orchard lands are too valuable to be cumbered with trees of doubtful worth. A mere handful of fruit in the first year's crop pays the first cost of a good tree. Why risk a cheap one?

### Selecting Stock

We have always contended, and results have sustained our contention, that one-year-old straight trees, with well-developed fibrous roots, are far the best to plant. We are gratified to observe that practically every horticulturist of note and all leading orchardists agree on this point.

### Yearlings Best

The advantages of the well-rooted yearling tree over a larger one are easily understood. There is a much better balance between the root and top. The roots are the foundation and the top is the superstructure, and a good foundation is absolutely necessary. In transplanting any tree or shrub, it is out of the question to attempt to save all the roots. In digging, a portion are cut off. In the new home, time must be given for the roots to establish themselves. The less top they have to support, the better for the tree. It is nothing uncommon for a one-year-old tree to overtake and outgrow a two-year-old planted at the same time. Furthermore, in these days of

scientific orchard making, the practical man wants a tree that he can head at the proper height and "shape" to suit himself. With a tree already branched, he can do but little, while with the straight, clean whip he has full sway.

### Saving the Roots

We cultivate incessantly and deeply to make the roots, and in digging set our patent digger at its lowest point, about eighteen inches below the surface, to get all we can of them, for we grow those roots to sell, not to keep. If the planter, therefore, uses due care, plants carefully, heads his trees properly and gives nature a chance, she will do her part and the immediate recuperation and growth of the transplanted tree will surprise him.

### Irrigation

In addition to what we have said on this subject on page 3, we want to add some expressions from disinterested authorities.

It makes no difference to a tree or shrub, or to vegetation of any sort, where the moisture comes from that liberates in the soil the life elements on which it lives. These elements must be dissolved before the roots can take them up, and if moisture in some form is not applied the tree suffers and finally dies. We want right here to quote F. Walden, Horticultural Editor, "The Ranch," Seattle, on this question. This article appeared January, 1907.

"I find this statement going the rounds of the press: 'Some years ago, in one of our farmers' institutes, Rev. Walden, a man who has had a wide experience in the fruit business and who is considered among the best authorities in the state, said that he would not advise any one intending to plant an orchard to buy trees from an irrigated nursery to be set in an orchard that must be irrigated, but rather buy of a nursery where trees are grown in a natural climate and transplanted into orchards where irrigation is used. Trees grown in a natural climate, that is, in a section where rainfall is adequate to the demands of vegetation, do well, much better than otherwise, when transplanted into irrigated soil. This is a matter of much importance and one worthy of consideration.'

### A False Report

"I do not wish to accuse any one of falsehood in making this statement. I know how easy it is to be mistaken, but I do want to say that I never made such a statement, and if any one thinks I did he must have misunderstood me. A man can say a thing and forget that he ever said it, and I might have done this respecting the matter under consideration, but for one thing, and that is, I never entertained such an idea in my life. My contention has been in the public press and in addresses at institutes that water is water and will perform its functions whether it happens to fall down in the form of rain or run along in an irrigation ditch. The function of water is to put the nutriment in the soil into the carbon dioxide and carry it back into the growth of the tree. If this function can be better performed by one kind of water than another I have never yet found it out. I am willing to learn, but I have sense enough to know that assertion is not proof.

### Fertilizer in Water

"It is thought by some people that irrigation water contains some elements of fertility not found in the soil where our trees are growing. When those who make such assertions are pressed to name such elements of fertility they say 'iron, magnesia, sulphur, calcium (lime) and so on.' But the soil contains all these things and in much larger proportions than can be



This is our yearling apple graft planted and grown seven months. Note the excellent root system it first contained and the large mass of splendid fibrous roots which have grown from the terminals of the old roots. Note the heavy caliper and splendid top.

found in water flowing from the mountains. Every day I am at my home in Seattle I drink of water that flows from the mountain streams very much as the waters do with which we irrigate in the Yakima and Wenatchee valleys, or any other valleys. This water used in Seattle was recently the subject of much investigation. Experts were brought here from different parts of the United States and this water was examined by chemists and the conclusion of the whole matter was that there is no purer water to be found in our whole country. The fact is, this water running from the mountains is rain-water or snow-water, which amounts to the same thing, and the fact that it runs over some rocks or through some soil does not materially change it for the better or worse. The reader may rest assured that I never said what is attributed to me in this clipping."

#### Irrigation Efficiency

We also quote part of an editorial from the "St. Louis Republic" along similar lines, suggested by the recent opening of the Gunnison irrigation tunnel in Colorado, justifying the expense by noting two "important factors in the problem." We read:

"The first of these is the manageableness of the whole process of growth under irrigation—the superior economy of time. In a country with a natural rainfall cloudy days slow down growth and droughts greatly retard it. In a semi-arid country with irrigation, watering goes on under a blaze of sunlight; conditions governing both light and moisture are the best possible

during the whole period of growth. This increases the yield of land and makes agriculture as sure as any other process of manufacture. The fear of a 'bad harvest' is eliminated by the steady blaze of the desert sun and the constant pressure of the 'rain out of the ditch.'

"The second factor is the continuous land-renewal by irrigation. Nothing like the impoverishment of lands familiar to observers in regions depending on a rainfall is known in Egypt, where the same fields have been cultivated for more than 6,000 years, or in Lombardy, whose agricultural history extends over more than two and a half millenniums. The reason is not far to seek. Irrigable lands in arid regions are watered by streams that come from high mountains, and this means, of course, that they flow over vast deposits of eruptive rocks, rich in the constituents of the most fertile soils, where the conditions of slope and climate are such as to cause the most rapid disintegration.

"This explains how such an important and expensive work as the big Colorado ditch is practicable. The Uncompahgre comes out of the Alpine fastnesses of the San Miguel and Court-house ranges, where the waste of andesites, porphyries and trachytes is worth more to the lands which it irrigates than the finest of artificial fertilizers. And so long as the mountains stand and the streams run this process of continuous renewal must go on."

The foregoing arguments are sound and sensible and have been proven true so many times that their repetition here seems needless.

## Hints on Transplanting

#### Protect the Roots

In taking your trees home from delivery point do not expose them to sun or wind. Many trees are injured more in an hour at this time than if one or two weeks in transit. Cover them well

with straw, burlap or canvas, and immediately upon reaching home, heel them in, wetting and packing the ground thoroughly. Take only a few at a time out of the ground at planting time. A barrel or tub of water in which to keep



Planting apple grafts in our fields in March. Seventy-five men were in this planting crew. Over two million apple grafts were planted on the 80 acres in which this picture was taken. These grafts attained a size like those shown in large cut on page 2.

the trees in the field while planting insures against needless exposure. A little extra care at this time will repay you ten-fold.

#### Preparation of the Soil

Prepare a rich, deep bed of mellow soil, and have the land sufficiently drained to relieve the roots from standing water. To insure a fine growth, land should be in as good condition as is required for a crop of wheat, corn or potatoes.

#### Preparing Trees for Planting

The preservation of the natural balance between tops and roots renders a vigorous cutting back of top absolutely necessary in most cases. Prune off broken or bruised ends of roots, if any (a smooth-cut root granulates, or makes ready to extend, sooner than one broken off). Cut back the tops to the extent of about one-half the previous year's growth, taking care at all times to prune in such a manner as will tend to develop a well-formed head, sufficiently open to admit air and light freely. One-year-old trees, where there is but one straight stock, should be cut down to the height desired for forming the head.

#### Planting in Rainy Districts

Make the holes large enough to admit the roots without any cramping or bending. Fine surface soil should be used in covering the roots, and this should be carefully worked among them. Pour in some water when the hole is partially filled. See that the ground is firmly and solidly packed over all parts of the roots, so that there will be no opportunity for dry air or frost to enter and destroy roots deprived of the full benefit of their natural protection. Omission to pack the earth solidly is a more frequent cause of failure in planting nursery stock than any other. Fill the holes full enough to be even

with the surrounding surface after the fresh earth settles. Never use manure in contact with roots. Large trees should be staked and tied.

#### Planting in Irrigated Districts

Have the water in the field ditches and as you fill the hole with earth, run in water and let settle, finally filling and packing, and leaving a dry mulch of earth on top. In these arid and semi-arid localities ground should be kept in very moist condition. Many trees are lost through neglect of this.

#### After-Culture

Grass should not be allowed to grow about young trees or plants. The ground should be cultivated for a space of at least one foot outside the roots. If the ground is poor it should have surface applications of manure. Pruning should be done regularly every spring, before the buds swell any. Avoid removal of large branches.

#### Winter Mulching

In the fall, and particularly the first after trees or bushes are planted, the ground should be mulched or covered with a layer of coarse manure or litter three to six inches deep, over a space two feet more in diameter than the extent of the roots. This keeps the earth moist and of even temperature.

#### Fall Planting

In most sections where the thermometer goes below zero, trees delivered to customers in the fall are more or less injured during the freezing weather of winter—lowering their vitality and causing many to die the first summer after planting, so we will not deliver trees in the fall to cold sections, except when the owner is willing to take all risk and pay freight from nursery.



Peach buds, photo taken in our plant July 25th. The gentleman in the foreground stands 6 feet. Note the size and heavy caliper of the trees.

**Injured Trees**

If trees are received in a frozen state, place the package unopened in a cellar, away from frost and heat, until thawed out, and then unpack. If partially dried from long exposure, bury entirely, or place in water for 12 to 24 hours.

**Number of Trees or Plants to an Acre**

	Square method	Hexagonal or triangle method
1 foot each way.....	43,560	50,300
2 " " " .....	10,890	12,575
3 " " " .....	4,840	5,890
4 " " " .....	2,725	3,145
5 " " " .....	1,745	2,010
6 " " " .....	1,210	1,600
8 " " " .....	680	785
10 " " " .....	435	505
12 " " " .....	305	350
16 " " " .....	170	190
18 " " " .....	135	155
20 " " " .....	110	125
25 " " " .....	70	80
30 " " " .....	50	55
35 " " " .....	35	40
40 " " " .....	27	31

**Rule: Square Method.** Multiply the distance in feet between the rows by the distance the trees or plants are apart in the rows, and the product will be the number of square feet for

each one, which, divided into the number of feet in an acre (43,560), will give the number for the acre.

**Rule: Triangle Method.** Divide the number required to the acre "square method" by the decimal .866; or calculate the number by the "square method" and add 15 per cent. The result will be the number of plants required to the acre by this method.

**Distances for Planting**

Standard Apples.....	30 ft. each way
Standard Pears and strong growing Cherries .....	20 " " "
Duke and Morello Cherries.....	18 " " "
Standard Plums, Peaches, Apricots, Nectarines....	16 to 18 " " "
Quinces, Dwarf Pears and Apples .....	10 to 12 " " "
Grapes .....	7x10 to 16x16 " " "
Currants and Gooseberries.....	4 " " "
Raspberries and Blackberries.....	3x5 to 4x7
Strawberries in field.....	1x3 to 3½ ft. apart
Strawberries in garden.....	1 to 2 ft. apart

We include in this catalogue only such fruits and ornamentals as we have grown on our own grounds, and have aimed to confine ourselves to cultivating only such varieties in both departments as will, with proper care, give entire satisfaction to our customers.

**Special Notice.**—Those agents only who can show a certificate of recent date, with our signature and the seal of the company attached, are authorized to solicit orders for us. We call special attention to this notice, as it has been the practice of unprincipled persons to take catalogues of prominent nurseries, and with them get orders in their own names, which they will fill with poor stock bought from unreliable firms. If our patrons will notify us of any person whom they have reason to believe is not a regularly appointed agent, we shall consider it a favor.

## Notice to Customers

1. Place your orders early so as to avoid disappointments.
2. Write your order on a separate sheet from letter, using one side of paper only, or better still, fill out one of the blanks in back of this catalogue.
3. Give careful shipping instructions, always naming nearest railway station, steamer landing, or stage terminal, and never fail to give your post-office address, with street number, box, or rural route and box number.
4. All orders from unknown correspondents must be accompanied by one-half cash, or satisfactory references. If you are a former customer, kindly tell us so, giving season and delivery point.
5. In making selections of stock, ascertain as nearly as possible what varieties do best in your locality. If planting commercially, inquire particularly what varieties attain their greatest perfection, stand handling and shipping best, and bring good prices.
6. Check your stock immediately upon arrival and report any errors at once, so we may make correction.

Address all communications to,

**Washington Nursery Company**  
**Toppenish, Washington**



Four-year-old Jonathan apple trees in orchard of F. A. Williams, three miles west of Toppenish. Photo taken in August. Peach tree filler in distance same age. These trees had a fair crop in their third year and a good crop in their fourth year. These trees were bought from the Washington Nursery Co.

## Fruit Department

No one in the Northwest needs to be told that we lead the world in growing fruit. Ten acres of our land in fruit make more money than the Central and Eastern farmer's half section in grain or hay. It's in our climate, in our soil—we can put the finest color and quality into fruit that the world's markets know. In Chicago and New York and London and Paris all the familiar Northwestern fruit labels are a common sight in the markets. We get prices for our fruits that growers right at the door of the markets don't get. The man who has land here, or who can get it, needs only to plant and care for trees to avail himself of this tremendous advantage. Half the battle is already won—the other half is easy. **Begin this year,** and the current will almost carry you along if you do your part even decently well.

### Apples

Apples are more important than any other fruit. They thrive on nearly any well-drained soil. Ripening, unlike other fruits, over nearly or quite through the year, by making judicious selections of sorts, a constant succession can be obtained for home use.

There is no farm crop which, on the average, will produce one-fourth as much income per acre as will a good Apple orchard. The average price paid for Apples is steadily on the increase, and the immense demand for home consumption, foreign shipping, canning and evaporating, assures us of permanent markets. We recommend planting late-keeping winter varieties.

Fifty trees per acre, thirty feet apart each way, leaves room for rows of peach trees between the apples, which, growing more quickly than the Apple trees, soon protect them from winds, and prove a great benefit to them. After eight or ten years of productiveness, as the space is needed for the Apples, the peach trees may be removed, leaving the orchard better for the protection, and at the same time having yielded the planter a large return for his outlay and labor, before the apples came into bearing.

#### Summer Varieties

**American Summer Pearmain.** Medium to large; skin red, spotted with yellow in the shade and streaked with red in the sun; flesh yellow, remarkably tender, juicy and rich; a good bearer. August.

**Astrachan, Red.** Large, roundish, nearly covered with deep crimson, overspread with a thick bloom; juicy, rich, acid, beautiful. Tree a vigorous grower; good bearer. August.

**Bough, Large Sweet.** See Sweet Bough.

**Carolina Red June (Red June).** Medium size; red; flesh white, tender, juicy, sub-acid; and abundant bearer.

**Early Colton.** Entirely hardy in all parts of the country. Has stood the extreme cold of Minnesota, Wisconsin, New Hampshire. Annual and abundant bearer. Never in the history of over half a century has it been known to entirely fail of a crop. Very early, beginning to

## SUMMER APPLES—Continued.

ripen so it is good to eat ten days before Early Harvest, and continues some time, making it very valuable for home use. Beautiful and of fine quality.

**Early Harvest (Yellow Harvest).** Medium to large; pale yellow; beautiful; fine flavor. Tree moderate, erect grower, good bearer; excellent variety for both orchard and garden. Middle to end of August.

**Early Strawberry.** Medium, striped with deep red; tender, sub-acid and excellent; a poor grower, but productive. August.

**Keswick Codlin.** Large, conical; tender, juicy, acid; excellent for cooking. Tree erect, vigorous, exceedingly productive, and bears young. July of October.

**Golden Sweet.** Rather large, pale yellow; very sweet and good. Good bearer. August.

**Red Russian.** Medium size, conical, red, slightly striped deeper red; flesh white, tender, juicy, sub-acid. Abundant bearer; resembles the Red June, but better shipper, and color not so solid red as Red June, but slightly striped. Tree very hardy. July and August.

**Summer Queen.** Medium to large, roundish, yellow, blotched and streaked with red; flesh yellow and tender, acid, aromatic flavor. July and August.

**Sweet Bough.** Large, pale, greenish yellow; tender and sweet; moderate grower and good bearer. August.

**Sweet June.** Medium, roundish, regular; light yellow; very sweet, pleasant and rich. August.

**Tetofsky.** A Russian Apple which has proven profitable for market growing here. Tree spreading, upright, forming an open head; comes into bearing extremely young, usually the second year after transplanting, and bears every year. Hardy as a crab tree. Fruit good size, nearly round; yellow, beautifully striped with red; flesh white, juicy, pleasant, acid, aromatic. July and August.

**White Astrachan.** Very large roundish; skin very smooth and nearly white; a favorite market sort. It always attracts attention and brings good prices. August.

**Yellow Transparent.** A new Russian variety, imported in 1870, through the Agricultural Department. Pronounced by some who have seen it as "the most valuable early apple ever introduced." Tree upright, and a very early and abundant bearer. Fruit of good size; skin clear white, turning to a pale yellow; flavor acid and very good. Ripens from ten days to two weeks earlier than Early Harvest. One of the most popular market varieties. Plant it almost anywhere and it will succeed, and is now seen in all large markets from commercial orchards.

### Autumn Varieties

**Alexander (Emperor).** Of Russian origin. Large, deep red or crimson; flesh yellowish white, crisp, tender, with pleasant flavor. Tree very hardy. October.

**Autumn Strawberry.** Medium, streaked; tender, juicy, sub-acid, fine; vigorous and productive. September and October.



Photo of our King yearling apple buds. Photo taken in October before digging time. Note the extreme height and caliper of these trees. The King makes an extra large growth.

## AUTUMN VARIETIES—

Continued.

**Duchess of Oldenburg.**

Of Russian origin. Large, roundish, streaked with red and yellow; flesh whitish, juicy; flavor sprightly sub-acid. Tree vigorous, very hardy; very young and abundant bearer. It is indispensable in the North, and almost so in the South. We confidently recommend it for the orchard as one of the most valuable sorts for market or in the garden for home use. September.

**Dutch Mignonne.** A popular apple introduced from Holland. Tree moderately vigorous, upright, spreading. Fruit medium, roundish, oblate, slightly conical; skin rather rough, yellow, shaded, striped and splashed with light and dark red, and sprinkled with brown dots; flesh yellowish and a little coarse, tender, juicy, slightly sub-acid; core small. One of the best cooking varieties. November to February.

**Fall Pippin.** Very large, yellow, tender, juicy and rich. Tree vigorous. October to December.

**Fall Jenetting** (Summer Jenetting). Fruit large, oblate, slightly conical, almost ribbed; pale greenish yellow, with a blush; flesh whitish, tender, juicy, brisk, sub-acid. Tree vigorous and productive. September to October.

**Fameuse** (Snow). Medium size, roundish, oblate; whitish ground striped with deep red; flesh very white, juicy and pleasant. Tree very hardy; one of the most valuable for northern sections. November and December.

**Emperor.** See Alexander.

**Gloria Mundi.** Very large; greenish yellow; valuable for cooking and drying. October.

**Gravenstein.** Large, striped, beautiful; tender, juicy and high-flavored. Tree vigorous and productive. September and October.

**Haas** (Gros. Pommier, Fall Queen). Medium to large, slightly conical and somewhat ribbed; pale greenish yellow, shaded and striped with red; flesh fine white, sometimes stained, tender, juicy, sub-acid, good. Tree vigorous and very hardy, upright, with well-formed head; bears early and abundantly. September to November.

**Hoover** (Wattaugah). Large, oblate; dark red; juicy, acid, crisp and of good flavor. Ripens September and October. Tree vigorous, short-jointed grower. Very distinct from other kinds.

**Jefferis.** Medium to large; yellow, striped, mostly red; flesh tender and delicious. One of the finest dessert apples; moderate growth; productive. September to November.

**Jersey Sweet.** Medium size; striped red and green; tender, juicy and sweet; a free grower and good bearer; very popular, both for table and cooking. September and October.

**King of Tompkins County.** Large and handsome; striped red and yellow; tree vigorous and productive. One of the very best apples. November to May.

**Maiden's Blush.** Medium size, flat, quite smooth and fair; pale yellow, with beautiful red cheek; tender and sprightly, pleasant, acid flavor. Fair grower and good bearer. September and October.

**Rambo.** Medium; yellowish, streaked with dull red and somewhat dotted; mild, tender and good. Fine grower, productive; more especially valuable in the West. For local consumption. October to December.

**Red Bietigheimer.** A rare German variety, recently introduced; fruit large to very large; skin pale green, mostly covered with purplish crimson; flesh white, firm, sub-acid, with a brisk, pleasant flavor; tree a fine grower and abundant bearer. One of the largest and handsomest of apples, and promises to be extensively grown. September and October.

**Snow.** See Fameuse.



Red Astrachan.  
(See page 9.)



Bismarck.

## AUTUMN VARIETIES—Continued.

**St. Lawrence.** Large, yellowish, striped and splashed with carmine; flesh white, slightly stained; crisp, juicy, tender and vinous. Tree hardy and productive. September.

**Twenty-Ounce (Cayuga Red Streak).** Very large, nearly round; yellow, striped red, quality good; vigorous and good bearer. Popular as a market variety. November and December.

**Waxen.** Medium; pale yellow, oily, sprinkled with a few dots; flesh whitish yellow, crisp, tender, juicy, sprightly sub-acid, good. November.

## Winter Varieties

**Akin (Akin Red).** Size and color very much like Jonathan, but keeps three months longer; quality even better than that most excellent kind. The apple for the fancy trade. Illinois Horticultural Society says: "The original Akin tree is 7 feet 3 inches in circumference, about 40 feet high and over 60 years old. Tree is productive and regular bearer, and apples keep until April or May. They are of great beauty and excellent quality; fine-grained, crisp, spicy and mild; medium size; red." Such fruit is always in demand. So beautifully colored as to be almost irresistible to the eye, and of equally fine flavor. Tree productive.

**Antonovka.** This is one of the true iron-clads. Of Russian origin and perfectly hardy, withstanding our coldest winters in fine shape. Fruit large, slightly oblong, and when fully ripe, a light golden color. Good keeper.

**Arkansas Beauty.** Large; beautiful crimson; flavor rich, sub-acid; fine grained. Free and good grower and enormous bearer. November to March.

**Arkansas Black.** Large, round or slightly conical; regular, smooth, glossy yellow, where not covered with deep crimson, almost black; flesh very yellow, firm, fine-grained, juicy, sub-acid, pleasant, rich.

**Babbitt.** Strong, large grower; heavy bearer. Fruit one-third larger than Baldwin; brighter red; flesh fine grained, juicy, rich crisp and of a peculiarly fine acid. Ready to cook as soon as grown. As an eating apple it is too acid to be of value until the latter part of the season.

**Baldwin.** Large, roundish; deep, bright red; juicy, crisp, sub-acid, good flavor. Tree vigorous, upright and very productive of handsome fruit; one of the best and most popular winter apples. Originated on farm of John Ball, Wilmington, Mass., about the middle of the eighteenth century. January to April.

**Black Twig.** See Mammoth Black Twig.

**Belle de Boskoop.** Large, bright yellow, washed with light red on the sunny side, and sometimes with a sprinkling of russet; flesh crisp, firm, juicy, sprightly, sub-acid; quality very good; a late keeper. Tree vigorous.

**Bellflower, Yellow.** Large, yellow, with blush cheek; very tender, juicy, sub-acid. In use all winter. Very valuable. Moderate grower and good bearer.

**Ben Davis.** (New York Pippin, Kentucky Red Streak, etc.). Large, handsome, striped, tree very hardy, vigorous and productive; a late keeper. Highly esteemed in the West and Southwest.

**Benton County Beauty.** Originated in Benton County, Arkansas. Tree good grower, early and abundant bearer. Fruit large, fine-grained, juicy and crisp; a bright red all over. One of the finest appearing apples grown.

**Bismarck.** In respect to its young fruiting habit, the most remarkable apple ever introduced. One-year grafts frequently produce fruit, and two-year trees seldom fail. Bearing in many sections of the United States. A two-year single-stem tree about eighteen inches high has been known to ripen a fine specimen. Has been tested in nearly every apple-growing country, and promises to succeed wherever apples can be grown, proving healthy, hardy, productive and without a rival in early fruiting. Tree of short, stocky growth, thick, healthy foliage; makes beautiful specimens grown in pots for decorative purposes. Fruit large, handsome; yellow, sometimes shaded, red cheek; flesh tender, pleasant, sub-acid. Will keep well into winter.

**Black Ben Davis.** Strong, hardy, vigorous bearer and grower. Fruit large; deep solid red. Splendid keeper and shipper. Sub-acid flavor. March to May.

**Blenheim Orange.** Fruit large, roundish, or oblate; yellowish, becoming deep orange, stained on the sunny side with dull and dark red stripes; flesh yellow, breaking, very sweet, pleasant, good. October to December.

**Blue Pearmain.** Very large, dark purplish red over dull ground, appearing bluish from white bloom; flesh yellowish, mild, aromatic. October to February.

**British Columbia.** (New.) Named by the Fruit Growers' Association of British Columbia. Originated by H. P. Bales, at Nicomen in the Fraser Valley. Tree vigorous and very hardy, an annual and abundant bearer. Fruit large, russet on yellow ground, sometimes striped with red; somewhat irregular; flavor mild, sub-acid, of the highest quality. Mr. Bales has now 400 trees of this variety bearing. The original tree, when 34 years old, measured sixty inches in circumference, and is in a perfectly healthy condition. Mr.

## WINTER APPLES—Continued.

Bales has picked thirty-six fifty-pound boxes of apples from it in one season. We consider this one of the most valuable apples to plant for commercial purposes. January to June.

**Canada Reinette.** Extra-large size, flattened and ribbed; greenish yellow, with russet dots and patches; flesh firm, rich, juicy and finely flavored; tree grows strongly and is a good bearer. November to March.

**Cooper's Market.** Medium size, conical; shaded and striped with red on yellow ground; flesh white, firm, tender, rather acid. Valuable for marketing. November to March.

**Coos River Beauty.** From Douglas County, Oregon. First known as Geourney Seedling, later renamed by a Marshfield, Oregon, nurseryman, Coos River Beauty. Tree a good grower, an annual and prolific bearer; does not break or split, no matter how heavily loaded. Fruit large; red, turning to dark red on the sunny side; flesh white, firm, breaking crisp and juicy; flavor mild, sub-acid, spicy, something like Gravenstein. Season November to March at Coos Bay.

**Cox's Orange Pippin.** Medium size, roundish, ovate; color yellow, suffused with red streaks; flesh crisp, juicy, sweet and best in quality. Regarded by the English as the finest apple in cultivation. Tree a moderate, stocky grower. October to April.

**Cunningham.** (New.) Form conical, size medium; smooth, deep red; very attractive; flesh yellow, fine-grained, pleasant, sub-acid; almost sweet; splendid keeper and good shipper; annual and prolific bearer. March to May.

**Delicious.** Dark, brilliant red; large, irregular; tree hardy. Ripens October to February; on Pacific Coast, when grown in high altitudes, the quality is very fine. Most splendid commercial sort.



Jonathan.

**Delaware Red Winter (Lawver).** Large, roundish, flat; mild sub-acid; very heavy and hard; beautiful dark red, handsomest of all the extra-late keepers; very valuable as a late market sort. Tree vigorous and very hardy; bears well. December to May.

**Fallawater (Fornwalder, Tulpehocken).** Very large, globular; yellowish green, dull red cheek; juicy, crisp, pleasant sub-acid flavor. Tree strong grower; very productive, even while young. November to March.

**Gano.** Originated in Missouri. Form conical, good size and smooth; deep red, shaded on sunny side to mahogany; very attractive; flesh pale yellow, finely grained, tender, pleasant, mild sub-acid. Good shipper and keeper. Tree healthy, vigorous and hardy. An annual and prolific bearer. February to May.

**Gideon.** Vigorous, early and prolific bearer. Medium, golden yellow; fine, juicy, sub-acid.

**Grimes' Golden (Grimes Golden Pippin, Sheepnose).** Of the very highest quality; medium to large size; yellow. Tree hardy, vigorous, productive. January to April. Highly recommended.

**Hubbardston Nonesuch.** Large, striped yellow and red; tender, juicy and fine; strong grower and good bearer. November to May.

**Hyde's King.** Large to very large, handsome yellowish-green, good quality; a remarkable keeper. Term of keeping—all the year round.

**Isham Sweet.** Large, dark red; juicier than its parent, Bailey Sweet, and a better keeper; tree very scraggy, but hardy.

**Jonathan.** Fruit medium, roundish; skin yellow, covered with dark or lively red; fine grained, very tender and finely flavored; tree slender and spreading with light-colored shoots. Originated about 1828 at Woodsted, N. Y. November to April.

**King David.** Deep rich red, darker and larger than Jonathan. Vigorous and hardy. Flavor, rich; flesh firm. Young and heavy bearer.

**Kentucky Red Streak.** See Ben Davis.

**Lady.** A beautiful little dessert apple; quite small, flat, regularly formed; pale yellow or lemon color, with a brilliant red cheek; flesh crisp, juicy and excellent; bears abundantly. December to May.

**Lawver.** See Delaware Red Winter.



Delicious.



Rome Beauty.

## WINTER APPLES—Continued.

**Longfield.** A Russian variety. Tree free, upright, early and an abundant bearer. Medium to large, yellow, with a blush on the sunny side, like Maiden's Blush; rich, sprightly, sub-acid. Quality as good as Fameuse and something like it. December to March.

**McIntosh Red.** An exceedingly valuable, hardy Canadian sort. Medium size, nearly covered with dark red; flesh white, fine, very tender, juicy and refreshing. A good, annual bearer of fair, handsome fruit. Resembles the Fameuse but larger and more hardy, and fully equal in quality to that standard sort. November to February.

**Marshall, or Red Bellflower.** Very large, deep crimson; shaped like Yellow Bellflower, of fine quality; tree productive. Originated near Napa, by J. L. Marshall. Is a cross between Yellow Bellflower and Red June. One of the most valuable market varieties.

**Minkler.** Fruit medium, roundish, oblate, slightly conical; pale greenish yellow, striped and splashed with two shades of red; flesh yellowish, compact, moderately juicy, mild, pleasant sub-acid; tree irregular grower, vigorous, January to April.

**Missouri Pippin.** Large, rich red, with darker red stripes; very handsome. Good grower; early and immense bearer, late keeper.

**Monmouth Pippin (Red Cheek Pippin).** Large, greenish yellow, with a fine red cheek; juicy; tree erect, vigorous and productive. Keeps well till March or April.

**Mammoth Black Twig (Paragon).** A Tennessee seedling. The original tree, over fifty years old, is still vigorous and bearing, though broken by storms. Excels Winesap in nearly every important point, a better and much stronger grower, hardier, and the fruit much larger—often measures 12 inches in circumference; color even a darker red; flesh firmer, flavor milder, but fully as rich. Remarkably heavy and a long keeper.

**Mann.** Fruit medium to large; roundish; oblate, nearly regular; deep yellow when fully ripe, flesh yellowish, fine, tender, juicy, mild, pleasant, sub-acid. Tree grows straight and symmetrical and gets large in the orchard. It is an early and annual bearer.

**Newtown Pippin.** One of the very best apples as to quality; very juicy, crisp and highly delicious flavor; fine keeper. Tree a light grower while young. Does not succeed in all sections. Originated in early part of eighteenth century. The first American apple to attract attention in Europe. December to May.

**New York Pippin.** See Ben Davis.

**Northern Spy.** Large, roundish, slightly conical, somewhat ribbed; striped with the sunny side nearly covered with purplish red; flesh white and tender; mild sub-acid, rich and delicious flavor; in perfection in January and keeps till June. The tree is a strong, upright grower, and forms a very compact head; should be kept open by pruning, so as to admit the air and light freely. Originated about 1800, at East Bloomfield, N. Y.

**Northwestern Greening.** Hardy, yellow, rich; big; extra long keeper.

**Nonesuch.** See Red Canada.

**Ontario.** Fruit large, oblate, slightly conical; skin whitish yellow, nearly covered with bright, rich red; flesh whitish yellow, fine, tender, juicy, sub-acid; refreshing, slightly aromatic; core small. January to April.

**Opalescent. (New.)** Probably the handsomest apple ever put on the market. Color light crimson, shading very dark, with many yellow dots; skin smooth, susceptible of a very high polish, which reflects objects like a mirror. Flesh yellowish, tender, juicy and good. Not only a beauty, but all right for size, quality and productiveness. December to March.

**Oregon Red Winter.** Fruit large, fine grained, crisp, juicy and rich. It could well be named the Winter Gravestine, as its flavor so nearly resembles that variety. Bright red, with a dark, maroon-colored cheek. Tree healthy and a strong grower. January to May.



Northwestern Greening.

## WINTER APPLES—Continued.

**Orengo.** The new dessert apple. Full red over-spread with numerous light-colored dots. Flesh crisp, tender and juicy, with a very small core; flavor mild sub-acid, with a pleasing aroma. Tree hardy, vigorous and productive. Superior to McIntosh Red or Spitzenberg as a dessert apple. November to May. Write for special descriptive circular.

**Ortley.** See White Bellflower.

**Palouse.** Large, bright red, juicy, crisp and fine flavor, somewhat resembling the Baldwin, but better keeper. Vigorous growing tree. January to May.

**Paragon.** See Mammoth Black Twig.

**Peck's Pleasant.** Large, pale yellow; very tender and rich, with a Newtown flavor; tree erect and a fine bearer. November to March.

**Peter.** Originated in Minnesota. Tree stout, erect, symmetrical, healthy, vigorous, immensely productive. Fruit large, red, sub-acid, and a long keeper. Hardier than the hardiest. Has endured 45 degrees below zero without the least injury. December to March.

**Pewaukee.** A seedling from Duchess of Oldenburgh. Medium to large, oblate; surface yellow, partially covered with dull red, striped and splashed; core small; flesh yellowish-white, breaking, juicy; flavor sub-acid; spicy; quality good; tree strong grower, heavy bearer and very hardy. January to June. New.

**Pryer's Red.** Medium; juicy, pleasant, very rich, sub-acid. January to March.

**Rawles Janet.** Medium to large; yellow, striped with red; flesh yellow, tender, juicy, with a pleasant, vinous flavor; prolific bearer. January to May.

**Red Bellflower.** See Marshall.

**Red Canada** (Old Nonesuch, of Mass., Steele's Red Winter). Medium, oblate; red; tender, crisp, rich, sub-acid, refreshing and delicious; tree thrifty, but slender; productive. January to May.

**Red-Cheek Pippin.** See Monmouth Pippin.

**Red Romanite** (Gilpin). Size medium, roundish; smooth, handsome; streaked with deep red and yellow; flesh yellow, firm, rich, becoming tender in spring. Very prolific. One of the best keepers. February to June.

**Rhode Island Greening.** Large, greenish yellow; tender, juicy and rich, with rather an acid flavor; growing strong and spreading, and an abundant bearer. December to April.

**Rome Beauty.** Large, yellow, shaded with bright red; flesh yellowish, tender, juicy, sub-acid; moderate grower. November to February.

**Russet, English.** It is good the first of January and will keep till July. No apple, to our taste, has a richer flavor. Medium size, smooth, firm, crisp and rich, and never loses its richness to the last.

**Russet, Golden.** Medium size, dull russet, with a tinge of red on exposed side; flesh generally crisp, juicy and high flavored; tree a vigorous grower and a great bearer. Very popular. November to April.

**Russet, Roxbury or Boston.** Medium to large; greenish or yellow russet; crisp, good sub-acid flavor; tree vigorous and productive. Very popular on account of its long keeping. June.

**Salome.** Long keeper; medium and uniform size; good quality. Annual bearer.

**Scott's Winter.** Hardy and vigorous; bright red, crisp, spicy and of a brisk acidity; long keeper.

**Seek no Further** (Westfield). Medium to large, slightly russeted with dull red stripes; tender, rich, spicy and fine; good grower and bearer. November to February.

**Shackelford.** Tree hardy, free grower, an early and profuse bearer; fruit large, well colored, purplish red in the sun, with a delicate bloom; flesh yellow; flavor mild, sub-acid, aromatic; long keeper.

**Sierra Beauty.** Originated at a high altitude in the Sierra Nevada Mountains, thirty miles east of Chico, Butte County, Cal. Beautiful crimson-red; flesh white, crisp, tender, delicious, juicy; splendid raw or cooked. Packs better than four tier. Tree hardy, upright, resembling Northern Spy. Annual bearer. The original tree is forty-one years old. January to May.

**Smith Cider.** A fine market variety. Large, handsome, yellow striped with red; flesh juicy, crisp, sub-acid; quality medium; tree vigorous; abundant bearer. December to March.

**Spitzenberg, Esopus.** Medium to large; deep red; flesh yellow, crisp, sub-acid, highly flavored; tree a light grower in the nursery, but bears and grows well transplanted in rich soil. November to April.

**Spokane Beauty.** Largest apple known; a prodigy for size; greenish yellow, shaded and striped with deep red; flesh crisp, juicy, rich, with a delicious, high flavor; very long keeper, having kept until August 1. Was awarded first prize at the Spokane Fruit Fair in 1895 and 1896.

**Springdale.** Dark red; medium to large; fine flavor and good quality; a good keeper. Introduced in Kansas. Tree a strong grower.



Stayman's Winesap.



Wolf River.

## WINTER APPLES—Continued.

**Stark.** Large, roundish; skin greenish yellow, much shaded with light and dark red, and sprinkled with brown dots; flesh yellowish, juicy, mild, sub-acid. January. A long keeper and good market sort.

**Stayman's Winesap.** Similar to Winesap, but very much larger and better flavored; oblate, conical, greenish yellow, mostly covered, striped and splashed with two shades of dark red; numerous gray dots; flesh yellow, firm, tender juicy, mild, sub-acid, aromatic; best quality. A seedling of the Winesap, originating in Kansas. Tree resembles the Winesap but more vigorous in growth. December to April.

**Steele's Red Winter.** See Red Canada.

**Sutton Beauty.** Medium to large, roundish; handsome, waxy yellow, striped crimson; flesh tender, juicy, sub-acid; good quality; keeps well. The tree is a free grower and very productive.

**Swaar.** Fruit medium size, yellow, tender, rich and spicy; one of the best and very productive. November to May.

**Tolman's Sweeting.** Medium, pale yellow, slightly tinged with red; firm, rich and very sweet; the most valuable baking apple; vigorous and productive. November to April.

**Tulpehocken.** See Fallwater.

**Vanderpool Red.** Originated in Benton County, Oregon; size medium to large; color bright red; fine flavor and one of the best keepers. Specimens of this variety, in good condition, were shown at the Oregon State Fair one year after picking.

**Vandevere** (Newton Spitzenburg of the West). Medium size, waxy yellow, striped with red and becoming deep crimson next the sun; flesh tender, yellow, and fine; rich sub-acid flavor; valuable cooking variety; free grower and good bearer. Succeeds best in light, dry soils. November to March.

**Wagener.** Medium to large; deep red in the sun; flesh firm, sub-acid and excellent; very productive; bears very young. December to May.

**Walbridge.** Medium size; striped with red; handsome and of excellent quality; vigorous grower and productive; very hardy and consid-

ered of great value in the North and Northwest. March to June.

**Wealthy.** A native of Minnesota, where it has proven perfectly hardy, vigorous and productive; fruit of medium size, red, streaked with white; quality good. December to February.

**White Bellflower** (Ortley). Fruit medium to large, roundish, oblong, conic; greenish yellow, becoming fine yellow at maturity, sometimes with a sunny cheek; flesh white, fine grained, tender, juicy, sub-acid, very pleasant. November to February.

**White Winter Pearmain.** Large, roundish, oblong, conic; pale yellow, extra high flavor. one of the best. Ranks with the Winesap and Jonathan as a commercial sort. Ships well and is a fine looker. December to February.

**Willow Twig.** Medium size; light yellow, shaded and marbled with dull red and sprinkled with russet dots; flesh yellowish green, not very tender; pleasant sub-acid flavor.

**Winesap.** Medium; dark red, sub-acid, excellent. Moderate grower and abundant bearer. A favorite market variety in the West and in Virginia. December to May.

**Winter Banana.** Fruit large, perfect in form, golden yellow, beautifully shaded and marbled with bright crimson; flesh lemon-yellow; fine grained and of the highest quality. Rich aromatic, sub-acid flavor. A good keeper. Remarkably strong grower, and, on account of its great hardiness, will thrive in any climate. Its young bearing is something wonderful, generally producing a fine crop of fruit the second year. Valuable market variety. November to May.

**Winterstein.** One of Luther Burbank's new creations; a seedling of Gravenstein with a most delicious flavor; keeps with the Baldwin and Rhode Island Greening; flesh yellowish, exceedingly tender; flavor spicy, rich, sub-acid; color bright red, in stripes; tree a strong, vigorous grower and remarkable bearer; fruits every year. It has been often said if the Gravenstein lasted through the season no other apple need be raised.



Wagener.

## WINTER APPLES—Continued.

Other apples do not sell readily during the Gravenstein season.

Luther Burbank, writing to the Rural New Yorker, says: "By this mail I send you a medium sample of my new Gravenstein seedling, six weeks later than its parent, ripening exactly with the Baldwin and Rhode Island Greening. The tree is a grand grower and as productive as an apple can possibly be. I think the quality, tenderness and texture remarkable."

**Wisner's Dessert.** Medium to large, smooth, beautifully colored with yellow, shaded with bright red in stripes and blotches, marked with russet dots. Exquisitely delicious flavor, juicy, melting, buttery, pear-like texture. Strong grower and extremely hardy. Originated in northern Ontario. Season November to April.

**Wolf River.** Tree very hardy and productive; fruit large and handsome, red; flesh white and of exceedingly fine quality; sub-acid.

**Y. N. Pippin.** See Newtown Pippin.

**York Imperial.** Medium; whitish, shaded with crimson in the sun; firm, crisp, juicy, pleasant, mild, sub-acid. Tree moderately vigorous and productive. A popular Pennsylvania variety. November to February.



York Imperial.

## Crab Apples

Adapted to cold sections where only a few varieties of apples can be successfully grown, but Crab Apples succeed equally well in all sections. Valuable for cider, preserving jelly, ornament, and some of the improved sorts are excellent for eating. Sent to the Eastern markets, they command a high price. Trees are handsome, ornamental growers, annual bearers and usually fruit in their second year.

**Alaska.** Of northern origin. Fruit large, almost white; tree hardy; vigorous grower. Highly recommended.

**Florence.** Tree very hardy; a heavy bearer, but a poor grower. Fruit medium in size; good quality.

**General Grant.** Tree erect, vigorous; fruit in dense clusters; quality equal to Duchess of Oldenburg. October to December.

**Hyslop.** Almost as large as Early Strawberry Apple; deep crimson; very popular on account of its large size, beauty and hardiness. Keeps well into the winter.

**Large Red Siberian.** About an inch in diameter; grows in clusters; yellow, lively scarlet cheek. Tree erect, vigorous; bears young and abundantly. September to October.

**Large Yellow Siberian.** Nearly as large as the above; fine amber or golden yellow color.

**Martha.** From seed of the Duchess of Oldenburg. Yellow striped red. Handsome, showy fruit; bears enormously.

**Minnesota.** Hardy; a medium grower. January, February.

**Transcendent.** Remarkably vigorous, growing to a good size, and immensely productive. Bears a little the second year from planting, and every year after, and produces good crops by the fourth year. The best of its class for cooking and eating; juicy and crisp. Skin yellow, striped with red. September to October.

**Van Wyck.** Large; skin mottled with bright red; sweet. Tree vigorous.

**Whitney's Seedling.** Large, averaging 1½ to 2 inches in diameter; skin smooth, glossy green, striped, splashed with carmine; flesh firm, juicy and rich. Said to be a great bearer and very hardy. Vigorous, handsome.



Transcendent Crab.



Bartlett.

## Pears

One of the most profitable fruits to plant. The range of varieties is such that, like apples, they can be had in good eating condition from August until early spring.

**Gathering Pears.**—One of the most important points in the management of Pears is to gather them at the right time. Summer Pears should be gathered at least ten days before they are ripe, and autumn Pears at least two weeks before. Winter varieties may be left until the leaves begin to fall, then placed in a cool, dry cellar.

### Summer Pears

**Bartlett.** Large, with blush next the sun; buttery, very juicy and high flavored. Strong grower, bearing early and abundantly. Last of August and first of September.

**Clapp's Favorite.** Large, fine; pale lemon-yellow, with brown dots; fine texture, melting, buttery, juicy, with a rich, sweet, delicate, vinous flavor. Tree hardy and very productive. Thrives where other varieties fail. August and September.

**Doyenne d'Ete.** Small, melting, sweet; yellowish. Tree vigorous and productive. August.

**Koonce.** Strong, upright; hardy, magnificent foliage; has produced crops when other varieties were killed by frost. Fruit medium, yellow, with carmine cheek; juicy, spicy, sweet and delicious quality. An excellent shipper; bears young. July and August.

**Lawson.** Tree healthy, a strong grower, early bearer and profitable sort; splendid quality; beautiful; red cheek with yellow shading.

**Le Conte.** Vigorous, productive, partaking of the nature of the Chinese Sand Pear. Fruit large, skin smooth, pale yellow. Quality fair. Ripens about with Bartlett.

**Madeline.** Medium; yellowish green; very juicy, melting, sweet. Fair grower, productive. August.

**Souvenir du Congress.** Large and exceedingly handsome; beautiful yellow, with bright red in the sun; melting and juicy, musky flavor; rather tender. September.

**Wilder.** Handsome, melting, sweet, pleasant and of the best quality for an early Pear. One of the best-keeping early Pears.

### Autumn Pears

**Bessemianka.** From Russia. Fair quality. Tree extremely hardy; valuable for the North, where other varieties cannot be grown. Strong, vigorous grower.

**Buerre Clairgeau.** Very large, pyriform; yellow and red; nearly melting, high flavored. Tree a very good grower, and an early and abundant bearer; a magnificent market sort. October and November.

**Buerre d'Anjou.** Large, fine, buttery and melting, with sprightly, vinous flavor. Tree a fine grower and good bearer. One of the very best. October to January.

**Beurre Bosc.** Large, fine, with long neck, cinnamon-russet, handsome, half melting; juicy, perfumed and delicious. Tree fine grower and productive. September.

**Buffum.** Medium size; yellow, covered brown and russet; buttery, sweet; stout, upright grower.

**Demsey.** Originated in northern Canada; medium size; excellent quality.

**Doyenne du Comice.** Large, yellow-crimson; melting, rich, perfumed and luscious. Tree vigorous and productive. October and November.

**Doyenne White (Fall Butter).** Medium, pale yellow, with a faint blush; fine flavor. October to November.

## AUTUMN PEARS—Continued.

**Duchesse d'Angouleme.** Very large; greenish yellow, some times a little russeted. Makes a beautiful tree. October and November.

**Fall Butter.** See Doyenne White.

**Flemish Beauty.** Large, beautiful, juicy, melting, rich and fine; strong grower and good bearer; hardy everywhere. September and October.

**Garber.** Originated in Pennsylvania. Large, beautiful, bright yellow with red; juicy and good; delicious canned. Ready to pick August 30. Hardy and healthy trees. So far has never blighted.

**Howell.** Large, light waxen yellow, with a fine red cheek; handsome, rich, sweet, melting, perfumed aromatic flavor. Upright, free grower, an early and profuse bearer. Very hardy. September and October.

**Idaho.** Large, nearly globular, obtusely ribbed; light, rich yellow surface, covered with many small dots; flesh white, fine grained, buttery, melting and rich. Sept. and Oct.

**Kieffers Hybrid.** A remarkable growing tree, so vigorous that it rarely blights. Fruit of fine size, rich color and good quality. Brings high prices. Best house ripened. October and November.

**Louise Bonne de Jersey.** Rather large, greenish yellow, with a bright red cheek; juicy, buttery and melting; excellent; very productive, fine grower. September and October.

**Rossney.** A new and excellent pear, raised at Salt Lake City, Utah. Medium to large; very fine grain; flesh melting and juicy, very sweet. Ripens first two weeks in September. Excellent keeper and shipper. No hard spots; unusually small core; superior flavor. Tree vigorous, healthy, productive.

**Seckel.** Small, rich yellowish brown; one of the best and highest flavored pears known; productive. September and October.

**Vermont Beauty.** Hardy, vigorous, early. Fruit medium, yellow, with red cheek; rich, juicy; best quality. October.

**Worden-Seckel.** Seedling of Seckel. Resembles its famous parent in flavor; is equally luscious, more juicy, with rich and inviting aroma. Lemon-yellow, smooth and waxy. Keeps well. Tree upright and rapid grower; hardy; enormous bearer.

**Beurre Easter.** Large, pale yellow, sprinkled with round dots, often dull red cheek; quality good. Keeps all winter.

**Kennedy.** Originated in Butte County, California. A winter variety in northern sections; hardy, vigorous growing tree; bears well.

**Lincoln Coreless.** Large, beautiful yellowish; flesh rich yellow, juicy, melting, and of a very delicate aromatic flavor; no seeds or core. February and March.

**Mount Vernon.** Medium to large, rich russet; flesh juicy, melting, rich, with a spicy flavor. New. November to January.

**Pound.** Monstrous, very showy, often weighing three pounds; yellow, red cheek. Vigorous and productive.

**P. Barry.** Large, deep yellow, nearly covered with a rich golden russet; flesh whitish, firm, juicy, melting, sweet, slightly vinous and rich. December and January.

**Pratt's Seedling.** Will keep until March. In shape and color like Sheldon, but larger. Tree fine grower, with spreading top.

**Vicar of Winkfield (Le Cure).** Large, long; not first quality, but produces immense crops. November to January.

**Winter Bartlett.** The original tree a foot through and forty feet high, at Eugene Oregon. Has borne a good crop each season for over twenty years. Fruit large, perfectly smooth; flesh tender, juicy, good and melting. December.

**Winter Nelis.** Medium in size; yellowish green and russet; fine grained, melting, rich and delicious. Tree straggly, slender grower, but very productive. December.



Clapp's Favorite.



Kieffer.

## Cherries

There are few more desirable fruits than Cherries, and they can be grown for the market with great profit. Along the street or avenue as ornamentals, especially the Heart and Bigarreau varieties are strong vigorous growers, with large, glossy leaves and open, spreading heads, making a fine shade. Cherries thrive in almost any well-drained soil. The fruit is equally delicious whether eaten from the tree or preserved, and it will always find a ready market at profitable prices. Hearts and Bigarraeus will successfully resist cold weather and can be grown in all sections, excepting the extreme North. Dukes and Morellos, or acid sorts, are perfectly hardy anywhere. These are starred (\*) in this catalogue.

**Allen.** Tree healthy, immensely productive. Fruit of excellent quality; large size, nearly heart shape, shiny and smooth; nearly black when ripe; very meaty and firm; so far free from all rot and disease; ripens late.

**\*Baldwin.** A seedling of the English Morello. Tree upright, inclined to be round. Very rank, vigorous; leaves rather broad; bloom pure white, which turns to pink, similar to the hydrangea; fruit very large, almost perfectly round, very dark, yet almost transparent; flavor slightly sub-acid, the sweetest and richest of the Morello type; stems rather large, of medium length, more inclined to grow in pairs than clusters. It is remarkable for earliness, vigor, hardiness, quality and productiveness. The tree itself is so distinct as to command the attention and incite comments of admiration from many who see it, yet are unfamiliar with its superior merit.

**Bing.** This grand new black cherry was originated by Seth Luelling, of Milwaukie, Oregon. Very large; blackish purple; very solid; flavor of the highest quality. Tree thrifty, upright, very hardy and productive. A fine shipping and market variety.

**Black Republican (Luelling).** A native of Oregon. Fruit very large, shining black; flesh very solid and firm; a good keeper and will bear transportation well. Tree a moderate grower and rather tender; an early and profuse bearer.

**Black Tartarian.** Very large; bright purplish black; half-tender, juicy, very rich, excellent flavor. Tree a vigorous grower and productive June.

**Centennial.** A seedling of Napoleon Bigarreau, raised by Henry Chapman, in Napa Valley, California. It is larger than its parent, more oblate in form, and beautifully marbled and splashed with crimson on a pale yellow ground. Its sweetness is very marked and its keeping qualities off the tree will undoubtedly render it the best cherry for shipping, specimens having been carried to Europe without the least apparent injury.



Black Tartarian.

**Chapman.** This grand new cherry originated in Napa Valley, California, where it ripens about April 10. Earliest of all shipping varieties, bears young and yields immense crops of fine, luscious fruit. Fruit in clusters, very large; roundish, stem long and slender; surface smooth, purplish black; flesh half tender; stone small; flavor of the highest quality.

**\*Dyehouse.** Partakes of both the Duke and Morello in wood and fruit; a very early and sure bearer. Ripens a week before Early Richmond; quite as productive, and of fine quality.

**Deacon.** This new cherry is supposed to have originated at Sacramento, California. Fruit black; firm, large. Ripens with Black Tartarian; flavor of the highest quality. It has been shipped from Sacramento to New York, and arrived in prime condition.

**\*Early Richmond (Kentish, Virginian May).** Medium size, dark red, melting, juicy, sprightly, acid. One of the most valuable and popular of the acid cherries; unsurpassed for cooking purposes. Tree slender, with a roundish, spreading head; exceedingly productive. Hardest of all; uninjured by the coldest winters.

**\*English Morello.** Medium to large; blackish red; rich, acid, juicy and good; very productive. August.

**Early Purple Guigne (Early Purple).** The earliest fine variety; medium size; heart shaped; tender, juicy and sweet. Tree rather slender, but very hardy and productive. First to middle of June.

**Elton.** Large and fine flavor; pale yellow, light red next the sun; vigorous grower. Last of June.

**Governor Wood.** Large, rich; light yellow with red cheek; juicy and sweet. Last of June.

**Hoskin.** Originated by C. E. Hoskin, Newberg, Oregon. Very large; color black, flavor similar to Black Tartarian. A very promising variety.

## CHERRIES—Continued.

**Knight's Early Black.** Large, black, tender, juicy, rich and excellent; good grower and productive. Middle to last of June.

\***Kentish.** See Early Richmond.

**Lambert.** The largest known. Smooth, glossy, round or heart shaped; dark purplish red, with numerous minute, indented russet dots; flesh dark red, with whitish veins, firm, meaty, small oval stone, semi-cling; sweet or very mild sub-acid, rich and of highest quality. The finest of shippers. Tree thrifty, hardy and vigorous grower, and forms a beautiful head.

\***Late Duke.** Large, light red; late and fine. Last of July.

**Luelling.** See Black Republican.

\***Lutovka.** A Russian sort of the Morello type. Fruit firm, good quality, sprightly, acid, as large as English Morello; similar to that variety in color; clings tenaciously to the long stem. August.

**Major Francis.** See Oxheart.

\***May Duke.** Large, red; juicy and rich; an old, excellent variety; vigorous, productive. June 15.

\***Montmorency Large.** Red; larger than Early Richmond and fully ten days later.

\***Montmorency Ordinaire.** Beautiful large, red, acid, ripening with Tradescant's. Being extraordinarily prolific and very hardy, it can be recommended as a variety of great value for canning and preserving. Free grower.

\***Napoleon Bigarreau (Royal Ann).** A magnificent Cherry of the largest size; pale yellow with bright red cheek; flesh very firm, juicy and sweet. One of the best for market and canning. Late.

\***Olivet.** A new Duke of French origin. Unlike most others of this class, it is said to be very early and to ripen over a long period. Fruit very large, globular and of a deep shining red; tender, rich and vinous, with a sweet, sub-acidulous flavor.

\***Ostheim.** It has been tested in the severest winters of Minnesota and has been found perfectly hardy. Fruit large, roundish ovate; skin red, dark at maturity; stalk long; flesh liver-colored, tender, juicy, almost sweet. Excellent for home or market.

**Oxheart (Major Francis).** Fruit large, obtuse, heart-shaped; skin dark red; half tender, with a pleasant juice, of second quality in point of flavor. Last of June.

\***Vladimir.** Russian variety; very hardy; a strong grower, wonderfully prolific. Fruit size of Early Richmond; mild, sub-acid, juicy; excellent quality. July.

**Royal Ann.** See Napoleon Bigarreau.

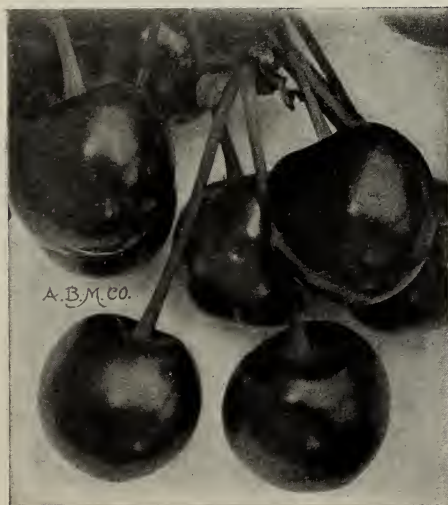
**Windsor.** Fruit large, liver-colored, resembling the Elkhorn or Tradescant's Black Heart; nevertheless quite distinct; ripens three or four days after that variety; flesh remarkably firm, and of fine quality. Tree handsome, of vigorous growth; hardy and very free-bearing.

\***Wragg.** Much like English Morello. Productive and excels in size, yield and quality. One of the hardest Cherries and has produced annual crops at the northernmost limits of cherry culture.

**Yellow Spanish.** Large, pale yellow, with red cheeks; firm, juicy and excellent, one of the best light-colored Cherries; vigorous and productive. Last of June.



Lambert.



May Duke.

"They were a fine bunch of trees. They were the best I ever saw, comparing them all together."—Clemm Bratt, Fairfield, Wash.

## Plums

Plums have not been planted as extensively as they deserve, and the lack of planting has doubtless been partly due to difficulty in marketing. But with the almost unlimited demand for good fruit in the Eastern markets, with the excellent shipping qualities of the Maynard and others, and with the establishment of canneries in most important fruit sections, they should be planted in large quantities, for a little care and attention at the proper time will insure a crop which will sell for high prices.

Plum trees, like pear and other finer fruits, attain greatest perfection in our heavy soil. They are hardy and grow vigorously in nearly all sections, succeeding best on heavy soils in which there is a mixture of clay. Our trees, and the whole Northwest section, are entirely free from disease.

Most of the cultivated varieties of Plums are European or descendants of European varieties. But in recent years certain extraordinarily good

varieties of native Plums have been widely disseminated, and recently we have received some extremely valuable varieties from Japan. Crosses from all these will, from time to time, bring out new and much-improved varieties, securing the best quality of the European Plums, united with the hardiness, desirable season or good shipping qualities of the others.

The finer Plums are more beautiful for dessert, and are of rich and luscious flavor. Cooked and canned they are unsurpassed. For best flavor they should be allowed to remain on the tree until fully ripe; but for shipping to market, they must be gathered a very few days earlier, when they may be shipped long distances, arriving in good condition. Overbearing should not be allowed. Some varieties, especially of the native Plums, are extremely hardy and will stand the climate of the extreme North.

### Japanese or Oriental Plums

Prof. Bailey, Cornell University, Ithaca, N. Y., says: "Altogether the Japanese Plums constitute the most important type of fruit introduced into North America during the last quarter of a century, and they should receive careful tests in all parts of the country."

Japanese Plums have awakened more interest during the past few years than any other recently popular type of fruit. The family is as distinct from our native varieties as the Yellow Newtown is from the Baldwin apple. Many of these varieties are succeeding well in the northern and western states, in many places where the European varieties cannot be depended upon. Some are hardy as far north as where the Wild Goose succeeds, and for the southern states these open a new field in Plum-growing. They unite size, beauty and productiveness and come into bearing at the age of two to four years. Flesh firm and meaty, will keep for a long time in excellent condition.

Their early blossoming habit renders them unsafe in some sections and they will never entirely take the place of our older varieties, but possess many valuable characteristics. Like most Japanese types of trees, the names of the imported varieties are much confused, but we follow the names adopted by the leading nurserymen of this country. Japanese Plums, together with the hybrids and crosses produced by Luther Burbank, are starred (\*) in the following descriptions. We would call your special attention to the Maynard, the greatest Plum that has ever been introduced.

We group plums under the following divisions: A, Americana type; very hardy (Chickasaw types); D, Domestica, European types; J, Japanese type; J\* (starred), Japanese Hybrids, and crosses of the Japan Plums introduced by Luther Burbank.



Japanese Plums.

## PLUMS—Continued.

**Description of American, European and Japanese Plums**

**Abundance.** J. (Botan). One of the best Japan Plums. The tree is a very rapid grower, healthy in limb and foliage, comes into bearing remarkably young and yields abundantly. The fruit is medium size, color a rich, bright cherry-red, with a distinct bloom, and highly perfumed; flesh light yellow, very juicy and tender, and of excellent quality; vigorous, hardy. Mr. Geo. W. Thissell, of Winters, Cal., says of this fruit: "I have fruited it three years; have found it very prolific; fruit large; exceedingly sweet; pit very small; ripens at Winters, June 10. I consider this one of my best shipping Plums."

**Apricot Plum.** See *Prunus Simoni*.

**Bartlett.** J\*. One of the best of Burbank's recent introductions. Said to be wonderfully productive; a very ornamental tree, with glossy green leaves, resembling very closely the famous Bartlett Pear in habit of growth, flavor and fragrance. Fruit oval, yellow, turning to deep crimson when fully ripe; flesh light salmon-colored, firm and juicy. Ripens before Burbank.

**Blood Plum.** See *Satsuma*.

**Bradshaw.** D. Fruit very large; dark violet-red; flesh yellowish green, juicy and pleasant. Tree vigorous, erect and productive. Middle of August.

**Burbank.** J. Very vigorous grower; early and very heavy bearer; fruit very large; yellowish ground, with red cheek in the sun; flesh yellow, firm and very sweet when fully ripe; extremely small pit, which clings. Middle of June.

**Climax.** J\*. This is well named the "King



Burbank.

of Plums," as its extreme earliness, immense size, high color, delicious flavor and fragrance place it in the lead among early shipping Plums. Fruit heart-shaped; deep, dark red, flesh yellow. Tree vigorous and remarkably productive.

**Coe's Golden Drop.** D. Large and handsome; light yellow; firm, rich, sweet; one of the best of late Plums. Last of September.

**Columbia.** D. Fruit of the largest size; 6 or 7 inches in circumference, nearly globular; skin brownish purple, dotted with numerous fawn-colored specks; flesh orange, not very juicy, but when at full maturity very rich, sugary and excellent. Last of August.

**Damson.** D. Fruit small, oval; skin purple, covered with blue bloom; flesh melting and juicy, rather tart; separates partly from the stone. September.

**Green Gage.** D. Small; considered the standard of excellence; slow grower. Middle of August.

**Forest Rose.** A. A native of Pike County, Mo. Fruit round, larger than Wild Goose; skin rather thick and of a beautiful dark red color, covered with a delicate bloom; stone small; fine quality.

**Jefferson.** D. Large, yellow, reddened in the sun; juicy, rich and delicious; one of the best. Last of August.

**Kelsey.** J. Japanese; very large, rich, reddish purple on yellow ground; tree a prolific and early bearer; very largely planted for shipping East. The largest of all plums.

**Lombard.** D. (Bleeker's Scarlet.) Medium, round, oval; violet-red, juicy, pleasant and good; adheres to the stone. Tree vigorous and productive. A valuable market variety; one of the most hardy and popular. Last of August.



Abundance.



Green Gage Plums.

## PLUMS—Continued.

**Maynard.** J\*. Originated by Luther Burbank, the great master of modern horticulture. It is very large, often measuring  $7\frac{1}{2}$  inches in circumference, nearly round, slightly flattened at the ends, of richest crimson-purple, deepening to royal damask as full ripeness is reached. Tree hardy, vigorous and compact. Leaves dark glossy green. Bears immense crops even-sized fruit, and starts very young. Surpasses all other varieties in keeping and carrying qualities. Flesh firm, even when dead ripe, but melting and juicy, with a deliciousness indescribable. Commands the highest price in home and foreign markets.

**Miracle.** Originated by Luther Burbank, of Santa Rosa, California. A cross between the French fruit, Prunus Sans Noyeau, and the French prune. In general form it resembles the French prune, its staminate parent, but is larger. The color is distinctly of the Damson type, a rich, dark purple with heavy blue bloom. Flesh of good quality, sweet, rich and juicy, with stone wholly eliminated.

**Milton.** A. Rather large, dark red; skin thin; flesh firm; good quality; ripens earlier than Wild Goose. Its large size, good quality and extreme earliness make it very valuable. A strong grower; productive.

**Moore's Arctic.** D. Size medium, purplish black, with a thin blue bloom; flesh greenish yellow, juicy, sweet and of pleasant flavor. Charles Downing speaks of it as follows: "A new hardy Plum, which originated in the highlands of Aroostook county, Maine, where unprotected and exposed to cold, it has for many years borne enormous crops, and is claimed to be the hardiest plum grown, and so far free from black-knot." Tree healthy, vigorous. An early and abundant bearer. Very good to eat fresh from tree.

**Peach.** D. Very large and handsome; dull red; good; very productive. Last of August.

**Pond's Seedling.** See Hungarian Prune.

**Pottawatamie.** A cross of Chickasaw and Swedish Sloe. Quality excellent; an immense annual bearer; curculio-proof. Tree perfectly hardy, a strong, vigorous grower. One of the most profitable kinds for the fruit-grower. Four-year-old trees have borne a crop of two bushels each.

**Prunus Simoni.** J. (Apricot Plum.) A distinct species from China. Growth erect; flowers small, white, appearing early in the spring. Fruit large, flattened, of the size and appearance of a nectarine, and of a brick-red color; flesh yellow, with a peculiar aromatic flavor.

**Red June.** J. The best Japan, ripening before Abundance. Medium to large; deep vermilion-red, with handsome bloom; flesh light lemon-yellow, firm; moderately juicy; fine quality. Tree upright, spreading, vigorous and hardy; productive. Ripens between Willard and Abundance. Highly recommended by Professor Bailey, of Cornell University. Last of July or early August.

**Reine Claude de Bavay.** D. (Bavay's Green Gage.) Large, greenish yellow, spotted with red; firm, juicy, sugary and of fine quality; very productive. September.

**Satsuma.** J\*. (Blood Plum.) Native of Japan. The tree looks much like the Wild Goose, and is likely to prove more hardy than Kelsey. The fruit has a pleasant flavor, and, unlike all others, has red flesh, with a remarkably small stone.

**Shipper's Pride.** D. Large, nearly round; dark purple; quite juicy, sweet; splendid shipper; moderate grower; productive. Originated in northwestern New York.



Washington

## PLUMS—Continued.

**Washington.** D. Large, green, somewhat reddened; juicy, sweet and fine; very productive. Last of August.

**Wickson.** J\*. Originated by Mr. Burbank, who says: "Among the many thousand Japan Plums I have fruited, so far, this one stands pre-eminent. A sturdy, upright grower, productive almost to a fault. Fruit remarkably handsome, deep maroon red, covered with white bloom; stone small; flesh fine texture, firm, sugary and delicious. Excellent keeper and shipper.

**Weaver.** A. This remarkable Plum was

found near Cedar Rapids, Iowa, growing on an old Indian camping-ground. Flesh firm, with flavor resembling the apricot. As a substitute for the peach it has no rival. Curculio-proof.

**Wild Goose.** A. An improved variety of the Chickasaw, evident in the great vigor of the tree and increased size of the fruit, which is nearly as large as the Green Gage. Skin purple, with a bloom; flesh juicy, sweet and adheres to the stone. Last of July.

**Yellow Egg.** D. (Magnum Bonum, Yellow.) A very large and beautiful egg-shaped yellow Plum. A little coarse, but excellent for cooking. Tree a free grower and very productive. End of August.

## Prunes

The Plums which are known as Prunes are characterized by sweet, firm flesh, and capable of making a commercial dried product. They may be of any color, although the blue-purple ones are best known. Any plum which can be successfully cured, without removing the pit, into a firm, long-keeping product, may be used for making Prunes, the chief requisite being a large proportion of solids, more especially sugar.

We follow the distinction made between plums and Prunes, as is common in the horticultural literature of the Pacific Coast. By the term "Prune" is signified a plum which dries successfully without the removal of the pit and produces a sweet, dried fruit, though in the confusion of our nomenclature, not even this broad classification is faithfully followed. For example we have the "Hungarian Prune" as a local traditional name for "Pond's Seedling Plum," which has no value as a Prune, and we have also "Coe's Golden Drop Plum," which does answer the requirements for a dried Prune, and is sometimes given fancy names by packers.

We do not, however, in this catalogue, attempt to correct the classification, but follow the popular arrangement. To such proportions has the Prune industry grown in the past dozen years that Prunes may now be classed as one of the most important products of the Pacific coast. The exportations annually to the Eastern markets reach hundreds of millions of pounds of the finest Prunes in the world.

**Dosch.** D. Introduced by Hon. H. E. Dosch, after whom it is named. Originated near Portland, Oregon, about ten years ago. Purple, very large, juicy, delicious, sweeter than the Italian, but not so sweet as the Petite; flavor excellent, and for canning has no equal; dries very heavy. Tree hardy, thrifty grower, ten days to two weeks earlier than the Italian. Received a gold medal at Omaha Exposition in 1898, both in green and dried states.

**Fellenberg.** See Italian Prune.

**French.** See Petite.

**German Prune.** D. Large, long, oval, much esteemed for drying; color dark purple; of very agreeable flavor. September.

**Giant Prune.** D. (California.) One of the largest Prunes known, averaging one and one-half to two ounces each. Its unequalled size, handsome appearance, rare keeping qualities and great productiveness make it desirable for home use or market. September.

**Golden.** D. A seedling of Italian Prune. Originated in Oregon. Light golden color, good flavor, and heavy drier; strong grower and abundant bearer; freestone. September.

**Hungarian Prune.** D. (Grosse Prune, or Pond's Seedling Plum.) Very large, dark red, juicy and very sweet. Its large size, bright color, productiveness and shipping qualities render it a profitable variety for home or distant markets. September.

**Imperial.** D. (Epineuse.) Large size, light or reddish purple color; thin skin; sweet and high flavor. Tree stout, stocky, rapid grower.

**Italian.** D. (Fellenberg.) A fine late Prune; oval; purple, juicy and delicious; parts from the stone; fine for drying. Tree very productive. September.

**Petite d'Agen.** D. (French Prune.) The well known variety so extensively planted for drying. Medium size; reddish purple; juicy, sugary, rich and sweet. Bears immense crops. September.



German Prunes.



Italian Prunes.

## PRUNES—Continued.

**Pacific. D.** Originated at Mt. Tabor, Oregon. Tree hardy; bears abundantly after three years old. Fruit freestone, very large and handsome. Flavor the finest; rich, sugary and luscious. A good shipper. The best of drying Prunes.

**Robe de Sargent. D.** A variety lately introduced from France. It is this which in a dried state forms the celebrated "Pruneau d'Agen." Fruit medium size, oval; skin deep purple, approaching to black and covered with a thick blue bloom; flesh greenish yellow, sweet and well flavored, sugary, rich and delicious, slightly adhering to the stone. A valuable drying and preserving variety. Ripens in September.

**Silver. D.** Originated in Oregon and said to be a seedling from Coe's Golden Drop, which it very much resembles. Productive and vigorous. The fruit, on account of its large size, is ranked among the most valuable Prunes and drying Plums. October.

**Splendor. D.** Large, very long in shape; clear, even purple, turns quite black in curing. Cooked has a slight acid flavor.

**Sugar.** Originated by Luther Burbank. Ripens 28 days earlier than French (Petite d' Agen.) Almost one-fourth sugar (analysis shows it to be 23.92 per cent sugar). Three times larger than French, of which it is a seedling. On account of its earliness, large size and high per cent of sugar, it is sure to revolutionize the Prune industry of the world. Tree vigorous, hardy and very productive; bears young. Purple; good shipper. August.

**Tennant. D.** Originated in Whatcom county, Washington, where it has been tested for 20 years, and has never failed to produce a good crop of fruit. Large, dark purple, with a blue bloom; flavor of the highest quality; rich, sugary and delicious. Tree hardy and very productive. Bears transportation well. August.

**Tragedy. D.** This most valuable of all Prunes for early Eastern shipments appears to be a cross between the German Prune and the Purple Duane; medium size, nearly as large as Duane; skin dark purple; flesh yellowish green, very rich and sweet; freestone. July.

## Nectarines

A most delicious, smooth-skinned fruit, which thrives wherever peaches will grow. Much superior to the peach as a dried fruit, and excellent for preserves. Commands a high price in the eastern market, as it is considered as somewhat of a novelty, and is scarce. The culture is in every way the same as for peaches, except that they need more spraying to produce perfect fruit.

**Boston.** Large, handsome; deep yellow, with a bright blush and mottles of red; flesh yellow to the stone, sweet, with a pleasant flavor; free.

**Early Violet (Violet Hative).** Medium size; yellowish green, with a purple cheek; flesh rich, highly flavored; freestone. August.

**Lord Napier.** Large, cream-color, dark red cheek; flesh white, tender, juicy and sugary; freestone. July.

**New White.** Large, white, nearly round; flesh white, tender, very juicy, with a rich vinous flavor; stone small and separates freely. August.

**Stanwick.** Very large, often as large as a peach; skin pale greenish white, shaded into deep rich violet in the sun; flesh white, tender, juicy, rich, sugary, and delicious. Best for drying and shipping. August.

### Where Quality Counts.

"I will mention one customer I sold your stock to—Mr. Higgins. He was at my house the other day and stated that every one of the 200 peach trees you sent him is growing fine. He said, moreover, that a neighbor here who kept a local nursery up to last year, and who organized the Gridley Colonies, says, after seeing Mr. Higgins stand, that he has planted 500 acres of trees here and that never in all his experience has he seen anything so good as the Higgins stand. I am not in the candy business, but feel I should tell you this."—Extract from letter dated July 13th, 1912, from A. M. McKenzie, Gridley, Cal.



Banner Peach.

## Peaches

To have healthy, vigorous and fruitful trees, the ground must be well drained and kept clean and mellow, and it should receive an occasional dressing of wood-ashes. It should be remembered that Peaches are all borne on wood of the previous season's growth, and that this makes it absolutely necessary to prune the trees yearly, to remove dead branches and to let in light and air, and to keep the trees in good shape to produce bearing wood. F., freestone; S. C., semi-cling; C., cling.

**Admiral Dewey.** F. Skin deep orange-yellow, with crimson cheek; flesh clear yellow, of uniform color and texture to the stone; juicy, melting vinous; quality very good. Ripens with Triumph; has good form and bright color on surface; equally hardy and productive; tree a strong and symmetrical grower. One of the best early freestones.

**Alexander's Early (Alexander).** C. Originated near Mt. Pulaski, Ill. Medium size, skin greenish white, nearly covered with rich red; flesh melting, juicy, sweet; tree vigorous and productive. Ripens very early.

**Banner.** New. F. The original trees have borne sixteen crops, bearing well several years when all other varieties failed in Ontario. Tree very hardy, both in wood and the bud, bears young and is very productive. Fruit large, deep yellow, with crimson cheek; flesh yellow to the pit; firm, rich, and of excellent quality; pit small, free; equal to any as a shipper or keeper. Prof. W. W. Hilborn, director of the Experimental Station at Leamington, Ontario, has known it for many years, fruited it for several seasons in experimental orchard, and recommends it as the very best late market variety. Last of September and October.

**Bokhara.** F. A Russian variety, which is claimed to be the hardiest Peach grown. It has withstood a temperature of 28 degrees below zero without injury. Beautiful yellow, with bright red cheek; perfect freestone; delicious flavor; tough skin makes it a splendid shipper.

**Brigg's Red May.** F. Originated with J. B. Briggs, of Marysville. Fruit medium to large; skin greenish white, with rich red cheek; flesh greenish white, melting and juicy. A standard early variety and one of the most extensively planted in California. Middle of June.

**California Cling.** C. Very large, round, regular; orange, nearly covered with dark rich red; flesh deep yellow; flavor delicate, rich, vinous. Middle of August.

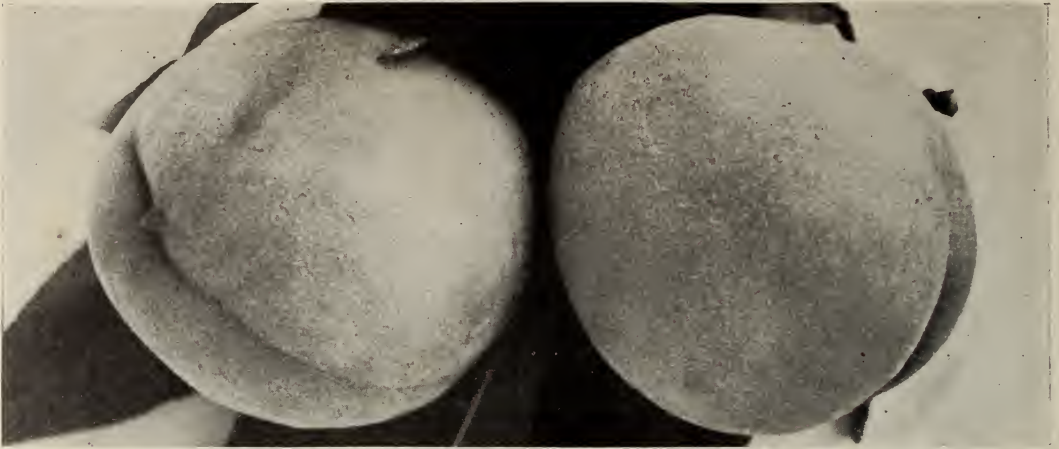
**Carman.** F. Large, resembling the Elberta in shape; creamy white or pale yellow, with deep blush; skin very tough; flesh tender and of fine flavor; juicy; prolific bearer. Profitable market variety. Ripe June 20.

**Champion.** F. A particularly hardy seedling of Old Mixon, from the West. Noted for the hardiness of its blossoms. Very large, handsome, with a creamy white skin and beautiful red cheek. Flavor exquisite. A true freestone. Ripens the middle of July.

**Chinese Cling.** C. Large, globular; skin white, shaded with light red; flesh white, red at the stone; very juicy, melting and rich. July.

**Crawford's Early.** F. Magnificent, large, yellow, of good quality. Tree vigorous and very productive. Fine size, beauty and productiveness make it one of the most popular sorts. No other variety has been so extensively planted.

**Crawford's Late Melocoton (Late Crawford).** F. Large; yellow, or greenish yellow, with dull red cheek; flesh yellow. Tree vigorous, moderately productive. One of the finest late sorts. Last of September.



Heath Cling

## PEACHES—Continued.

**Crosby.** F. An iron-clad Peach. Tree low, spreading, with willowy habit of growth. Very dwarf, and often the entire product of a tree, two bushels, or more, can be picked from the ground. Fruit medium size, roundish, slightly flattened, with a distinct seam on the blossom end; bright orange-yellow, splashed with streaks of carmine. Not so acid as most yellow Peaches. Ripens between Early and Late Crawford, or about with Old Mixon. Fruit-buds are so hardy as to withstand the frosts of winter and spring.

**Dewey.** See Admiral Dewey.

**Early Charlotte.** F. Succeeds in Oregon when many other varieties fail. Flesh yellow, melting and juicy, with a rich and excellent flavor. Freestone. Ripens ten days after Crawford's Early.

**Early Imperial.** F. Large, deep yellow, with dark red cheek; flesh rich, juicy and very firm. A very highly colored Peach and remarkable for its firmness. Resembles Yellow St. John in form. Ripens with Hale's Early, and its rich color and earliness combined will make it one of the most profitable varieties for early shipment.

**Elberta.** F. A cross between Crawford's Early and Chinese Cling; very large; bright yellow, with a beautifully mottled red cheek; flesh yellow, juicy, sweet; tree a uniform and regular bearer and a strong grower. Fruit very showy and a perfect freestone. One of the best market varieties, often selling at double the quotations of other Peaches. Ripens last of July.

**Everbearing.** F. A remarkable Peach; ripens its fruit successfully over a period of eight weeks. Creamy white, mottled and striped; flesh white, with red veins; juicy, rich and fine.

**Fitzgerald.** F. An improved Early Crawford, fully equal to it in size, quality and color. Tree commences bearing young, is productive and one of the hardiest. Fruit large, brilliant color, bright yellow, suffused with red; flesh deep yellow, best quality. Early September.

**Foster.** F. Originated in Medford, Mass. Large, deep orange-red; dark cheek; flesh yellow, very rich and juicy with sub-acid flavor, ripening earlier than the Early Crawford; flesh firm, little red at the stone, which is small.

**Globe.** F. Large, flesh firm, juicy, yellow; quality good, pleasant, rich, vinous and luscious. October.

**Greensboro.** S. C. Origin, North Carolina. Ripens with Alexander, but much larger. Round, flesh white, very juicy, of good quality; bright red over yellow, highly colored in the sun. Good market variety.

**Hale's Early.** S. C. Medium size; greenish white, with red cheek; first quality. Tree healthy, good grower and productive. One of the earliest good Peaches we have, and promises to be a leading orchard variety.

**Heath Cling.** C. A most delicious cling. Very large, skin downy, creamy white, with faint flush of red; flesh white, slightly red at the pit; very tender, juicy and sweet; valuable for canning. Season early September.

**Henrietta Cling.** See Levy Late.

**Imperial.** See Early Imperial.

**Indian Cling (Indian Blood).** C. Large, deep claret, with red veins; downy; flesh red, very juicy and refreshing. Highly valued by all lovers of Indian Peaches. Last of August.

**Lemon Cling.** C. A very large and beautiful lemon-shaped variety; skin light yellow, reddened in the sun; flesh firm, yellow, rich, with a vinous, sub-acid flavor. First of August.

**Levy's Late, or Henrietta Cling.** C. Deep yellow, brownish red in the sun; flesh deep yellow, firm, juicy, sweet, half-melting, slightly vinous. Middle of September.

**Lovell.** F. Large, almost perfectly round; flesh yellow to the pit, firm and of excellent quality; fine for canning, shipping and drying. Good grower and bearer. Few days after Muir.

**McDevitt's Cling.** C. Very large, rich, golden yellow, becoming quite red when ripe. Flesh yellow, firm and of superior flavor; excellent shipper. Last of August.

**McKevitt's Cling.** C. White; flesh firm, rich, sugary and highly flavored; white to the pit; excellent for shipping and canning. Early in Sept.

**Mountain Rose.** F. Large, handsome, red cheek; flesh white, juicy, one of the best. August.

**Muir.** F. Large; pale yellow; very firm flesh; very sweet. Best for drying.

**Newhall.** F. Originated with Sylvester Newhall, of San Jose. A superb Peach, of very large size; skin yellow, with a dark red cheek. Ripens about one week before Crawford's Late; tree very hardy, healthy, vigorous and not affected by curl.

## PEACHES—Continued.

**Orange Cling.** See Runyon's Orange Cling.

**Perfection.** F. Fruit largest size, yellow, with a beautiful blush cheek. Flesh thick and very fine grained, yellow, red at the pit, which is nearly as small as a prune seed. Tough skin, firm flesh, good keeping qualities, good shipping and market variety. Ripens September 10 to 15. Hardest sort known.

**Phillip's Cling.** C. Fine, large; yellow; flesh firm, clear yellow to the pit, which is very small. Preferred by canners. Firm; of fine texture; ripening in September.

**Prolific (New).** F. Large, attractive, firm; yellow, crimson cheek; flesh yellow to pit; very firm; pit small; very productive, and one of the hardest Peaches known. September.

**Runyon's Orange Cling.** C. Originated with Mr. Sol. Runyon, on the Sacramento river. Fruit very large, yellow, with a dark crimson cheek; flesh golden yellow, rich and sugary, with a vinous flavor. An immense bearer, not subject to mildew; splendid for shipping, canning or drying. Early August.

**Salway.** F. Fruit large, roundish; deep yellow, with a rich, marbled, brownish red cheek; flesh yellow, firm, juicy, rich and sugary. A new English variety. Promises highly as a showy late market sort.

**Sellers'.** C. A variety of Orange Cling, of the largest size. Raised by Mrs. Sellers, of Antioch; fine yellow, with a dark red cheek; flesh yellow, firm, very juicy and rich; a desirable sort for canning, ripening in early August.

**Slappy.** F. A large yellow freestone, being planted for commercial purposes. Ripens with Early Crawford. A very profitable peach.

**Sneed.** S. C. Fully ten days earlier than the Alexander, of same size and appearance, but more yellow; flesh tender, juicy, melting and delicious; clings slightly to the pit.

**Strawberry.** F. Medium size; white, marbled with dark red; flesh white, red near the pit; juicy, with a rich, delicious flavor. July.

**Susquehanna.** F. A large, handsome variety nearly globular; skin yellow, with beautiful red cheek; flesh yellow, sweet, juicy, rich, vinous flavor.

**Triumph.** S. C. Above medium; skin downy dark orange-yellow, nearly covered with dark carmine. Flesh yellow half-way to the stone, juicy, melting and slightly sub-acid; quality good. Ripens June 15. The earliest Peach so far known. Brings very high prices.

**Tuskana Cling (Tuscan, Yellow Tuscan).** C. Very large, yellow—the earliest fine cling. Flesh juicy and of fine flavor, clear yellow to the stone. A good shipping and canning Peach and very desirable. Ripens with the Early Crawford.

**Twenty-Ounce Cling.** C. Fine, very large. Very desirable for canning. August.

**Wager.** F. Large; yellow, more or less color in the sun; juicy and of a fair flavor. High quality and great beauty cannot be claimed for this fruit, but it has remarkable vigor and vitality; produces fruit in large quantities with certainty and regularity. Last of August.

**Waterloo.** S. C. Medium to large size; whitish green, marbled with red; flesh greenish white, with an abundance of sweet, vinous juice, adheres some to the stone. Ripens July 14. For so early a Peach it is a remarkable keeper. Valuable for shipping.

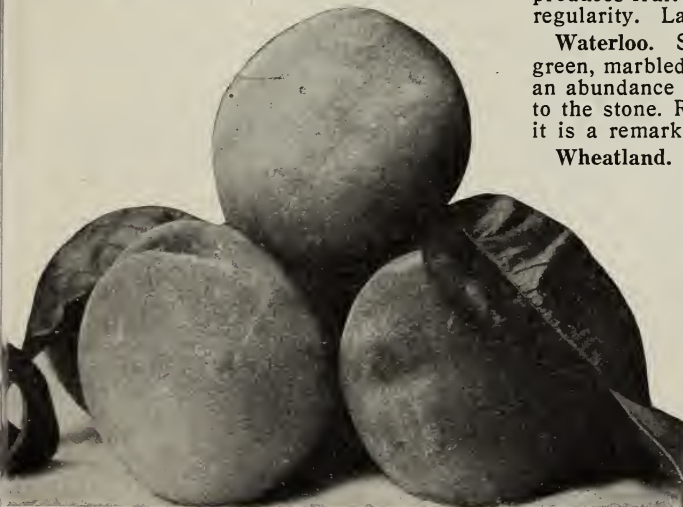
**Wheatland.** F. Large, roundish; skin golden yellow, shaded with crimson on the sunny side; flesh yellow, firm, juicy, sweet and of fine quality; tree vigorous. August.

**Wonderful.** F. Rich golden yellow, overspread with carmine. It ripens after nearly all other varieties; remarkable keeper. wonderfully prolific.

**Yellow St. John.** F. Fully one week earlier than Early Crawford; a trifle smaller than the latter, especially on old trees; yellow with deep red cheek; juicy, sweet and highly flavored; quite free.



Champion.



Yellow St. John.



Tilton Apricots.

## Apricots

Beautiful and delicious. In appearance is between the plum and the peach, and combines qualities of both. Early ripening, together with its delightful flavor, makes it a very valuable fruit. Tree is as hardy as the peach. Requires about the same cultivation as the peach or plum. It ships well and commands a good price in the eastern market. For drying and canning it has no superior. The Russian varieties are quite distinct from the other European sorts; much hardier, earlier bearers and the most productive.

**Alexander.** Very hardy and immense bearer; fruit large, yellow, flecked with red; very beautiful, sweet and delicious. July.

**Alexis.** Very hardy and abundant bearer; yellow, with red cheek; large to very large; slightly acid, rich and luscious. July.

**Blenheim.** Large, oval; flesh full to the pit; yellow, rich and juicy; ripens evenly and soon after the Royal. Regular and prolific bearer; profitable for canning, drying and marketing.

**Gibb.** Tree hardy, grows symmetrical, productive. Fruit medium; yellowish, sub-acid, juicy and rich. The best early variety, ripening soon after strawberries. A great acquisition.

**Hemskirk.** Large, roundish, but considerably compressed or flattened on sides; orange with red cheek; flesh bright orange, tender; rather more juicy and sprightly than the Moorpark, with a rich and luscious plum-like flavor. July.

**J. L. Budd.** Tree a strong grower and profuse bearer. Fruit large, white, with red cheek,

sweet, juicy, with a sweet kernel, as fine-flavored as an almond. The best late variety. August.

**Moorpark.** One of the largest; orange, with a red cheek; firm, juicy, with a rich flavor; very productive. August.

**Nicholas.** Tree hardy and prolific. Fruit medium to large, white, sweet and melting. A handsome and valuable variety. July.

**Peach (Marysville Peach).** Very large, handsome and of delicious flavor; skin deep orange, mottled with dark brown; flesh a fine saffron-yellow; juicy, rich and high-flavored. One of the best. August.

**Royal.** Large, oval, slightly compressed; yellow, with orange cheek, faintly tinged with red; flesh pale orange, firm and juicy, with a rich, vinous flavor, exceedingly productive. July.

**Tilton.** (New.) Large, rich Apricot color, high flavor, uniform ripening, sure and unusual productiveness, with frost-resisting qualities and vigorous growth, easily place it far in the advance among all varieties. For drying or canning it is very superior.

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We are constantly adding to our list of ornamentals, as well as in other departments. Before placing new varieties on the market, we give them a thorough trial in the nursery, and thus weed out undesirable varieties, offering only the best in each class.

## Quinces

Quinces are of late attracting a great deal of attention as a market fruit. Scarcely any other fruit will pay better in the orchard. When put up in the proportion of about one quart of Quinces to four quarts of other fruit, it imparts a delicious flavor. Especially desirable for jellies and preserves. They flourish in any good garden soil, which should be kept mellow and well enriched. Prune off all the dead and surplus branches every year, and thin out the fruit if bearing too freely. In this way the largest, most perfect golden skinned specimens will have a chance to grow. They will get so big and so fine that most folks will be surprised. A certain kind of blight attacks Quince trees, and if left alone, will kill them. But this is very easy to overcome. Just a little care, such as keeping the diseased wood and dead branches cut out, and spraying with almost any of the standard solutions, will do the work without fail. The trees thrive so well everywhere, and the fruit is so very good, and useful in so many different ways, that it is rather surprising to find homes without a half-dozen trees, at least. A couple of dollars will equip a home with them. When you eat the Quince honey, the canned fruit flavored with Quinces, and when you taste Quince flavor in many other things, you will say the two dollars was worth twenty-five—but not if you don't plant the trees.

**Apple, or Orange.** Large, roundish; bright golden yellow; cooks tender and is of very excellent flavor. Valuable for preserves or flavoring; very productive. The most popular and extensively cultivated of the old varieties. October.

**Angers.** Somewhat later than the preceding. Fruit rather more acid, but looks well. Tree a thrifty grower and abundant bearer.

**Bourgeat.** A French variety. Very productive, healthy and thrifty. It grows in tree form, like pears or plums. It has almost perfect foliage, leaves green and fresh until the end of the season. The fruit is very large, smooth, golden yellow, of the best quality, tender; ripens just after the Orange and will keep past midwinter in perfect condition.

**Champion.** Fruit very large, fair and handsome. Tree very handsome, surpassing other varieties in this respect, bears abundantly while young; flesh cooks as tender as an apple and without hard spots and cores; flavor delicate, imparting an exquisite quince taste and odor to any fruit with which it is cooked. One of the most valuable.

**Orange.** See Apple.

**Pineapple.** Originated by Luther Burbank. The name comes from the flavor, which is suggestive of the pineapple. Form and size resembles Orange, but is smoother and more globular. Can be eaten raw and possesses a most exquisite and delicious flavor.

Luther Burbank says: "Quinces can probably be grown with less expense than any other fruit, and if the quality can be improved, would be extensively grown and more generally used. A more promising fruit for improvement cannot be named. For about fifteen years we have been working in this direction and have succeeded in obtaining the Pineapple, a Quince which will cook as tender in five minutes as the best of cooking apples, and with a flavor never before equaled. Jelly made from it is superior to that made from any other known fruit—absolutely unapproachable—something which could never have been thought of until it was brought into existence. The fruit in form and size very much resembles the Orange Quince, but is smoother and more globular; much lighter yellow. Average weight about three-quarters of a pound each."

**Rea's Mammoth.** A seedling of the Orange Quince; one-third larger, of the same form and color; fair, handsome; equally good and said to be as productive. Tree hardy and healthy.

### Freedom from Pest.

"I had four other deliveries, and will state for your benefit that not a single tree was thrown out of your delivery by the inspector, while the other nurseries suffered a condemned list of from ten to twenty-five percent of the total delivery. The \_\_\_\_\_ Co. were hit hard, as well as the \_\_\_\_\_ Co. Your stock was much the superior of any of them."—J. S. Tyler, Vollmer, Idaho, 4-23-'12.



Champion.



Niagara.

## Grapes

Grapes are the most beautiful of all fruits, and are most highly esteemed for many uses. They can be grown by any one who has even so little as a square foot of ground and a wall. Confined to a stake, bound to a trellis, trained over an arbor, or extended until the vines cover a large tree or building, they yield their graceful clusters and luscious, blooming bunches of fruit, and give extraordinary results under wise management.

Grapes are of the greatest commercial importance on the Southern Pacific Coast. We grow vines in the North for our northern trade and in California for our southern trade, and in this way secure vines best adapted for each locality. Many of the foreign varieties are grown almost exclusively for the southern trade, and for those northern localities in which foreign varieties are not adapted we grow American varieties which are suited to the climatic conditions. In certain portions of the Yakima Valley, the Wenatchee Valley and Western Idaho foreign Grapes are most successfully grown.

**Distance.**—In setting out vines, the character and strength of the soil is an important point to be considered. 8 by 8 and 8 by 10 are popular distances,—10 by 10 and 10 by 12 for the more robust growers.

**Soils.**—Good Grapes may be grown on any soil, sandy, clayey, loamy, etc., that is not too shallow or too filled with alkali. The soil must be well drained, and there should be a free exposure to the sun and air. Hillsides unsuitable for other crops are good places for Grapes.

**Crops.**—Crop Grapes moderately. A vine is capable of bringing only a certain amount of fruit to perfection, proportioned to its size and strength, and it usually sets more fruit than it can mature. Reduce the crop early in the season to a moderate number of good clusters and cut off the small, inferior bunches. The remainder will be worth much more than the whole would have been. A very heavy crop is usually a disastrous one.

**Pruning.**—Annual and careful pruning is essential to the production of good Grapes. If the roots are called upon to support too much wood, they cannot bring to maturity a fine crop of fruit. The pruning should be done in November, December, February or March, while the vines are entirely dormant, to avoid excessive bleeding.

**Gathering and Keeping.**—Grapes for keeping should be allowed to remain upon the vines until perfectly matured, but not much longer. Pick them when perfectly dry. Let them stand in open baskets or boxes for about ten days, in a cool, dry room; and after sorting out all decayed and imperfect berries, pack them in shallow boxes and cover closely. Use no paper, but basswood

## GRAPES—Continued.

or elm boxes, if convenient. Pine and other resinous woods should not be used, as they flavor the fruit disagreeably. After packing, keep the boxes where it is both cool and dry. Under careful management some varieties may be kept until spring. B., black varieties; R., red or amber; W., white.

## American Varieties

**Brighton. R.** A cross between Concord and Diana Hamburg. Resembles Catawba in color, size and form of bunch and berry; flesh rich, sweet and of the best quality. Ripens earlier than Delaware. Vine vigorous and very hardy. This variety has been thoroughly tested, and is almost without an equal among early Grapes.

**Campbell's Early. B.** Strong, hardy, vigorous growth, thick, heavy, perfectly healthy foliage. Full maturity is from the middle to the last of August, according to the season. It keeps sound and perfect, both on and off the vine, for weeks after others decay and are gone. Both clusters and berries large, glossy black, with a beautiful blue bloom; sweet and juicy, free from foxiness; seeds small, few in number and part readily from the pulp.

**Catawba. R.** Well known as the great wine grape of Ohio, Kentucky, etc. Bunches large and loose; berries large, coppery red, becoming purplish when well ripened. Requires the most favorable soils and situations, good culture and warm seasons to mature perfectly. Last of September.

**Concord. B.** A large, handsome grape, ripening a week or two earlier than Isabella; very hardy and productive. Succeeds over a great extent of country, although not of the highest quality. Popular for market.

**Delaware. R.** Bunches small, compact, shouldered; berries rather small, round; skin thin, light red; flesh very juicy, without any hard pulp, with an exceedingly sweet, spicy and delicious flavor. Vine moderately vigorous, hardy and productive. Ripens two weeks before the Isabella.

**Eaton. B.** Seedling of the Concord. Bunch and berries of largest size, showy and attractive; leaf large, thick and leathery; berries round, covered with heavy blue bloom, pulp tender, separating freely from the seeds.

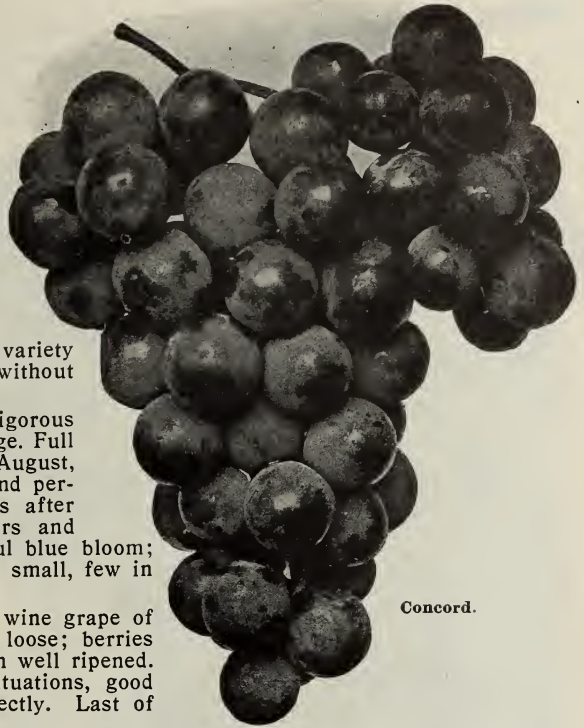
**Green Mountain (Winchell). W.** Has been thoroughly tested over a wide area. Combines hardiness, fruitfulness, vigor, good size and excellent quality. Bunch medium to large, shouldered; berries medium, greenish white; skin thin, tough; pulp tender, sweet, with few seeds; of excellent quality; free from foxiness, and the flavor is excellent, ranking first class. Matures even in the worst of seasons.

**Hartford Prolific. B.** Bunches rather large; berries large, globular; almost black, covered with a beautiful bloom; of fair quality. Ripens three weeks before Isabella.

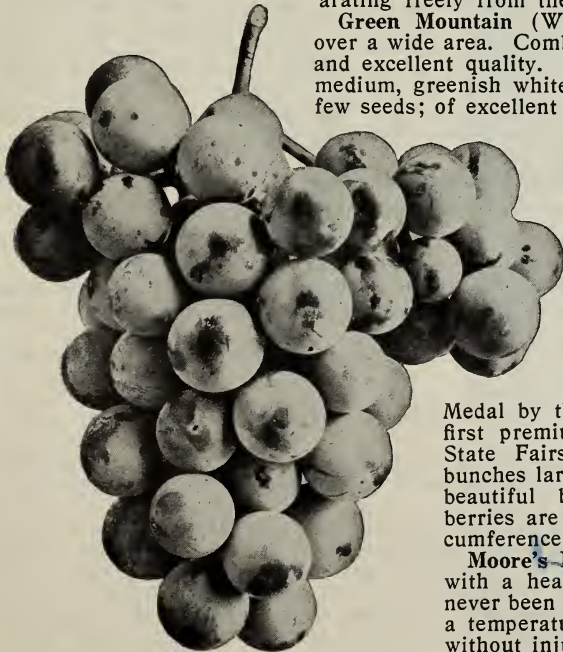
**Isabella. B.** An old standard sort, highly prized where it will thoroughly mature. Bunches long, large, loose; berries large, oval, sweet and musky. A good keeper.

**McPike. B.** Awarded Wilder Silver Medal by the American Pomological Society, has taken first premium at Ohio, Illinois, Indiana and Missouri State Fairs. Perfectly hardy; earlier than Concord; bunches large, even and compact; berries covered with a beautiful bloom, blue-black, ripens uniformly. The berries are of mammoth size, often three inches in circumference and of superb quality.

**Moore's Early. B.** Bunch large; berry round; black with a heavy blue bloom; vine exceedingly hardy, has never been covered in the winter and has been exposed to a temperature of more than twenty degrees below zero without injury, and entirely exempt from mildew or disease. Early, and more particularly adapted to New Eng-



Concord.



Moore's Early.

## AMERICAN GRAPES—Continued.

land and the northern portion of the United States. A favorite in many section of the Northwest.

**Moore's Diamond.** W. A vigorous grower, with dark, healthy foliage, entirely free from mildew. A prolific bearer; bunches large, handsome and compact, slightly shouldered, greenish white, rich yellow when ripe; skin smooth, pulp tender, juicy and nearly transparent, with very few seeds; quality rich, sprightly and sweet. Ripens about two weeks before Concord.

**Niagara.** W. The leading profitable market sort; bunch and berries large, greenish white, changing to pale yellow when fully ripe; skin thin, but tough; quality much like Concord.

**Pocklington.** W. Vine very vigorous, hardy and productive; bunch and berry of good size; light lemon-yellow; flesh moderately tender, sweet, with a peculiar aromatic flavor. Great vigor and hardness. Ripens with Concord.

**Salem (Rogers' No. 22).** R. Strong, vigorous vine; berries large, copper-colored, thin skin; free from hard pulp, very sweet and sprightly; ripens first of September.

**Wilder (Rogers' No. 4).** B. Large and black; round; flesh buttery, with a somewhat fibrous center; sweet, rather sprightly; bunches generally shouldered.

**Worden.** B. A seedling of the Concord, which it greatly resembles in appearance and flavor, but the berries are larger. The fruit is said to be better flavored and to ripen several days earlier.

**Wyoming.** R. Vines very hardy, healthy and robust, with thick, leathery foliage; color of berry similar to Delaware, but brighter. One of the most beautiful of the amber or red Grapes and nearly double the size of Delaware; flesh tender, juicy, sweet, with a strong native aroma. Ripens before Delaware. Best early red for market.



Campbell's  
Early.

## Foreign Varieties

## For Table, Raisins, Shipping and Wine

**Black Hamburg.** B. A fine, tender Grape, producing large, magnificent, compact bunches; berries black, very large, and oblong. A great favorite everywhere, especially for table.

**Black Malvoise.** B. Vine a strong grower; berries large, oblong, reddish black, with faint bloom; flesh juicy, flavor neutral. An immense bearer; an excellent table as well as a wine Grape.

**Black Prince.** B. Bunches very long, tapering; berries medium, ovate, with thick bloom; juicy and sweet.

**Chasselas de Fontainbleau.** See White Sweetwater.

**Chasselas Golden.** R. Bunches medium, compact; berries of an amber color, sweet and watery. Ripe latter part of July.

**Cornichon Black.** B. Bunches long and loose; berries oval, tapering at both ends; skin thick and dark, covered with bloom; flesh firm, with pleasant flavor; a desirable variety for shipping and marketing; ripens late.

**Emperor.** R. Vine a strong grower and heavy bearer. Bunches very large, long and loose-shouldered; berries large, oblong, deep rose-colored, resemble Tokays, covered with light bloom, firm; skin thick. One of the most profitable late varieties to plant for market. Firmness, good keeping qualities. Withstands rain better than any other variety. Should be staked.

**Feher Zagos.** W. Vine a vigorous grower and immense bearer; very hardy and exceedingly productive in sandy and heavy soils; bunches large and compact; berries oval, yellowish green; good for wine or raisins.

## FOREIGN GRAPES—Continued.

**Flame Tokay.** R. Bunches very large and moderately compact; berries large, skin thick, pale red, covered with bloom; flesh firm, sweet. An old standard variety, always commands a good price in the Eastern markets, and as a table Grape is more extensively planted than any other variety.

**Gordo Blanco.** See Muscat.

**Malaga.** W. Vine a strong grower and immensely productive, thriving in almost any soil. Bunches very large, often weighing ten pounds; compact, shouldered; berry very large, oval, yellowish green; skin thick, fleshy. One of the best shipping Grapes, commanding a good price in the Eastern markets every season. Makes a second quality raisin.

**Mataro.** B. One of the finest Grapes for claret. Good bearer and heavy grower. All the great French authorities agree in placing the Mataro as the finest red wine Grape of the Southern regions.

**Mission, or California.** B. A well known variety. Strong, sturdy grower, bearing large bunches of black, medium-sized berries. Valuable for wine.

**Muscat of Alexandria (Gordo Blanco).** W. Bunches long and loose, shouldered; berry oval, sometimes round; yellowish green; skin thick; flesh with a decided Muscat flavor. Extensively planted for raisins. The distinctive feature between the Alexandria and Gordo Blanco is supposed to be in the shape of the berries, the former being oblong and the latter round. On this coast, in most localities, the two varieties have been found to be nearly identical. In some instances both oblong and round berries have been found on the same vine. No distinction is made by some of the most experienced raisin vineyardists.

**Rose of Peru.** B. Vine is strong grower; bunch very large, shouldered, loose; fruit round, large, with firm and crackling flesh; a very handsome Grape of fair quality, and highly esteemed as a market variety.

**Seedless Sultana.** W. Small, white Grape, turning to amber; clusters large. It makes a fine raisin for culinary purposes, at the same time it is a fine wine Grape. The only Grape we know of that is good for both raisins and wine.

**Thompson's Seedless.** W. A new variety of great merit. Perfectly seedless, and will doubtless become the most popular sort for seedless raisins. Very attractive; larger than the Seedless Sultana, more oblong, greenish yellow. Resembles the Muscat. Of good quality. It dries rapidly and evenly, and being so sweet, heavily. A strong grower and unusually productive.

**Tokay.** See Flame Tokay.

**White Sweetwater (Chasselas de Fontainbleau).** W. Bunches large and compact; berries medium size, round; skin thin, transparent, greenish yellow, pulp tender, juicy, sweet and richly flavored. One of the best early Grapes.

**Zinfandel.** B. Bunches large, compact; berries round, dark purple. The most extensively planted kind in California for making claret.



Muscat of Alexandria.



Cuthbert.

## Raspberries

Plant in good soil and manure from time to time freely. The hills should not be less than four feet apart each way, with two or three canes in a hill. Cut out the old and weak shoots each year, preserving not over six for fruiting. If the location is much exposed and the plants inclined to kill down seriously, they may be bent over in the fall on mounds of earth formed at one side of the hills and covered sufficiently to keep them down until spring. Surplus suckers take strength from the bearing plants. They should be cut away often. Raspberries may be made very profitable with good cultivation.

### Red and Yellow Varieties

**Brandywine (Susqueco).** Large, bright red; very firm. Valuable for market on account of its fine shipping qualities.

**Cardinal.** New red. Great growth, extreme hardiness and large crop of choice, rich, high-flavored berries make this a variety of great merit. Grows ten feet high and bears in proportion. It is another natural product of Kansas, not a hybrid, but from seed. Came up in a neglected clump of Gregg Raspberry bushes, and there showed its make-up by growing far above them and producing a great crop of red berries. Try it and you will be surprised at the fine berries, large crops and good plants. Needs only time to make it popular.

**Columbian.** An improvement on Shaffer's, which it resembles, but the berry is firmer, dark red, adheres to the bunch much longer and retains its shape better, both on the market and for canning. Bush a strong grower, attaining a very large size. One of the hardiest and wonderfully prolific.

**Cuthbert (The Queen of the Market).** Large, conical; deep, rich crimson; excellent quality.

A vigorous grower, entirely hardy and immensely productive. "I regard it as the best raspberry for general culture."—Charles Downing. "Now regarded by careful and experienced horticulturists as the best Raspberry in existence for general cultivation. I have it in a specimen bed with 25 other kinds, and it surpasses all the others."—E. P. Roe.

**Golden Queen.** A seedling of the Cuthbert, but the color of the fruit is a rich golden yellow. The flavor is of the highest quality, pronounced by some superior to the old Brinkle's Orange, for a long time the finest flavored of all the Raspberries. In size equal to Cuthbert; immensely productive. A very strong grower and hardy enough even for extreme northern latitudes.

**Japanese (Wineberry).** Canes covered with purplish red hairs; leaves dark green, silvery gray beneath. Fruit in large clusters and each berry at first tightly enveloped by the large calyx, forming a sort of bur, which is covered with purplish red hairs. These gradually open and turn back, exposing beautiful wine-colored fruit of medium size; brisk, sub-acid, retaining flavor when cooked.

## RED AND YELLOW RASPBERRIES—Continued.

**London.** The best red mid-season berry. Its points of superiority are vigor of growth, large fruit, beautiful, rich, dark crimson color, good quality and marvelous productiveness and hardiness, enduring winters without protection and without injury to even a tip.

**Marlboro.** The largest early red Raspberry. Ripens only a few days after Hansell. Beautiful bright scarlet, of good but not high quality; hardy and productive.

**Miller's.** Bright red, which it holds after picking. Stout, healthy, vigorous; canes not so tall as Cuthbert, but well adapted to carrying their immense loads of berries. Berries large, hold their size to end of season; round; bright red; cores small, do not crumble; firmest and best shipper; rich fruity flavor. Commences to ripen with the earliest. We can highly recommend this for either home or market.

**Queen of the Market.** See Cuthbert.

**Susqueco.** See Brandywine.

**Turner (Southern Thornless).** Very desirable as an early sort for the home garden. Berries good size, bright crimson; sweet.

## Blackcaps

**Cumberland.** Simply enormous in size, far surpassing any other sort. Berries  $\frac{7}{8}$  to  $\frac{15}{16}$  of an inch in diameter, and are of such handsome appearance that the fruit has often sold for 10 cents per quart when other varieties were selling for 5 cents to 7 cents. In spite of its unusually large size, the fruit is possessed of great firmness and good quality, and is well adapted for standing long shipments. Mid-season. The bush is healthy and vigorous, throwing up stout, stocky canes, well adapted for supporting their loads of very fine, large fruit.

**Gregg.** Of good size; fine quality; very productive and hardy. It takes the same position among blackcaps as Cuthbert among the red sorts. No one can afford to be without it. The standard blackcap by which others are judged.

**Haymaker.** New. Purple, not so dark as Columbian or Shaffer, and much larger and firmer than either of those varieties; never crumbles, and stands up well in shipping. A berry for either home use or market. The originator has found it the most profitable berry ever raised for market, and has never yet been able to supply the local demand. So much of a favorite has the Haymaker become that local growers have said that it has ruined the sale of other varieties.

**Kansas.** Strong, vigorous grower, standing extremes of drought and cold, and bearing immense crops. Early, ripening just after Palmer. Berries size of Gregg; jet-black, firm, of best quality; handsome.

**Mammoth Cluster.** Canes of strong growth and very prolific. Berries large and of fine quality.

**Munger.** Fruit large, black, and resembles Gregg very much. Flavored, tough in texture, and a good shipper. Extra fine for canning and evaporating. In seasons when most others are dry and seedy, Munger ripens up sweet and juicy. Canes resemble Gregg, are free from disease; upright in growth and extremely hardy.

**Ohio.** A very strong-growing, hardy sort; fruit nearly as large as Mammoth Cluster; more productive than many other varieties and one of the most valuable for market.

**Souhegan (Tyler).** A new variety, commended very highly as a market sort by those who have grown it. Enormously productive, perfectly hardy and free from disease of any kind.

**Schaffer's Colossal (Puthill).** A strong-growing variety, producing berries of great size. Excellent to dry, and unsurpassed for canning. Flavor peculiar and fine.



Cumberland.



Gregg.



Loganberry Planting.

## Blackberries

Too many farmers and orchardists neglect the more humble but highly profitable fruits, such as Blackberries and other berries. Those familiar with the wonderfully successful berry districts such as Puyallup, the Willamette Valley, the Kennewick, and other Columbia river districts, need not be reminded of the profits to be made from berries.

There are scores of other localities which will excel in many of the market favorites. You can get a start in the berry business at a small cost, but at any rate you should plant a few for home use.

All of the Blackberries offered by us on this page will be found to be vigorous, healthy and well-grown plants. The abundance of fibrous roots insure a rapid growth from the start and quicker returns than can be had with ordinary nursery stock.

Plant, for garden use, in rows six feet apart, with plants four feet apart in the rows; for market, in rows eight feet apart, with plants three feet apart in the rows. Give the same cultivation as raspberries.

Select from the following list and you will not find a poor one in the lot.

**Early Harvest.** Exceedingly early; always reliable. Canes are strong and upright, branching stout and vigorously. Hardy; an enormous bearer. Berries sweet and of the highest quality, though not so large as some varieties.

**Erie.** Said to be absolutely hardy. Originated in northern Ohio. Free from rust and all other diseases, and wonderfully productive. Fruit large; good; early; uniform.

**Eldorado.** The vines are very vigorous and hardy, enduring the winters of the far Northwest without injury, and their yield is enormous. Berries large, jet-black, borne in large clusters, and ripen well together, are very sweet, melting and pleasing to the taste, have no hard core, and keep eight or ten days after picking, with quality unimpaired.

**Evergreen.** Beautiful cut-leaved foliage, which it retains during the winter. Berries large, black, sweet, rich and delicious. Continues to ripen from July to November, which makes it one of the best berries for home gardens; excellent trellis and arbor sort.

**Himalaya Giant.** New. Vigorous grower; canes sometimes reaching 30 to 40 feet. Must be trained on a trellis. Fruit large, black; very abundant and excellent to ship; round, juicy, with smaller seeds. Mr. Brodie, Superintendent Experimental Station, Puyallup, states that it has yielded at the rate of 400 crates (9,600 quarts) per acre, and thinks it might be made to yield 600 crates per acre on proper soil.

**Iceberg.** Fruit white, transparent; the seeds which are unusually small, can be seen in the ripe berries. Clusters are larger than those of Lawton; individual berries as large, but earlier, sweeter and more melting than Lawton.

**Kittatinny.** Large; black, sweet; soft when black; very hardy; ripens up gradually like Lawton. One of the best except in northern sections.

**Lawton** (New Rochelle). The well-known market variety.

**Mammoth.** New. Grows entirely unlike any other Blackberry plant. Rampant, trailing on

## BLACKBERRIES—Continued.

the ground and under favorable conditions will grow twenty feet in a season. Canes are large, deep red when exposed to the sun, the foliage is large, thick, deep green. Enormously productive and exceedingly early, ripening three weeks before other cultivated kinds. Fruit enormous, specimens measuring  $2\frac{1}{2}$  inches long; seed small, soft and abundant; core small, soft.

**Mersereau.** New. This early mammoth iron-clad Blackberry has stood 15 to 25 degrees below zero, open field culture, without protection, and was never injured in the least. Berries brilliant, sparkling black, and what adds great value to them as a market berry, they remain black, never turning red when gathered in hot, muggy weather, as do many other berries. It is exceptionally sweet, rich, melting and luscious, without core or many seeds. As a shipper and keeper it is unsurpassed, remaining firm without bleeding in handling.

Canes exceedingly strong, upright, attaining in good soil a height of eight feet, if permitted to grow unchecked, and are so stout as to always remain erect. Foliage large, deep green, abundant. Yield enormous, affording heavy pickings from the first until the crop is all matured. Its season is early to mid-season, ripening with the Snyder in advance of Kittatinny, Lawton, Taylor's Prolific or Erie, but not so early as Early Harvest or the Wilson.

**Rathbun.** Origin, western New York. A strong, erect grower with strong stem, branching freely; will root from tip of branches like a raspberry. Hardy, having endured 20 degrees below zero and produced a good crop. Forms a neat,



Mersereau.

compact bush, 4 to 5 feet high, producing its immense fruit abundantly. Fruit is sweet and luscious without hard core, of extra high flavor, jet-black, small seeds, firm enough to ship and handle well. Very large size, resembling the Wilson and fully equal to that grand variety, with the addition of hardiness.

**Snyder.** Extremely hardy, enormously productive; medium size, no hard, sour core; sweet and juicy. The leading variety where hardiness is the consideration. Ripens early; fruit quite uniform.

**Ward.** New. It was found growing in a fence-row in Monmouth county, New Jersey. Fine fruit, healthy canes and very prolific bearing qualities attracted attention. Where it has been fruiting for several years, canes never winter-killed. It bore a crop every year, and the fruit, coming into competition in the market with all other varieties, always commanded the highest prices. Undoubtedly a seedling of the Kittatinny, which it closely resembles, having all its good qualities. A very strong grower, perfectly hardy in New Jersey, the fruit black throughout and very prolific. For complete description, send for circular.



Eldorado.

"Received trees in fine condition, and must say I was well pleased with them. They are far better than I expected, and as long as I get trees of that quality from you, you can depend upon me for a customer."—O. H. O'Neal, Vancouver, Wash.

## Blackberry-Raspberry (Hybrids)

These hybrids are of more value for home gardens than for market growing, with the exception of the Loganberry, which is quite firm and a good shipper. The Phenomenal berry and Primus berry are excellent for home use.

**Loganberry (Raspberry-Blackberry).** Judge J. H. Logan, of Santa Cruz, is the discoverer of this wonderful fruit. Thought to be a cross of the Aughinbaugh Blackberry and Red Antwerp Raspberry. Trails on the ground like a dewberry. Canes very large, without the thorns of the Blackberry, but have very fine spines. Leaves resemble Raspberry more than Blackberry, are deep, coarse and thick. Strong grower and enormous bearer. Fruit as large as the largest sized Blackberry, of the same form and shape, dark red when fully ripe. Combines the flavor of Raspberries and Blackberries, mild and very pleasant. Raw, it is excellent for the table, also stewed and for jelly or jam it is without an equal. It is especially good to eat because comparatively free from seeds. It ripens in May, at a time when other berries are scarce, and is nearly all gone before the Blackberries or Raspberries become plentiful. Firm and a fine shipper.

**The Phenomenal Berry.** A cross between the Improved California dewberry and the Cuthbert Raspberry. Larger than the largest berry ever before known, bright crimson Raspberry color, and most delicious for canning and drying. Berries grow in clusters of five to ten or more, and individual berries often measure 3 inches around one way by 4 the other, and weigh  $\frac{1}{4}$  ounce. People ask: "Will they be sold by the dozen?"

**Primus Berry.** Mr. Burbank says of it: "My first success with Blackberry-Raspberry hybrids. Has been fully tested for several seasons. One of the most productive berries known. Nothing like its flavor has before appeared. All pronounce it superior when cooked, and eaten raw it is claimed to be the best berry ever tasted. Really enormous fruit, long and handsome, mulberry-black, earlier than either the Raspberry or Blackberry, following close on the strawberry season. Bushes vigorous, incline to a trailing habit, and are best trained upon wires like grape vines. Somewhat of a perpetual bearer, showing more or less fruit all summer. In a greenhouse it will fruit splendidly all winter and prove exceedingly profitable. Hardy as an oak in any climate and a sure cropper every year." Too soft to bear long shipments.



Loganberries.

## Dewberries

Dewberries are of unusually fine flavor, but the berries are usually not firm enough for long shipment. However, for home use and nearby markets they are much prized.

**Austin Improved.** New. Surpasses in productivity anything ever seen in blackberry or Dewberry. Glossy, shining black, tempting. Flavor most excellent, will melt in your mouth. Hardy.

**Gray's Gardena.** New. Fruit as large as Loganberries. Some measure 4 inches around; jet-black, not many seeds. Finest quality, juicy and luscious; a little tart until fully ripe, then quite sweet. Firm, good shippers. Ripens in May in most parts of California. Crops ripen over a period of four weeks. Very vigorous, resists frost, root growth is very strong. Best when trained on wires, 18 to 20 inches above the ground.

**Lucretia.** Low-growing, trailing blackberry; in size and quality equals any of the tall-growing sorts. Perfectly hardy, healthy and remarkably productive, with large, showy flowers. Fruit often  $1\frac{1}{2}$  inches long by 1 inch in diameter; soft, sweet and luscious throughout, with no hard core; ripe before late raspberries are gone. Should be mulched to keep berries from the ground. We highly recommend this variety, and its attractiveness and exceptionally high quality make it an uncommonly good sort for nearby markets.

**Premo.** Extra-early, very large, jet-black, ripening the crop fast, foliage dark green and healthy. Not inclined to burn in hot sun.

## Currants

Plant in rows 4 feet apart each way, if practicable. Keep the ground mellow, free from weeds, and in good state of fertility, and prune freely every spring. Should currant worms appear, dust a little white hellebore powder, from a small, coarse bag, over the bushes, when the leaves are damp. In some instances it may be necessary to repeat this process, but the trouble and expense of exterminating the worms is trifling if the powder is applied as soon as the worms appear.

**Black Champion.** Very productive; large bunch and berry; excellent quality; strong grower. A leading well-tested black sort.

**Black Naples.** Very large; black, rich, tender and excellent for jellies and wine. Productive.

**Cherry.** Large, deep red, rather acid; bunches short; plants erect, stout, vigorous and productive.

**Fay's Prolific.** Originated in Chautauqua county, N. Y. A cross between Cherry and Victoria; of large size, fine flavor and claimed to be five times as prolific as some others.

**La Versaillaise.** Very large; red, bunch long, of great beauty, good quality. One of the finest and best. Should be in every collection. Productive.

**Lee's Prolific Black.** A new English variety. Fruit large and of superior quality; bush is vigorous and enormously productive.

**North Star.** Strongest grower among the red varieties; should be given plenty of room and ground kept well enriched. Bunches average 4 inches in length and are freely produced. Combines extreme hardiness, vigorous growth, extra quality and great productiveness.

**Perfection.** New. This grand variety was originated by Charles G. Hooker, of Rochester, by Crossing the Fay's Prolific with the White Grape Currant. From quite a number of plants of this cross, Perfection was selected as the best, and after a thorough trial by the originator, proved so satisfactory and superior in many respects, combining, as it does, the good qualities of both parents, that it was decided to enter it for the \$50 Barry Gold Medal of the Western New York Horticultural Society, which it won—the first fruit to receive this medal. It also received the highest award given to any fruit at the Pan-American Exposition, at the New York State Agricultural Experiment Station, at Geneva, in competition with about 60 varieties, including all the best in cultivation. The result for four years has been exceedingly satisfactory. Perfection came out at the head of all introduced varieties on its general merits. Berry beautiful bright red; large or larger than the Fay, clusters averaging longer. Size of the berry is well maintained to the end of the bunch. The season of ripening is about the same as that of the Cherry or Fay. Rich, mild, sub-acid, plenty of pulp with few seeds. Less acid and of better quality than almost any other large Currant. Long stem, from point of attachment to the bush to the first berry, making it easy to pick without crushing the fruit. A great bearer, resembling White Grape in this respect. On account of this great productiveness the plants should be kept well cultivated and fertilized. Under these conditions they will regularly produce heavy crops of large fruit of the very best quality. Habit of growth, intermediate between its parents Fay and White Grape, with remarkably large, healthy foliage. For complete de-



Perfection.

scription, see our colored circular. Each bush labeled to guarantee genuineness.

**Pomona.** Of good size; beautiful, clear, bright, almost transparent, red; sweet and good, has but few and small seeds; is easily picked; hangs a long time after ripe, and is one of the best to hold up in shipping or on the market. A vigorous grower, healthy and hardy; most productive; continues long in profitable bearing; retains its foliage; hangs on bush in good condition; comes into bearing early; is easily and cheaply picked. Unequaled for acreage yield in ordinary culture.

**Victoria.** A splendid variety, ripening two or three weeks later than the others, and continuing in fine condition for a long period. Bunches long; berries medium size; red.

**White Grape.** Very large; yellowish white, sweet, or very mild acid; excellent quality and valuable for the table. The finest of the white sorts. Very distinct from White Dutch, having a low, spreading habit and dark green foliage. Very productive.



Downing Gooseberry.

## Gooseberries

Of all the berry family, the Gooseberry stands in a class by itself. Early, hardy, a good and unfailing bearer, and an excellent shipper, it always commands a sure market and a profitable price. With few insect enemies except the currant worm (easily controlled by White Hellebore) and requiring very little care aside from early cultivation and mulching, there is good money in Gooseberries grown commercially.

If you have only an odd corner or so where a few bushes can be planted, do not neglect the Gooseberry for home use. Gooseberry sauce, Gooseberry pie, Gooseberry jam—who does not recall the memories of home and mother and a childish appetite always craving for such palatable things! How we relished the humble Gooseberry in any form! Plant any of the following varieties, and you will be glad a thousand times over.

The American varieties, though not quite as large as the English sorts, are of fine quality, and are not subject to mildew.

**Crown Bob.** Very large; thin skin, hairy; bright red; flavor very good.

**Downing.** Originated at Newburgh, N. Y. Fruit much larger than Houghton; roundish, light green, with distinct veins; skin smooth; flesh soft, juicy and very fine flavored. Vigorous and productive. One of the most valuable.

**Houghton's Seedling.** Vigorous grower, abundant bearer; fruit of medium size; pale red, sweet and juicy. Free from mildew.

**Industry.** This is said to be the best English Gooseberry yet introduced. Vigorous, upright, a great cropper. Berries of the largest size, dark red, hairy, rich and agreeable. Mildews in Willamette Valley.

**Josselyn (Red Jacket).** An American seedling of large size; smooth, prolific and hardy; of best quality. Has been well tested over a wide extent of territory by the side of all the leading varieties, and so far the freest from mildew, both in leaf and fruit, of them all. A wonderful cropper, with bright, clean, healthy foliage. Was originally called Red Jacket, but was renamed on account of another variety already called that name.

**Oregon Champion.** A new variety introduced from Oregon. Fruit large, round; an immense bearer, and entirely free from mildew. The bush is of strong, vigorous growth, and is not very thorny—a great advantage in gathering. One of the best yet introduced.

**Pearl.** This very delicious American is a cross between Houghton and one of the large English varieties. Very hardy, entirely free from mildew; superior in size and quality; more productive than Downing.

**Victoria.** New. The best Gooseberry in England, and the champion berry for the London market. Strong grower, making shoots 3 feet 9 inches in a season. Berries larger than Crown Bob or Lancashire Lad, pale red, of excellent flavor. A late bloomer and a sure cropper; hardy. A 3-year-old bush, bearing 28½ pounds of fine, large fruit, was shown in 1900. All around, it seems well suited for market purposes here.



Champion.

## Strawberries

Does any one need to be told about Strawberries? In home gardens they will give three or four weeks of luxury in fare as fine as money can afford, for any one. In larger beds they will make money, to any extent the grower wants to plant them. Between orchard trees before they bear, they will yield as much as the trees will at twelve years old. For use while fresh or put up in some way, at home or thousands of miles away, Strawberries occupy a place of their own among fruits, and we couldn't well do without them.

Strawberries may be successfully grown on any soil adapted for garden purposes, or where good crops of grain or potatoes can be raised. The ground should be well prepared, thoroughly enriched, and kept mellow and free from weeds.

**Admiral Dewey.** New. Originated near Salem, Oregon. Large, very firm; good shipper. Beautiful dark red; flesh red to center, no white core; conical, much like Clark's Seedling; very early and abundant bearer, and continues bearing through the season, coming nearest to an ever-bearing berry of any in this vicinity; flavor resembles that of the wild Strawberry. Unexcelled for canning.

**Clark's Seedling.** (Hood River.) Originated at Hood River, Oregon, where it is planted to the exclusion of nearly all others, for long-distance shipments. Larger than Wilson; very firm; beautiful dark red, and unsurpassed in quality.

**Hood River.** See Clark's Seedling.

**Magoon.** Has proved to be a leader in hardiness, in addition to all of its other good qualities. Always brings top prices in the Portland market, and is a remarkable yielder.

## Mulberries

Valuable as an ornamental shade tree, and the fruit is much liked in many sections. Plant in deep, rich, sandy loam. Tree requires little or no pruning, and is of easy culture.

**Downing's Everbearing.** The beauty of this as a lawn or street tree is quite enough to commend it; yields an abundant supply of large, refreshing berries for about three months. Henry Ward Beecher says: "I had rather have one tree of Downing's Everbearing Mulberries than a bed of strawberries."

**New American.** Equal to Downing's in all respects, and a much hardier tree. Vigorous grower; very productive; the best variety for fruit. Ripe from middle of June to middle of September.

**Noir of Spain.** A new everbearing Mulberry of large size, larger than the Lawton blackberry, which it greatly resembles. Black; tart like a blackberry, and not the insipid sweet of most of the *Morus* family. Tree a sure bearer, strong grower, very hardy, and has a tendency to weep, making the fruit easy to gather. A very desirable ornamental tree.

**Russian** (*Morus Tatarica alba*). A very hardy, rapid-growing timber tree of great value, especially in the West. Introduced by the Mennonites. Foliage abundant and said to be very desirable in the culture of silkworms. Fruit good size and produced in great abundance.

**White** (*M. alba*). This has both white and black-fruited trees. It is also known under the names Moretti, Italica, etc. It forms a large, spreading tree, and, in addition to its fruit, its foliage makes good food for silkworms.

When we Americans begin to cultivate our lands as intensively as we can, we will have nut and fruit trees planted along the fences and berries and other small fruits occupying what are now waste spaces.



Admiral Dewey.





Pecans.

## Nut Trees

The past few years have witnessed a remarkable development in the planting of nut-bearing trees. Probably no branch of tree cultivation pays larger profits, or is as well assured of a profitable market for all products. The immense importation of foreign nuts every year gives some idea of the market to be supplied. Few farms do not contain land that, if planted to nut-bearing trees, would pay better than anything else to which it could be devoted. The nuts pay better than farm crops at best, while most kinds are making a growth of valuable timber that will of itself pay a large percent on the investment. Our native nut-bearing trees are admirably adapted for planting in streets, farm lanes, pastures, etc., for shade, ornament and profitable returns.

### Almonds

Almonds require a light, warm soil.

**Drake's Seedling.** Originated with Mr. Drake, of Suisun, California. Of the Languedoc class. Bears abundantly and regularly.

**Hard-Shell.** A fine, hardy variety, with large, plump kernel and very ornamental when in bloom.

**I. X. L.** Large, generally single kernels, hulls easily, soft shell. Tree a strong, upright grower.

**Jordan.** Introduced from Spain about 1893. Nut very long, narrow, but very plump, with hard, smooth shell, truncated base and somewhat bent at apex, edges sharp and knife-like. Fruit thin-fleshed and covered with a heavy pubescence. Kernel nearly filling the entire cavity and covered with a most delicate papery skin, much thinner than on any other Almond, which is one of its most valuable qualities. Flavor and texture of flesh far surpasses any other variety.

**Nonpareil.** Large, full kernel; thin shell. Tree of a weeping habit and a strong grower.

**Ne Plus Ultra.** Similar to above, but of different habit of growth.

**Peerless.** Originated near Davisville, California. A sure and heavy bearer; shell harder than I. X. L.; single large kernel.

### Chestnuts

**American Sweet** (*Castanea Americana*). The fruit of this variety is smaller than the European kinds, but it is very sweet and well flavored; highly esteemed in the eastern states.

**Italian, or Spanish** (*C. vesca*). A highly ornamental tree of free growth, esteemed alike for its beautiful foliage and valuable timber. The nut is sweet and generally large, but the tree is raised from seed, and the fruit often varies in size and quality.

**Japan Mammoth.** A monstrous fruit, larger than the European and flavored like the American Sweet. Tree bears when quite young.

### English Filberts

Of the easiest culture, growing six to ten feet high, entirely hardy and one of the most profitable and satisfactory nuts. Bears early and abundantly. Nut nearly round, rich and of excellent flavor.

## ENGLISH FILBERTS—Continued.

**Red Hazel.** Medium size; shell rather thick, kernel crimson, with a peculiar, excellent flavor.

**Kentish Cob.** Not very large, oblong and somewhat compressed; shell pretty thick; brown; kernel full and rich. Great bearer.

See also Purple-leaf, Ornamental Department.

**Hickory**

**Shellbark** (*Carya alba*). Possesses a peculiar, rich, nutty flavor, excelled by none. Tree sturdy, lofty. The wood, on account of its great strength and elasticity, is highly prized for making agricultural implements.

**Pecans**

A native nut belonging to the hickory nut family. Tree tall, bears abundantly; not entirely hardy here, but is further south. Should be planted wherever it will succeed. The shell is very thin, the kernel sweet and delicious. Highest priced nut on the market everywhere. Also crops are largest, trees bear youngest and longest, and are easiest to start.

**Walnuts**

**Black American** (*Juglans nigra*). This species of Walnut is a common and stately forest tree in the middle and western states. Makes a fine shade and ornamental tree; produces large crops of rich, oily nuts.

**Butternut, White Walnut** (*J. cinerea*). Native in the eastern states. The cultivation of this sort has been neglected here. It is a beautiful growing tree and yields large nuts of rough, hard shell, with full white, oily kernels, sweet, rich, of delicate flavor. This variety does well in the coast counties and in well-watered regions of the foothills. Not suited to the dry, hot places.

**California Black Walnut** (*J. Californica*). This species of Walnut is indigenous to California. Fruit spherical, nut hard but smooth and not furrowed like the Eastern black walnut; the kernel is rich and oily. Growth rapid, spreading; bearing soon.

**Persian Walnuts**

Also known as English, Madeira and French

We call special attention to the following most valuable varieties, which are well-tested, cannot be surpassed for beauty, size of nut, quality of meat and hardness of tree. Commonly known as English Walnut, but in reality the Persian. Sometimes known as the Madeira and French walnut, as it was imported into England from France. Native of southern Asia.

**French Varieties of the Persian**

These we grow from nuts secured in France, except Franquette, from grafted first-generation trees, thus making ours the second-generation tree. These should not be confused, or prices compared, with the common tender varieties grown by most nurserymen as "English Walnuts," which are not hardy enough for Washington or the northern states, and are very often barren. The staminate (or male blossom or catkin) are out before the pistillate (or female blossom). When the latter are out, there are no male catkins to fertilize, and the nuts drop off after attaining the size of a pea. Thousands of good healthy trees of this class which are worth-

less, except for shade, can be seen both in California and Oregon.

**Chaberte.** Old, valuable variety; nut well shaped, roundish-oval, of fair size; extra fine quality; good bearer.

**Franquette.** Possesses distinct characteristics. Tree very hardy, clean, vigorous, never diseased, a late bloomer, escaping late frosts; regular and abundant bearer. Hull thick. Nuts do not sunburn; of large, uniform size, long with smooth, well-filled shell of medium thickness. Meat of exquisitely rich, oily, nutty flavor. The Franquette is the peer of all French varieties and the heaviest bearer.

**Mayette.** This is a fine desert nut; quite large, well shaped, with a light-colored shell; kernel full-fleshed, sweet and nutty. Very late in budding out, enabling it to escape the disastrous effect of late frosts in the spring. This is the nut imported into the United States under the name of Grenoble, but on account of the duty of 3 cents per pound, as the nut is high-priced, in France, a common and cheaper grade is mixed with it. The Mayette was originated by a man of the name of Mayet, about 125 years ago, the nut having since been a great favorite. Said to be a shy bearer.

**Parisienne.** This beautiful nut, also one of the finest for dessert and market, was originated in the southeast of France, and not in the neighborhood of Paris, as its name would imply; its beauty caused it to be called "Parisienne," in honor of the capital of France. The nut is large, broader at the small end than the Mayette and the Franquette and well-shaped. As late and hardy as Mayette.

**Praeparturien.** Perfect soft-shell of first quality. Very productive. Not hardy north.

**Japanese Walnuts**

Introduced from Japan, and are sure to prove of great importance in nut-growing districts. Easily transplanted, hardy, abundant and early bearers. Comparatively little tap-root but plenty of laterals.

**Cordiformis** (*J. cordiformis*). This, as the name indicates, is heart-shaped. It differs from the Sieboldi in form of the nuts, which are broad, pointed, flattened, somewhat resembling the shellbark hickory; meat large, of best quality and easily removed, as the shell is thin and parts easily at the sutures, enabling one to get the kernel out whole. The flavor something between that of an English walnut and a butternut. As a dessert nut has few superiors; the meat, very sweet, is used extensively for candied nuts. One of the best.

**Sieboldi** (*J. Sieboldiana*). If it produced no nuts would be well worth cultivating for an ornamental tree. Grows with great vigor, surpassing all other nut trees; handsome form, needs no pruning; leaves large size, charming shade of green. Nuts are borne in clusters of 12 or 15 each at tips of previous season's branches. Have a smooth shell; thicker than the English, but not so thick as the Black Walnuts, much resembling Pecans. Meat is sweet, of good quality, flavor like a butternut, but less oily; commences bearing young; trees 3 to 4 years from nut in nursery rows frequently producing nuts. Hardy, standing 21 degrees below zero without injuring a bud.

## Asparagus

Earliest and finest of spring vegetables; among the easiest cultivated and most profitable.

A bed once planted suffers no deterioration for thirty years or more, if it is properly attended to and well manured.

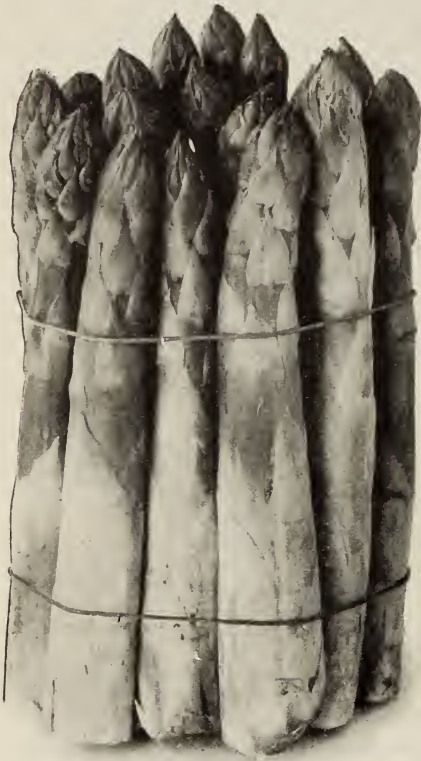
**Cultivation.**—See that the ground is well drained, naturally or otherwise. Work it up fine and deep and make it very rich with well-rotted barnyard manure. Locate the plants 8 inches apart, in rows 3 feet apart. Spread out the roots in a trench made deep enough to permit their crowns to be covered with 3 or 4 inches of mellow earth. Give the bed liberal dressings of manure at intervals, and, except near the seashore, three pounds of salt per square yard early every spring. Do not cut for use until the plants have grown two seasons.

**Conovers Colossal.** This variety is much superior in size and quality to any of the old common varieties. Remarkably tender and of very fine flavor.

**Columbian Mammoth White.** Produces shoots which are white and remain so as long as fit for use. In addition to the marvelous advantage of its white color, the Columbian Mammoth White Asparagus is even more robust and vigorous in habit, and grows larger shoots and fully as many of them, as the Conovers Colossal. Market gardeners, growers for canners, and amateurs, should give this great acquisition a thorough trial.

**Palmetto.** A very early variety. Even, regular size, of excellent quality.

**Quality.** New. Another of Burbank's wonderful creations, producing an unusual number of shoots of a light yellowish green color. Other plants often produce larger shoots, but none of them nearly so many in number or so much in weight. When cooked, it has a richer flavor, unlike and very much superior to many others.



## Rhubarb

The great value of Rhubarb has always been its earliness. It deserves to be ranked among the best early products of the garden. It affords the first material for fine pies and fresh table sauce in spring, and continues long in use, and is valuable for canning. Make the ground rich and deep and thus secure a large and tender growth.

**Australian Crimson Winter.** Introduced by Luther Burbank: "Earlier than any other Rhubarb. The stalk of medium size, well-grown ones averaging 12 to 18 inches in length and about  $\frac{3}{4}$  to 1 inch in diameter, pale, greenish crimson, turning when cooked to a light clear crimson, and of very best quality. More inclined to blossom than the other kinds, which is easily remedied by topping. Starts to grow vigorously by October and continues to produce stalks continuously until after the common varieties make their first appearance, some six months later. If kept moist will produce stalks abundantly at any season." This is in

California. In Oregon winter halts the growth, but spring finds shoots ready.

**Dodge Prolific.** Ripens between the Victoria and Linnæus; very large; stalks often 3 to 4 feet high; very tender; the best variety that has been introduced, unless it is the Australian Crimson Winter, which stands in a class by itself.

**Linnæus.** Large, early, tender and fine. Best of the old varieties.

**Victoria.** Very large and valuable for market. Early.

All of the stock which we offer for sale, whether fruit trees, nut trees, berry plants, or shade and ornamental trees and shrubs, or roses, are grown in large quantities by us. We understand the nursery business. Our stock is strong, vigorous, clean and healthy, with splendid fibrous root systems giving it every natural chance to grow.



Tulip Tree (*Liriodendron tulipifera*).

## Ornamentals

It is strange so few people realize that by expending a little time and study they could have well-kept and attractive grounds, adding to the beauty and comfort of the home and increasing the value of the property. A few trees, shrubs, roses and vines scattered over the ground at random, with little attention given to arrangement, will never get so good results as the owner expected, nor can such effects be had without pruning and fertilizing. But all ornamentals will well repay attention of whatever kind is needed.

People in all sections, especially in cities and towns, are beginning to realize that property is of greater value when attractively planted with a judicious selection of ornamental trees, shrubs, vines, etc. No better investment can be made than in beautifying the home, nor can better interest be made than is possible to be had in this way.

Aside from the pleasure of having fine trees, shrubs, vines and flowers surrounding a home, few realize how much these add to the commercial value of the place. A purchaser, having to decide between a house with bare and unkept grounds and one surrounded by fine ornamentals, invariably chooses the latter at a marked advance in price, because he sees that he will at once enjoy what it would otherwise take some years to secure. Sagacious men are led by a knowledge of these facts to plant trees and shrubs about vacant lots they are intending to put upon the market. Lots thus planned readily secure purchasers at good prices when bare grounds go begging for buyers.

Buy none but the best. We have made a specialty of offering none but the best, both in variety and quality of the stock. Few people realize the importance of getting started right, and spend years of regretting, which a little forethought in selection and planting would have prevented. Buy none but the best stock, carefully selected as to form and size, with good root systems, properly grown. This will prove much cheaper in the end than forest-grown trees, or cheap, inferior nursery stock.



Mountain Ash (*Pyrus sorbus*). See page 52.

## How to Plant

A fine, well-cut lawn is one of the handsomest features of a place. Do not make the mistake of planting at random all over the grounds. Trees and the larger shrubs may be planted along a lane or avenue leading to the house, or dotted about the lawn on lines radiating from it. This will assure light, air and a good view from the house. In laying out the grounds, take into consideration economy in labor, and make as few walks as possible. Upright shrubs, roses and flowers should be planted in beds, each kind by itself, but avoid making the lawn look like a checkerboard. Mass the trees and beds on the boundaries so as to leave a broad space for the lawn, and where there is a pretty view leave an opening. Where there is an unsightly object, conceal it by planting trees, quick-growing shrubs or climbing vines in front. Do not plant large trees near the house, except enough on the sunny side for shade, and on the windward side as a shield. Some trees are essential, however, to protect the house against heat and cold.

Plant shrubs and small trees twice as thick as they should be when fully grown. This will make a good showing at once, and, when the growth has made them too thick, some should be taken out. It will not do to plant so little that years must elapse before a fine effect can be produced. By planting a surplus at first, they can gradually be removed to somewhere else or cut out.

## Vines

Should be planted near to and allowed to climb over the house, or trained on posts, trellises, arbors or stakes placed in suitable locations on the lawn. Groups of trees and shrubs possessing bright-colored bark or foliage, and groups of flowering trees and shrubs, are highly effective when in blossom and should be more generally planted. Weeping trees are especially desirable on small lawns.

## New Varieties

We are constantly adding to our list of ornamentals, as well as in other departments. Before placing new varieties on the market, we give them a thorough trial in the nursery, and thus weed out undesirable varieties, offering only the best in each class.

## Varieties Not Listed

In every large nursery there are many varieties of extra size, but in too small quantities to list in the catalogue; also new varieties which have not been thoroughly tested. If you wish any variety, or a special size, not listed, write to us for special quotations, and if we have it in stock we shall be pleased to supply.

## Names and Descriptions

Our Catalogue is made especially for the planter. We have given, as far as possible, the common name first, and the botanical name follows in parenthesis; although the common name is never absolutely reliable, as different localities sometimes have different names for the same plant.

There is much confusion even in the botanical names of trees, shrubs and plants at the present time. We have endeavored to follow the later botanists, and to make these as accurate as possible. We hope to correct any errors that may occur in future editions, and will appreciate it if customers will call attention to misprints.

## Upright Deciduous Trees

### Ailanthus - Tree of Heaven

**Glandulosa.** Ornamental tree from Japan; rapid grower, with long, elegant, feathery foliage; exempt from diseases and insects. One of the most distinct of ornamental trees with pinnate foliage. Useful to produce tropical effects. Is sometimes cut off every spring, when the young shoots form a foliage mass of tropical richness. Fine for cities, because not affected by street dust, gas, etc.

Acacia. See Locust.

### Alder - Alnus

**European (A. glutinosa).** A tree of rapid growth, attaining a height of 40 to 60 feet; foliage wavy, roundish, wedge-shaped; for damp soils, but thriving well everywhere.

### Ash - Fraxinus

**European (F. excelsior).** A lofty tree of rapid growth, with spreading head, pinnate leaves and black buds.

See also Weeping Trees.

### Aralia - Angelica Tree

#### Hercules' Club

All small trees with large, finely divided foliage and showy heads of white flowers; very useful for lawn planting and subtropical effects. We recommend the two following varieties.

**Japonica (Angelica Tree).** A handsome, distinct, small tree from Japan; spreading habit of



Catalpa Bungei (See page 50.)

growth, with immense finely divided foliage and spiny stems. Flowers white in large spikes, in July.

**Spinosa (Hercules' Club).** A very showy sort. Broad, handsomely cut foliage, and immense clusters of small white flowers in July or August. A singular-looking, small-sized tree, with very prickly stems and pinnate leaves. It suckers occasionally from the roots, but not after well established.

Balm of Gilead. See Poplar.

### Beech - Fagus

**European (F. sylvatica).** A beautiful tree growing to the height of 60 or 80 feet.

**Purple-leaved (F. purpurea).** Discovered in a German forest. An elegant, vigorous tree, growing 45 to 50 feet high. Foliage deep purple, changing to crimson. Like all varieties of the Beech, this is difficult to transplant, hence small trees 3 feet high are preferable.

**Riversi (F. purpurea Riversi).** Smooth-leaved Purple Beech. This variety differs from the ordinary purple-leaved by its compact, symmetrical growth and crimson foliage early in the spring, changing to dark purple in the summer. One of the finest of all purple-leaved trees.

See also Weeping Trees.



Purple Leaved Beech. (See page 50.)



American Elm (*Ulmus Americana*).

### Birch - *Betula*

**European White** (*P. Alba*). A fine tree of moderate size, with silvery bark and slender branches.

See also Weeping Trees.

**Box Elder.** See Ash-leaved Maple.

**Buckeye.** See Horse-Chestnut.

**Buttonwood.** See Sycamore.

### Catalpa - *Catalpa*

**Bungei** (*Umbrella Catalpa*). Grafted on stems 6 to 8 feet high, it makes an umbrella-shaped top without pruning. Perfectly hardy and flourishes in almost all soils and climates. Leaves large, glossy, heart-shaped, deep green, lie like shingles on a roof; always make a symmetrical head. One of the most unique trees. Desirable for lawn, park and cemetery planting.

**Speciosa.** One of the most rapid-growers. Valuable for timber, fence-posts, railroad ties, etc., possessing wonderful durability. Large, heart-shaped, downy leaves and compound panicles of white flowers, tinged with violet and dotted with purple and yellow. Very ornamental and useful.

**Syringaefolia.** A native of the south. A rapid-growing, beautiful tree, with very large, heart-shaped leaves and pyramidal clusters of white and purple flowers. Late in July.

**Teas' Japan Hybrid.** Large, luxuriant foliage, handsome white flowers with purple dots and a touch of yellow around the throat, with a pleasant, delicate fragrance. A tree in bloom not only produces a magnificent spectacle to the eye, but also fills the air quite a distance with its agreeable odor. In rapidity of growth it rivals the most luxuriant trees of temperate climates.

### Crab - *Pyrus* or *Pyrus Malus*

**Bechtel's Double-flowering** (*P. floribunda*). Medium-sized ornamental tree of great beauty; perfectly hardy; succeeds well in all soils not extremely wet. When in bloom in early spring this tree is covered with perfectly double, small pink roses—flowers of delicious fragrance. The only sweet-scented double Crab; blooms quite young. Does not bloom until the leaves are fully developed, which adds greatly to its beauty.

### Dogwood - *Cornus*

**American White** (*C. florida*). A native tree of fine form and beautiful foliage, growing from 20 to 25 feet high, producing white flowers 3 inches in diameter, early in the spring before the leaves appear. Foliage grayish green, turning deep red in autumn, making the tree one of the most beautiful of that season. One of the most desirable of ornamentals.

See also Weeping Trees and Shrubs.

### Elm - *Ulmus*

**American White** (*U. Americana*). The noble, spreading, drooping tree of our own woods. One of the grandest and hardiest of park or street trees.

**Corkbark** (*U. racemosa*). The bark is corky, the tree an upright, fast grower.

**English** (*U. Campestris*). An erect, lofty tree, with rather small leaves.

**Purple-leaved** (*U. purpurea*). Erect in growth, with slender branches, densely clothed with dark purplish green foliage.

**Camperdown.** See Weeping Trees.



Horse Chestnut (*Aesculus Hippocastanum*).

### Fringe - Rhus; Chionanthus

**Purple** (*Rhus Cotinus*). A much-admired small tree or shrub for its curious fringe or hair-like flowers that cover the whole surface of the plants in midsummer.

**White** (*Chionanthus Virginica*). A small native tree or shrub, with dark glossy leaves and drooping racemes of pure white flowers, having narrow fringe-like petals. Its foliage, as well as its flowers, make it one of the most desirable lawn trees.

**Ginkgo.** See *Salisburia*.

**Golden Chain.** See *Laburnum*.

**Hercules' Club.** See *Aralia*.

**Hickory.** See *Nut Trees*.

### Horse-Chestnut - *Aesculus*

**Red-flowering** (*Æ. rubicunda*). Not so rapid or so fine a grower as the white; foliage of a deep green and blooms later, with showy red flowers.

**White-flowering** (*Æ. Hippocastanum*). A very beautiful, well-known tree, with round, dense head, dark green foliage, and in early spring an abundance of showy white flowers, slightly marked with red specks or panicles.

**Ohio Buckeye** (*Æ. flava*). Has pale green leaves and showy yellow flowers. A fine small tree. A very crooked and irregular grower.

### Honey Locust - *Gleditschia*

**Three-horned** (*G. Triacanthos*). A rapid-growing native tree, with powerful spines and delicate foliage, used especially for hedges.

### Judas or Red Bud - *Cercis*

**American** (*C. Canadensis*). A medium-sized, native ornamental tree, covered with delicate pink flowers before the leaves appear. Heart-shaped, pure green leaves, with glossy surface; flowering about same time as Chinese Magnolias, and planted with them, produce fine effect.

### Kentucky Coffee Tree - *Gymnocladus Canadensis*

A native tree of large size, with rough bark and coarse branches; feathery foliage of a bluish green color. Flowers white, in racemes, followed by long pods.



Norway Maple (See page 52).

### Linden - *Tilia*

Close, dense-headed rapid-growing tree, excellent for shade, doing well in nearly all situations; well adapted to street, park, and large lawns; should be planted much more freely than they are.

**American, or Basswood** (*T. Americana*). A rapid-growing, beautiful native tree, with very large leaves and fragrant flowers.

**European** (*T. Europæa*). A very fine pyramidal tree, with large leaves and fragrant flowers. A valuable tree for street and lawn planting, developing into beautiful specimens.

### Locust or Acacia - *Robinia*

**Black** (*R. Pseudacacia*). Fifty to 80 feet. Medium-sized tree, with feathery foliage and drooping racemes of very fragrant pea-shaped flowers. Cut back when transplanting. This is the tree producing the posts and pins of commerce.

**Rose, or Moss** (*R. hispida*). A native species of spreading, irregular growth; very long, elegant clusters of pea-shaped, rose-colored flowers in June, and at intervals through the season. Compound foliage of a pleasing shade of light green.

**Locust, Honey** (*Gleditschia*). This page.

**Maidenhair.** See *Salisburia*.



American Linden (*Tilia Americana*).



Pin Oak (*Quercus palustris*).

### Maple - *Acer*

**Ash-leaved** (Box Elder, or Manitoba Maple; *A. Negundo*). A fine, rapid-growing variety, with handsome, light green pinnated foliage and spreading head; very hardy; desirable for street planting and succeeds in many sections where other varieties do not thrive.

**Norway** (*A. platanoides*). A native of Europe. Its large, compact habit, broad, deep shining foliage, and its stout, vigorous growth, render it one of the most desirable species for streets, parks and lawns. Rather a rough, crooked grower when young, but soon develops into a straight, magnificent specimen.

**Purple-leaved Sycamore** (*A. pseudo-platanus purpureum*). Leaves deep green on upper surface, purplish red beneath, producing a beautiful color effect when in motion. Tree of robust habit; fine for lawns with other foliage trees.

**Schwedler's** (*A. Schwedleri*). A beautiful variety, with young shoots and leaves of a bright purplish and crimson color, which changes to purplish green in the older leaves. A distinct and handsome sort.

**Silver-leaved, or Soft** (*A. dasycarpum*). A well-known native tree of rapid growth, large size and irregular rounded form; foliage bright green above and silvery white beneath; tree very hardy and easily transplanted. One of the most useful trees.

**Sugar, or Rock** (*A. saccharinum*). Pyramidal form. Its upright habit of growth, dense shade and adaptability to different soils have rendered it one of the most extensively used. Valuable for sugar.

**Sycamore** (*A. pseudo-platanus*). A noble variety, with spacious head and large, deep green foliage; a rapid upright free grower. Desirable for shade.

### Mountain Ash - *Pyrus sorbus*

Very ornamental, especially when covered with their bright scarlet berries.

**European** (*P. aucuparia*). Similar in appearance to the American, with finer foliage and smaller, deeper colored berries, much more desirable than the American and everywhere very popular. Erect stem, smooth bark, head dense and regular. When fully grown 20 to 35 feet.

**Oak-leaved** (*P. quercifolia*). A very distinct and desirable tree, with compact, pyramidal head and dark, lobed leaves, downy underneath, producing the same flowers and berries as the preceding. Very hardy and desirable for planting on lawns or in dooryards. When fully grown, 20 to 25 ft.

See also Weeping Trees.

**Mulberry.** See page 43, also Weeping Trees.

### Oak - *Quercus*

**Pin** (*Q. palustris*). Valuable for all practical purposes. Foliage dense, finely divided, of a beautiful shining green that colors to sparkling red and yellow in fall. Easily transplanted and grows well on wet or dry ground, quickest-growing of all the Oaks. For avenues and streets, and one of the best for parks.



Lombardy Poplar (*Populus fastigiata*).

**OAK—Continued.**

**Red** (*Q. rubra*). A very well-known, rapid-growing native species. The leaves are large and bright green and take on a purplish scarlet hue in the fall. Gets large, with a round and spreading head. One of the best sorts for street, avenue and ornamental purposes.

**Pecan.** See page 44.

**Plane Tree.** See Sycamore.

**Platanus.** See Sycamore.

**Poplar - Populus**

**Balm of Gilead** (*P. canadensis* *Ontariensis*). A native species of remarkably rapid, luxuriant growth, with large, glossy foliage.

**Bolles'** (*P. Bolleana*). New, of pyramidal form; leaves dark green on upper side, brilliant silver beneath; very beautiful. A valuable tree for grouping on the lawn.

**Carolina** (*P. monilifera* *Carolinensis*). One of the most handsome rapid-growing trees, with large, handsome, glossy, serrated, deep green leaves. Succeeds everywhere. Especially adapted to large cities; resists smoke and gas. Pyramidal form, making a spreading head and dense shade when properly trimmed. New growth should be well cut back in spring for the first few seasons. Unexcelled for effect; makes a splendid wind-break or screen. For new places and streets where the slower-growing ornamentals are desired, plant the Poplars between, securing an almost immediate effect, removing them as the other trees attain size.

**Golden** (*P. aurea* *Van Geertii*). Has fine golden yellow foliage, retaining its brilliancy throughout the season; fine for contrast with green or purple-leaved trees. One of the most effective for street and lawn planting.

**Lombardy** (*P. fastigiata*). A well-known, tall, erect-growing tree of rapid growth and spire-like outline; very essential in landscape gardening to give variety of form and destroy the appearance of sameness produced by other trees.

**Silver-leaved** (*P. alba*). A tree of wonderfully rapid growth and spreading habit; leaves large, dark, rich green above and white as snow beneath. The tree is of compact growth and grows to about 100 feet.

See also Weeping Trees.

**Prunus - Plum**

**Pissardi** (Purple-leaf Plum). A new shrub of Persian origin. The leaves, as they first appear on the tips, are a beautiful orange color, and they mature to a rich purple, clear and distinct, growing darker as the season advances. Leaves remain on until late in the fall—a decided contrast to other shrubs. Beautiful, shining bark; pink flowers and bright red fruit. Remarkably hardy; very rapid grower, compact, symmetrical in proportion, and attains about the size of the peach.

**Triloba** (Double-flowering Plum). A very desirable shrub, introduced from Japan. Flowers semi-double, of delicate pink, upward of an inch in diameter, thickly set. Hardy; flowers in May.

**Red Bud.** See Judas Tree.



American Sycamore (*Platanus occidentalis*).

**Salisburia - Maidenhair, or Ginkgo**

**Adiantifolia.** A Japanese tree of large size and columnar growth. When full-grown it is more spreading. The leaves resemble those of the maidenhair fern. Useful for street and avenue planting. If pruned several times when young it will make a round, compact-headed tree. In the city, generally free from insects and diseases.

**Sycamore - Platanus**

**American Plane, Sycamore, or Buttonwood** (*P. occidentalis*). A well-known, tall, rapid-growing native tree; leaves large, heart-shaped at the base; the lobes sharp-pointed.

**European** (*P. orientalis*). **Oriental Plane.** A lofty, wide-spreading tree; heart-shaped leaves, deeply cut, valuable for its handsome foliage and free growth; not so subject to disease as our native species. Entirely free from worms or insects. One of the oldest cultivated trees known.

**Thorn - Crataegus**

**Double Scarlet** (*C. coccinea* fl. pl.). Flowers deep crimson, with scarlet shade; very double, and considered larger than the double red; fine rich foliage.

**Double White** (*C. alba* fl. pl.). Has small, double, white flowers.

**Paul's Double Scarlet** (*C. coccinea* fl. pl. Paulii). Flowers large, deep carmine-scarlet. Superior to any other variety.

**Tree of Heaven.** See *Ailanthus*.

**Tulip Tree, or Whitewood****Liriodendron**

**Liriodendron tulipifera.** A magnificent native tree, of very rapid growth; broad, glossy and fiddle-shaped leaves. Valuable for its clean, smooth bark and handsome green foliage. The



Weeping White Birch. (*Betula laciniata*.)

#### WILLOW—Continued.

flowers appear the first week in June, are large, greenish-yellow, blotched orange, and have the shape of a tulip. Desirable for street; thrives in low as well as high ground. Plant only in spring and prune very closely. Difficult to transplant, unless of small size.

Walnut. See page 43.

Whitewood. See Tulip Tree.

#### Willow - Salix

Rosemary-leaved (*S. rosmarinifolia*). Budded 5 to 7 feet from the ground, it makes a very handsome round-headed small tree; branches feathery, foliage silvery.

See also Weeping Trees.

### Weeping Trees

Much attention is now given to this class of trees, and we place them separately for the convenience of our patrons. The grace and beauty of the weeping varieties render them especially adapted to yard, lawn or cemetery. For the benefit of those unacquainted with their habits, or manner of growth, we would divide them into two classes:

(A)—Those which are grafted where the top or head commences to form, and which assume that conspicuous, umbrella-like form so well known, as in the Camperdown Elm, and are especially adapted to planting in small lawns or cemeteries.

(B)—Those having long, slender branches, which droop naturally like the Cut-leaved Birch and Babylonica Willow, having tall-growing trunks. They are best adapted to parks, streets

or the larger lawns. Where they can be given sufficient room, the elegance, grace and beauty of their branches, at rest or in motion, are so apparent that they have few, if any, superiors among ornamental trees.

#### Beech - Fagus

*Sylvatica pendula*. A remarkably vigorous, picturesque tree of large size. The trunk or stem is generally straight, with the branches tortuous and spreading; quite ungainly in appearance. When covered with rich, luxuriant foliage, the tree is graceful and beautiful.

#### Birch - Betula

Cut-leaved (*B. laciniata pendula*). Probably the most popular and desirable lawn tree in existence, and beautiful on streets and avenues. Vigorous and perfectly hardy. Trunk straight, slender, white as snow. Slim side branches droop in a most picturesque manner; foliage delicate and deeply cut, coloring finely in the fall. The drooping branches and silvery bark form a most effective combination during the winter months, while the effect in the summer, with the long, gracefully drooping branches clothed with dainty leaves, is equally pleasing.

#### Mountain Ash - Sorbus

Weeping (*S. aucuparia pendula*). A beautiful tree, with straggling, weeping branches, makes a fine tree for the lawn; suitable for covering arbors.

#### Elm - Ulmus

Camperdown Weeping (*U. pendula*). A vigorous grower, and forms one of the most picturesque drooping trees. Leaves large, dark green, and glossy, and cover the tree with a luxuriant mass of verdure; very desirable.

#### Mulberry - Morus

Teas' Weeping Russian (*M. Tatarica pendula*). A weeping variety of the now well-known Russian Mulberry. One of the most graceful and hardy weeping trees in existence. Wholly unlike anything heretofore introduced. Forms a perfect umbrella-shaped head, with long, slender, willow branches drooping to the ground. Light, airy, graceful. Beautiful foliage; is vigorous and healthy; is one of the hardiest, enduring the cold of the North and the heat of the South; safe and easy to transplant. Admirably adapted for ornamenting small or large grounds, or for cemetery planting; one of the best specimen trees one can obtain. Grows 6 to 10 feet high.

#### Willow - Salix

American Weeping (*S. purpurea pendula*). An American dwarf slender-branched species; grafted 5 or 6 feet high, it makes one of the most ornamental of small weeping trees; more hardy than the Babylonica.

Babylonica, or Common Weeping (*S. Babylonica*). The well-known common Weeping Willow. A large tree covered with drooping branches.

Kilmarnock (*S. Caprea pendula*). A distinct variety, having reddish shoots and large, glossy foliage; grafted at a proper height, about 5 feet from the ground, it makes a very desirable small lawn tree, having a perfect umbrella-shaped head, with the branches drooping gracefully to the ground. It is well suited for planting in cemetery lots or other small enclosures.



Dogwood Blossoms.

## Deciduous Shrubs

No yard is complete without one or more beautiful flowering shrubs, and we urge a more extensive planting of this class of ornamentals. They cover a wide range in flower and foliage, habit of growth and season of blossoming. Requiring but a small space, they can be used on lawns to fill vacancies, where large trees could not be harmoniously grown. Monotony of the landscape can be broken by grouping or distributing shrubs singly according to size of grounds and scenic effect.

### Althaea - Hibiscus Syriacus

**Rose of Sharon.** One of the most showy and beautiful shrubs. Flowers large, double, of many brilliant colors. Blooms freely in August and September, when few other trees or shrubs are in blossom.

**Double Red** (*H. rubra flore pleno*).

**Double Purple** (*H. purpurea flore pleno*).

**Double White** (*H. alba flore pleno*).

**Variegated Leaf** (*H. variegata flore pleno*).

### Almond - Prunus

**Double Rose-flowering** (*P. Japonica rubra fl. pl.*). A beautiful small shrub, bearing in May before the leaves appear, small, double, rose-like flowers, closely set upon the twigs.

**Double White-flowering** (*P. Japonica alba fl. pl.*). Produces beautiful white flowers in May.



Deutzia—Gracilis.

### Barberry - Berberis

Used as hedge plants quite extensively. Their showy orange and yellow flowers in May and June are followed by bright and various-colored showy fruits in autumn and winter.

**Purple-leaved** (*B. purpurea*). Foliage and fruit violet-purple fine for single specimens; a desirable ornamental hedge plant, planted by itself or intermingled with the common.

**Thunbergii.** A very pretty variety from Japan; of dwarf, graceful habit; foliage small, bright red early in autumn; very showy.

### Calycanthus

**Sweet-Scented Shrub, or Carolina Allspice**

**Floridus** (Sweet-scented Shrub). The wood is fragrant; foliage rich; flowers are of chocolate color, having a peculiar agreeable odor. Blooms in June and at intervals afterward.

**Cornus.** See Dogwood, pages 50 and 55.

### Currant - Ribes

**Crimson-flowering** (*R. sanguineum*). Produces an abundance of crimson flowers in early spring.

**Yellow-flowering** (*R. aureum*). A native species with yellow flowers.

**Cydonia.** See Quince, Japan.

### Deutzia - Deutzia

This valuable species comes to us from Japan. Hardiness, luxuriant foliage and profusion of attractive flowers, render them deservedly among the most popular of flowering shrubs. The flowers are produced in June, in racemes 4 to 6 inches long.

**Abel Carriere** (*D. Hortensis*, Abel Carriere). Bright rose-carmine; a choice sort. One of the best.

**Double-flowering** (*D. crenata flore pleno*). Flowers double, white, tinged with rose. One of the most desirable flowering shrubs in cultivation.



*Hydrangea Paniculata Grandiflora.*

#### DEUTZIA—Continued.

**Slender-branched** (*D. gracilis*). A very desirable dwarf-growing variety. Flowers pure white. A valuable plant for winter blooming.

**Lemoine's** (*D. Lemoinei*). Single white. A hardy hybrid, partaking to a great extent of the character of *Gracilis*, but of a stronger growth. Good for forcing.

**Pride of Rochester.** A new variety said to excel all others in size of the double white flower, profusion of bloom and vigorous habit.

**Watereri.** A grand new variety with very large, double white flowers, borne in large, loose racemes. Robust grower and very hardy.

#### Dogwood - Cornus

**Red-branched** (*C. sanguinea*). A native species; very conspicuous and ornamental in the winter, when the bark is a blood-red.

**Sanguinea, var. elegantissima variegata.** One of the finest variegated shrubs; of rapid growth. Leaves broadly margined with white; bark bright red in winter. See page 50.

#### Elder - Sambucus

**Golden** (*S. aurea*). From Holland. New and rare. When the leaves first appear they are bright green, but if planted where they will have plenty of sun, they soon change to a golden green. The blossom, which resembles the common Elder blossom, appears in July. The best effect is produced when they are planted with other shrubs, thus rendering the foliage more conspicuous by contrast.

#### Filbert - Corylus

**Purple-leaved** (*C. Avellana*, var. *atropurpurea*, or *purpurea*). A very conspicuous shrub, with large dark purple leaves. Soon after the leaves expand they are almost black, but later on fade to a light purple. Valuable for planting in groups of large shrubs to secure color effect. Distinct and fine. See page 44.

#### Forsythia - Golden Bell

**Suspensa** (*Weeping Forsythia*). Of drooping habit, with pendulous flowers.

#### Honeysuckle, Upright Lonicera

**Red Tartarian** (*L. Tatarica rubra*). A beautiful flowering shrub; blooms early in spring; flowers bright pink.

**White Tartarian** (*L. Tatarica alba*). Similar to the preceding, with white flowers.

See Climbing Honeysuckles, page 62.

#### Hydrangeas

Beautiful free-flowering shrubs, bearing immense panicles or trusses of flowers. *Paniculata* is perfectly hardy and requires no protection; the other varieties require protection in winter, and should be grown in pots or boxes and wintered in the cellar, except in the warmer sections.

***Paniculata grandiflora.*** This is one of the most valuable hardy shrubs. It attains a height of 3 to 4 feet, and is perfectly hardy in all parts of the country. The flowers are white, borne in immense panicles nearly a foot in length. It commences flowering in July and continues until November. The plant should be cut back every spring at least one-half of last season's growth, as the flowers are borne on new wood and are much finer when the plant is treated in this way. Excellent for cemetery planting; valuable both for foliage and flowers, which are very durable.

#### Lilac - Syringa

Well-known shrubs that succeed everywhere. Few are aware of the wonderful im-



*Althea or Rose of Sharon.*



Syringa, Double Flowering.

## LILAC—Continued.

provement in the past few years. We offer a choice selection of the best new double varieties, remarkable for their large trusses and beautiful flowers. Should be in every collection.

**Common Purple** (*S. vulgaris*). The well-known sort.

**Belle de Nancy (Double)**. Very large; brilliant satiny rose, white toward center. Very fine.

**Common White** (*S. vulgaris alba*).

**Frau Dammann**. This produces the largest clusters of white Lilacs, of the common species known in cultivation, also the purest white.

**Japonica (Tree Lilac)**. A new species from Japan that makes a tree 20 to 25 feet high. Foliage large, very dark green, glossy and leathery; flowers white, in immense clusters, that stand up erect above the foliage on stout stems. It flowers about a month later than the common sorts.

**Josikæa, or Chionanthus-leaved** (*S. Josikæa*). From Transylvania. A fine distinct species of tree-like growth, with dark, shining leaves and purple flowers in June, after the other Lilacs have done.

**Madame Ludwig Spaeth**. Panicle long; individual flowers large, single, dark purplish red; distinct; superb. The finest of its color.

**Madam Abel Chateney (Double)**. Large panicle; double white. Very fine.

**President Grevy**. A beautiful blue; individual, flowers very double and very large, measuring three quarters of an inch in diameter; the panicle is magnificent and measures 11 inches in length and 5 inches across. One of the finest Lilacs.

**Senator Volland (Double)**. Flowers rosy red.

**Persian** (*S. Persica*). Medium size, with small leaves and bright purple flowers.

**White Persian** (*S. Persica alba*). A fine sort with flowers delicately tinged with rose-color.

## Privet - Ligustrum

The Privet in all its varieties deserves attention, as an ornamental plant. Almost an evergreen here, and grows freely in all soils; is compact and regular in form, and bears shearing to any extent. The flowers appear in June and July. Makes fine ornamental single specimens and one of the most desirable hedge plants; compact, free grower.

**Common** (*L. vulgare*). An English shrub with smooth, dark green leaves; showy white flowers; fruit purple. Hardy.

**California** (*L. ovalifolium*). Vigorous-growing, of fine habit; thick, glossy, nearly evergreen leaves. If cut to the ground one or two years after planting, it makes a very thick hedge right from the bottom, sending up many strong shoots. The leaves are a rich green, and will remain on the plants up till Christmas, and if they are a little sheltered they will keep green almost all winter. This is especially the case if the hedge has attained some age and has frequently been trimmed.

Tree Lilac (*Syringa Japonica*).



California Privet (*Ligustrum ovalifolium*).

Meadow Sweet. See *Spiræa*.

Mock Orange. See *Syringa Philadelphus*.

Oleaster.

Plum (*Prunus*). See under Deciduous Trees.

### Quince, Japan

*Cydonia*, or *Pyrus Japonica*

There are several flowering varieties, differing only in their color. Although of straggling growth, they can be pruned to desirable shapes without injury. Their large, brilliant blossoms appear early in the spring in great profusion; foliage bright green and glossy all through the summer. It is sufficiently thorny and strong to make a valuable hedge, and its beautiful flowers make it very handsome for that purpose.

### Snowball - *Viburnum*

**Common** (*V. sterile*). A well-known favorite shrub of large size, with globular clusters of pure white flowers in the latter part of May.

**Opulus** (High Bush Cranberry). Handsome and dense foliage; flowers white, in drooping flat cymes, followed by brilliant scarlet fruit in showy pendulous bunches, that remain on the plant all winter.

**Plicatum** (Japan Snowball). This Japanese variety of the old-fashioned Snowball is one of the most valuable of our hardy shrubs. It forms an erect, compact shrub, 6 to 8 feet high; blooms in June and for a long time is a solid mass of white. The plants are completely covered from the ground to the top of the branches, with large balls of flowers white as snow. The foliage in early summer is an olive-green, turning to very dark green later in the season.

Sweet-scented Shrub. See *Calycanthus*.

### *Spiræa* - Meadow Sweet

**Anthony Waterer**. A most beautiful variety of *Bumalda*. In habit of growth it is the same as its parent. The flowers are crimson in the bud and when first open, fading afterwards to a deep pink. It blooms about the close of June, and, if the flowers are cut off as fast as they commence to wither, there will be a continuance of them throughout the season to some extent.

**Aurea** (Gold-leaved *Spiræa*). Flowers fine, white; foliage of a beautiful golden color which gives variety to the lawn and renders it very desirable.

**Callosa alba**. A white-flowering variety, of dwarf habit; very fine. Remains in flower all summer.

**Prunifolia flore pleno** (Double-flowering Plum-leaved *Spiræa*). Very beautiful; its flowers are like white daisies. From Japan. Blossoms in May.



*Spiræa* Anthony Waterer.

## SPIRÆA—Continued.

**Thunbergii.** Profusion of small white flowers in early spring. Forms a rounded, graceful, dwarf bush; branches slender and somewhat drooping.

**Van Houttei.** Plant pendulous, yet upright, giving a most graceful appearance even when out of bloom. Flowers pure white and borne in dense clusters along the whole length of the branches, often weighing them to the ground. One of the most ornamental shrubs that we offer. Excellent as single lawn plant, or for grouping with other shrubs; also a fine hedge-plant.

### Syringa or Mock Orange Philadelphus

All the species and varieties of the *Syringa Philadelphus* have white flowers, many of them quite fragrant.

**Garland** (*P. coronarius*). A well-known shrub, with pure white, sweet-scented flowers.

**Golden-leaved** (*P. aurea*). A very pretty plant of medium size, with golden yellow foliage. It retains its color the entire season and is valuable for creating pleasing and striking

contrasts with both green and purple-leaved shrubs. **Lemoine's Erect** (*P. Lemoinei erectus*). A charming variety of upright growth; flowers small, yellowish white, fragrant, more clustered than the older sorts, completely covering the bush.

**Van Houtte's** (*P. Van Houttei*). Red. One of the best red varieties.

### Sumac, or Smoke Tree - Rhus

**Shining** (*R. copallina*). Noted for its lustrous green leaves, which are crimson in autumn, and its scarlet heads of seeds.

**Mist Shrub** (Smoke Tree; *R. cotinus*). The large panicles of purplish misty-looking flowers, borne in early June, have gained for it the name of Mist Shrub, Smoke Bush, etc. In fall the leaves change to brown, red and yellow shades.



Smoke Tree (*Rhus Cotinus*).



Japan Snowball (*Viburnum Plicatum*).

### Tamarix - Tamarisk

**African** (*T. Africana*). A very beautiful shrub, with very fine, feathery foliage somewhat like the Juniper. This sort has light pink flowers in small racemes, which appear toward the close of May or the first of June. A valuable shrub for near the seashore or in sandy soils where others do not do well. They thrive in the very spray of the salt water.

### Weigela - Diervilla

**Candida** (*D. candida*). This is the very best of all the white-flowering Weigelas. A strong, upright, erect grower; flowers pure white and produced in great profusion in June and continue to bloom during the entire summer. One of the most satisfactory shrubs.

**Rose-colored** (*D. rosea*). An elegant shrub, with fine, rose-colored leaves. Introduced from China by Mr. Fortune and considered one of the finest plants he has discovered. Quite hardy. Blossoms in May.

**Variegated-leaved** (*D. nana foliis variegatis*). Leaves bordered with yellowish white, finely marked. Flowers bright pink, and borne in great profusion.

**Van Houttei.** Flower very rich carmine, profuse bloomer.

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"Received the stock sent. I may say that they arrived here in prime condition, and are a splendid lot of trees. I am well pleased with my lot."—A. L. Radford, Comox, B. C.



Barberry Hedge (Berberis Thunbergii).

## Evergreen Shrubs

### Ashberry - Mahonia

**Holly-leaved** (*M. aquifolium*). A beautiful shrub, with smooth shining leaves, covered with bright yellow flowers in spring and a profusion of blue berries in autumn.

**Adam's Needle.** See Yucca.

### Holly - Ilex

**American** (*I. opaca*). Deep green, glossy leaves with scattered spiny teeth; bright red berries.

**Ligustrum.** See Privet.

**Mahonia.** See Ashberry.

**Privet.** See Deciduous Shrubs.

**Oregon Grape.** See American Holly.

### Yucca

#### Spanish Bayonet, or Adam's Needle

Has a fine appearance; the stem is two feet above the ground, covered with large bell-shaped flowers on laterals, forming a perfect pyramid; valuable for rock work. We list two varieties.

**Aloifolia.** Slender, simple trunk; dagger-shaped leaves 1 to 2 inches wide; very stiff; flowers white, often tinged with green or purple; panicle compact, close to leaves.

**Filamentosa.** The well-known garden variety; thread-leaved; creamy white; 2 to 4 feet. The best known and most largely planted of the Yuccas. July.

## Hedges

No other single item in decorating grounds has as much to do with the effect as hedges. Whenever and wherever you see a tastefully laid out lawn or yard or estate, you will find hedges the most important element in the landscape, and also the most valuable in the service given. Very small city lots can be made wonderfully attractive, large lawns get the setting and divisions, farms their fences and general neat appearance—all from hedges. Schools and churches, and cemeteries owe much to the way neat hedges bring out the real beauty of the buildings and walks. You can spend \$25 or \$50, or \$100 in buying and planting a hedge, that will add \$500 in cash value to your place. Trimmed low, your hedge will not cut the view off, where you want to see out, or where you want others to see in. Let grow high, it will screen off unsightly objects, and also will screen the house from the public. Here are some of the best hedge plants. For other details about them refer to the page given.

**Honey Locust.** Makes the best quick-growing protective hedge; big strong spines. See page 51.

**Barberry.** Low, spreading and showy. Orange and yellow flowers. Bright red berries all winter. See page 55.

**Spiraea Van Houttei.** Makes a very handsome ornamental hedge. Foliage small, but abundant. Flowers are white, borne in great profusion. See page 59.

**Japan Quince.** Has the finest flowers of all hedge plants. Stands much pruning. See page 58.

**Privet.** Fastest growing hedge. Strong plant foliage; almost evergreen, stands any shearing. See page 58.

**Roses.** Often used as hedges, although of somewhat irregular height and cannot be trimmed into very even or compact shapes. See pages 65 to 70.

## Hardy Climbing Vines

It seems unnecessary to speak at length of the value of the climbing plants in our gardens and pleasure grounds. They are equally ornamental on the walls and terraces of the stable, on the mansion, and on the humblest cottage, over whose roofs a mantle of rose or clematis sheds such a transforming cloud of beauty. They grace the garden walls and take from stiff and hard lines their ugliness by fresh foliage, pretty flowers and, often, pleasing fruit. Invaluable for covering trellises, walls, cottages, etc.

### Ampelopsis

**Veitchii** (Japan Ivy, or Boston Ivy). A beautiful, hardy climbing plant, of Japanese origin. Leaves a little smaller and more ivy-like than the American. This is one of the finest climbers we have for covering walls, as it clings firmly to the smoothest surface, covering it with over-lapping leaves, which form a perfect mass of foliage. Fresh deep green in summer, changing to the brightest shade of crimson and yellow in autumn. It is quite hardy. Becomes more popular every year. For covering walls, stumps, etc., no plant is more beautiful.

**Quinquefolia** (Virginia Creeper, or American Ivy).

A native vine of rapid growth, with large, luxuriant foliage, which, in the autumn, assumes the most gorgeous and magnificent coloring. The blossoms, which are inconspicuous, are succeeded by handsome dark blue berries. Like the bigonia and ivy, it throws out tendrils at the joints by which it fastens itself to anything it touches.

### Clematis - Virgin's Bower

Clematis plants of the improved sorts are exceedingly hardy, slender-branched, climbing shrubs of marvelously rapid growth and handsome foliage, which produce beautiful large flowers of various colors in great abundance, and during a long period. In the several species and varieties of it, the Clematis surpasses all other hardy climbers in its adaptation to many uses and locations. They do best in a rich soil, in a sunny situation.

**Henryi.** This is the finest of all white Clematises, and should find a place in every collection. It is not only a vigorous grower, but is a remarkably free and continuous bloomer, beginning with the earliest and holding on with the latest. Flowers large, beautiful creamy white, with reddish chocolate anthers. Art cannot produce a picture corresponding in any degree to the wealth of beauty found in the flowers of this variety. Especially desirable. June to October.

**Jackmani.** This is, perhaps, the best known of the fine perpetual Clematises, and should have credit for the great popularity now attending this family of beautiful climbers. The plant is free in its form of growth, and an abundant and successful bloomer, producing flowers until frozen up. The flowers are large, of an intense violet-purple, remarkable for its velvety richness. Introduced in 1862—since which time many new varieties have been brought forward—Jackmani has no superior, and very few, if any, equals. July to October.



Boston Ivy. (*Ampelopsis Veitchii*.)



*Clematis Jackmani*.



Japan Honeysuckle (*Lonicera Halleana*).

#### CLEMATIS—Continued.

**Madame Edouard Andre.** This is the nearest approach to a bright red Clematis, and has been called the Crimson Jackmani. The plant is a strong, vigorous grower and very free in bloom. Color a distinct crimson-red; a very pleasing shade and entirely distinct from all other varieties.

**Paniculata** (Sweet-scented Japan Clematis).

A Japanese plant possessing unusually attractive merits. A vine of very rapid growth, quickly covering trellises and arbors with handsome, clean, glossy green foliage. The flowers are of medium size, pure white, borne in immense sheets, and of a most delicious and penetrating fragrance. The flowers appear in September, at a season when very few other vines are in blossom.

#### Honeysuckle - *Lonicera*

**Chinese Twining** (*L. Japonica*, or *L. Sinensis*). A well known vine, holding its foliage nearly all winter. Blooms in July and September; very sweet.

**Hall's Japan** (*L. Halleana*). A strong, vigorous evergreen variety, with pure white flowers, changing to yellow. Very fragrant. Covered with flowers from June to November.

**Monthly Fragrant** (*L. Belgica*). Blossoms all summer; flowers red and yellow; very sweet. Rapid grower.

**Scarlet Trumpet** (*L. sempervirens*). A strong grower, and produces bright scarlet, inodorous flowers all summer.

See also Upright Honeysuckle.

#### Ivy - *Hedera*

Evergreen Ivies often suffer in winter if exposed to the sun, and should therefore be planted on the north side of a wall or building.

**American.** See *Ampelopsis*.

**English** (*H. Helix*). A well-known, old, and popular sort.

#### Jasmine - *Jasminum*

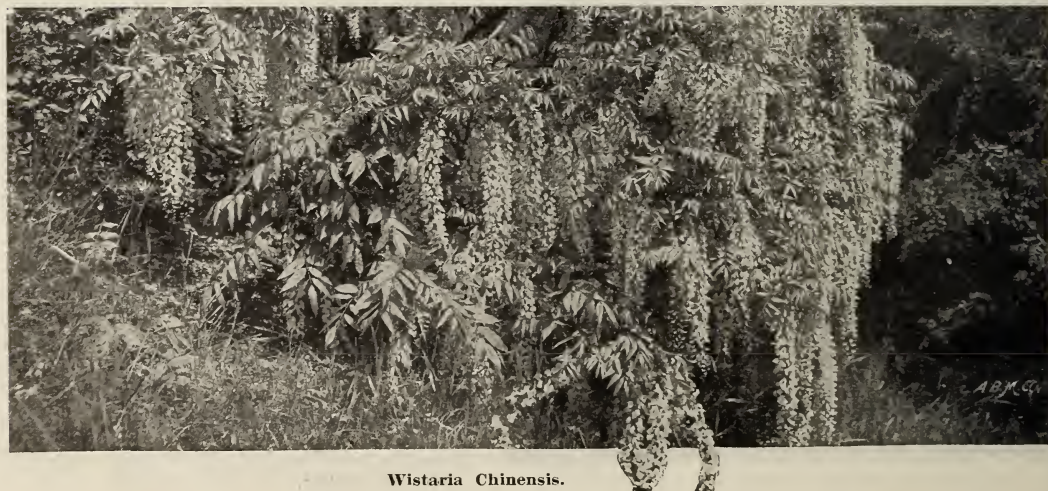
**Hardy Yellow** (*J. nudiflorum*). Bright yellow, fragrant blossoms.

**Hardy White** (*J. officinale*). Very sweet-scented and highly desirable.

#### Wistaria

**Chinese Purple** (*W. Sinensis*). A most beautiful climber of rapid growth, producing long-pendulous clusters of pale blue flowers. When well established, makes an enormous growth. It is very hardy and one of the most superb vines ever introduced.

**Chinese White** (*W. sinensis alba*). Introduced by Mr. Fortune, from China, and regarded as one of the greatest acquisitions. Rather tender.



*Wistaria Chinensis*.



A.B.M. CO.

Peonies in Border.

## Flowering Bulbs and Root Plants

### Peonies

#### Cream, White, Red, Pink and Purple

They are splendid for bold beds in the center of lawns, and on banks of water places, and will make striking masses of color if arranged right. All are easy to grow, and the later improved varieties are immensely superior to the older, "grandmother's garden" kinds.

**Herbaceous.** This splendid class contains the largest, most showy and attractive flowers in cultivation, almost rivaling the rose in color and blossom. They are of stately growth and very hardy. They increase in beauty with age and may be planted in almost any situation. We recommend fall planting. They succeed best in rich soil and will be benefited by manure during the winter, which may be lightly spaded into the soil in the spring. Many of them are very double and have a delicate and refreshing fragrance. Foliage rich, glossy, deep green color.

**Moutan (Tree Peony).** Handsome flowering shrub, attaining a height of 4 to 6 feet with proper care. The flowers are remarkably striking, of gorgeous colors and enormous in size, often 6 to 8 inches across. Very effective amongst shrubs or in borders.

### Canna

**Indian Shot Plant.** Stately and highly ornamental plants, for both flowers and foliage. They attain a height of 2 to 5 feet and may be grown singly or in masses. Leaves green or brownish red; flowers scarlet crimson, yellow, cream, etc., variously marked.

### Crocus

A universal favorite and one of the earliest garden ornaments. Should be planted about 2 inches deep. Colors blue, white, yellow and striped.

### Dahlias. White, Red and Pink

Few things will give more show of flowers than Dahlias. We offer dry bulbs or tubers. Especially fine for borders. Large assortment of colors.

### Gladioli

The Gladiolus is the most attractive of all the summer-flowering bulbs and deserves a place in every garden, as it is sure to flower and do well with very little care. Set the bulbs from 6 to 9 inches apart and about 4 inches deep. Plant from middle of March to first of June. It is a good way to plant two or three different times, ten days or two weeks apart. This will give a succession of blossoms from July to November.

### Hyacinths

The most beautiful and fragrant of early spring-flowering bulbs, much used for winter forcing. Large assortment of colors and varieties.

### Iris

**Germanica (German Iris).** The true "Fleur de Lis," the national flower of France. They are perfectly hardy, thrive anywhere, grow and blossom luxuriantly, particularly if plentifully supplied with water or if planted in moist situations, as on banks of ponds, etc. Plants well established produce from 50 to 100 spikes of bloom, deliciously fragrant and fine for cutting. In beauty, the flowers rival the finest orchids,

## IRIS—Continued.

colors ranging through richest yellows, intense purples, delicate blues, soft mauves, beautiful claret-reds, white, primrose and bronzes of every imaginable shade.

**Kaempferi** (Japan Iris). Finest of all the Iris family. The flowers are of immense size, from 6 to 8 inches in diameter, and of the most beautiful and delicate shades. They are perfectly hardy, and flower in great profusion during June and July. A well established plant gives a dozen or more flower stalks 2 to 3 feet high, each stalk producing 2 to 4 enormous blooms.

**Jonquils - Narcissi**

Pretty varieties of the Narcissus, having a very agreeable fragrance; adapted to either pots or outdoor culture. The bulbs are small, and six or eight may be put in a 6-inch pot.

**Lily-of-the-Valley - Convallaria majalis**

The Lily-of-the-Valley is as hardy as any plant can possibly be, and when planted in the open ground will increase rapidly. For the house we have what are called "pips"—young roots, with flowering stems, that will bloom in a few weeks after planting, and will flower well in baskets of damp moss, or potted. For the garden we can ship either in the spring or autumn.

**Lilies - Lilium**

No other class of plants that can be cultivated out of doors possesses so many charms; rich and varied in color, stately and handsome in habit, and of delicious fragrance. They thrive best in a dry, rich, well-drained soil, where water will not stand in winter. After planting they require very little care, and should not be disturbed for several years.

**Auratum** (Gold-banded Lily of Japan). Flowers very large, of a delicate ivory-white thickly dotted with rich chocolate-crimson spots, with a bright golden band through the center of each petal. The finest of all Lilies.

**Harrisii** (the Bermuda Easter Lily). Flowers large, trumpet-shaped, pure waxy white, gracefull yformed and delightfully fragrant. The ease with which it can be forced into flower in winter has made it wonderfully popular as a winter flower.

**Longiflorum**. A well-known beautiful variety, with snow-white trumpet-shaped flowers that are very fragrant. It is quite hardy and blossoms freely in the open ground in June and July. Is also used largely for forcing. The flowers have more substance and last longer than the Bermuda Lily.

**Tigrinum fl. pl.** Double Tiger Lily). Bright orange scarlet, with dark spots; strong, showy, hardy. Does well everywhere.

**Speciosum rubrum**. White, beautifully spotted red; flowers in August. This is one of the most useful of the Lily family, perfectly hardy, and flowering well under all circumstances.

**Speciosum album**. Very fragrant, large flowers; pure white, with a green band running through the center of each petal. One of the best.



Japan Iris.



Lilly of the Valley.

**Narcissi**

We have a choice collection of these fragrant winter-blooming plants.

**Tigridia**

One of the most showy of all summer bulbs, and blooms from midsummer until frost, growing 3 feet high, with large wide-open triangular blooms, 4 to 6 inches across. The colors and markings are very brilliant and peculiarly odd and attractive, and clumps of them in the border have a most gorgeous effect. The superb spotting is distinct and handsome. They are easily grown.

**Tuberose - Polyanthus tuberosa**

These deliciously fragrant, white, wax-like plants should be in every garden. This valley is particularly adapted to their successful culture.

**Tulips**

Owing to the late spring frosts in the colder sections, bedding plants cannot safely be planted in such localities before the early spring flowering bulbs are through blooming. Without these bulbs for one or two months of beautiful spring weather, our gardens would present a bare appearance. We know of nothing that will give a more gorgeous show during early spring than the Tulip. They thrive well in almost any soil. Should be planted in October and November.



Frau Karl Druschki.

## Roses

The Rose is the Queen of beautiful flowers and is among the easiest to raise in perfection. We have given great care and attention to its culture, and are constantly adding new varieties and dropping old ones. We try to keep up-to-date and always test them before placing them before the public, as many varieties are not worthy of general distribution.

Roses require plenty of manure and good cultivation. Old and decayed branches, and at least half the previous season's growth, should be cut away early each spring, and a little cutting back after the first blooming will insure more late flowers. Tea and Noisette Roses should be protected by covering them with evergreen boughs during the winter months, in cold sections.

If the "thrip" or fly appears, spray the plants daily with a strongly steeped solution of tobacco stems (one pound of stems to five gallons of water), or a solution of whale-oil soap (one pound of soap to eight gallons of water), until the insects are mastered. Rose bugs, which work at the flowers, must be picked off. The presence of the Rose caterpillar can be detected by its glueing two or more leaves together to form a shelter. These leaves should be promptly pressed together with the thumb and finger. Insects which eat leaves can be destroyed by applying white hellebore when the foliage is damp. The secret of success in destroying all species of insects lies in applying the appropriate remedy as soon as the insects appear.

### Hybrid Perpetual Roses

Of easy culture, adapted for garden or beds where hardy varieties are wanted. Although called perpetual, they are not so much so as the Teas, but bloom only at special times during summer and fall.

**Alfred Colomb.** Brilliant carmine-crimson; very large, full, and of fine globular form. Extremely fragrant, and in all respects fine.

**American Beauty.** Flowers very large, of beautiful form and very double; color a deep rich rose. Fragrance delightful, resembling La France or the old-fashioned Damask Rose; each shoot produces a bud.

**Burbank.** Perfectly hardy, ever-blooming Bourbon Rose. Was raised by Luther Burbank. The color is described as cherry-crimson—it is the very deepest and brightest pink Rose in cultivation. Peculiarly adapted for both outdoor planting and for blooming in pots in the house during the winter. A strong, vigorous grower, making well-rounded bushy plants. Perfectly hardy and will stand our most severe weather; the freest flowering Hybrid Perpetual Rose in cultivation. Commences to bloom when only a few inches high, and blooms throughout the season until stopped by freezing weather. Flow-

ers double, three inches across. The whole flower is most pleasing in its rich beauty, and delightful fragrance.

**Clio.** The finest flesh-colored Hybrid Perpetual. Flowers perfection in form, with fine, broad petals, and are beautiful at all stages of development, from the small bud to the full, open flower. Color delicate satin blush, with a light shading of rosy pink at the center. Very free-blooming and strong, healthy grower.

**Coquette des Alpes.** White, tinged with carmine; very fine, a very free bloomer.

**Coquette des Blanches.** Pure white, very beautiful. We think this the best of the older pure white Hybrid Perpetuals.

**Earl of Dufferin.** A strong, healthy growing sort and a splendid autumn bloomer. Flowers large, very full and finely formed. Color deep velvety crimson, shaded with maroon.

**Frau Karl Druschki.** Has been well named White American Beauty. A wonderful Rose, such as our people have long been waiting for—fine, large, free-flowering, hardy, white. Extraordinarily strong growing, branching freely, has the vigor and hardness of an oak. Foliage large, of heavy texture, but the glory is in its flowers, which are immense and produced with



Mrs. John Laing.

#### HYBRID PERPETUAL ROSES—Continued.

great freedom during the whole season—hundreds of magnificent blooms, full, very deep and double and of splendid substance; petals broad, long and saucer-shaped. Buds egg-shaped, long and pointed. Pure, snow-white, without a tinge of yellow, pink, or any other color. This great Rose has won more prizes in Europe than any other variety sent out in years.

**General Jacqueminot.** Brilliant velvety crimson; large, showy and a fine grower; a magnificent variety. This is probably the most popular of all hybrid perpetuals.

**General Washington.** Scarlet-crimson; very large and fine; not quite so vigorous as General Jacqueminot.

**Harrison's Yellow.** Golden yellow; medium size, semi-double. A freer bloomer than Persian.

**Helen Mills.** Flowers glorious in form, perfectly moulded, with large, heavy petals of splendid substance, forming a long, pointed bud, while the open flower is large, full, and well filled. Fragrance delicious beyond description. Exquisite shade of pink, daintily and peculiarly clouded with lighter shades. Wonderfully liberal in the number of flowers it bears all summer.

**Louis Van Houtte.** Bright rose-carmine; full; very large; fine globular form; deliciously perfumed.

**Mabel Morrison.** Pure white petals, thick and waxy, a hybrid of Baroness Rothschild; habit good.

**Magna Charta.** A general favorite, prized on account of its strong, upright growth and bright, healthy foliage, as well as for its magnificent bloom. They are a beautiful bright pink, suffused with carmine.

**Marchioness of Londonderry.** A new white Hybrid Perpetual, of great size, measuring 7 inches across, perfectly formed, and carried on stout stems. Color ivory-white; petals of great substance, shell-shaped and reflexed; free-flowering, highly perfumed; growth vigorous, and foliage very handsome. One of the finest Roses. Awarded the gold medal of the National Rose Society of England. We have had this variety in flower for several seasons. Requires some protection in winter in cold climates.

**Margaret Dickson.** Of magnificent form; white, with pale flesh center; petal very large, shell-shaped and of great substance; fragrant; a very promising variety; foliage very large; dark green.

**Marshall P. Wilder.** Color bright cherry-carmine; fragrant; of good growth, with fine foliage. One of the freest of the Hybrid Perpetuals to bloom. We can recommend this rose without hesitation.

**Mrs. John Laing.** New. As a bedding Rose this is undoubtedly one of the best varieties yet introduced. Hardly ever out of bloom all summer. Color a beautiful shade of delicate pink; of large size; very fragrant. It is also a good forcer from January onward.

**Paul Neyron.** Deep rose color; splendid foliage and habit, with large flower.

**Persian Yellow.** Bright yellow; small, nearly full. It is desirable to grow more than one plant, and by pruning one this year in the usual way, and the other plant the next year, annual crops of flowers may be had.

**Prince Camille de Rohan.** One of the darkest Roses; velvety crimson, changing to intense maroon. There is no Rose in all this collection that attracts more favorable comment than this. A very prolific bloomer, and the flowers are of excellent form and size.

**Richmond.** Wonderfully free-blooming. Immense, fragrant, scarlet-crimson flowers, on long, stiff stems. A rival of American Beauty, and even more dazzling in appearance. Perfectly hardy, and keeps up a continuous succession of bloom all summer.

**Soleil d'Or.** Hardy yellow Rose. The goal for which many of the world's greatest Rose hybridizers have been striving has at last been reached, and we have a double-flowered yellow Rose, hardy enough to withstand the winters of our northern states. Has blossomed all summer on the coast. Soleil d'Or is the result of a cross between Persian Yellow and Antoine Ducher, retaining many characteristics of Persian Yellow, the bark being much the same and foliage resembling that of its parent, but producing more plentifully. Branching and more vigorous. Flower perfection in form, with conical buds, expanding into a large and full globular flower, with incurved inner petals. Buds are a marvelous shade of rich chrome-yellow, with just a tinting of coppery rose in the center.

## HYBRID PERPETUAL ROSES—Continued.

Fully expanded flowers are beautiful in blendings of orange-yellow, reddish gold and nasturtium-red, forming a coloring impossible to satisfactorily describe. This grand seedling has been shown at all the large Rose exhibitions in Europe and has received the highest awards possible to grant, at every display.

**Hardy Climbing Roses**

**Baby Rambler.** A dwarf perpetual Crimson Rambler. Everblooming from June until late frosts. One hundred and twenty individual flowers have been counted on a single panicle. Originated at Orleans, France, and is a hybrid produced by the crossing of Crimson Rambler and Gloire des Polyanthus. It preserves the prolific flowering quality of the latter, but is clear brilliant ruby-rose.

The foliage is of a fine dark green and is never attacked by insects or fungus. It blooms in clusters and very continuously. The period of blooming is not interrupted until after severe frosts. Cluster formation is similar to that of the Crimson Rambler, more particularly because the bush is covered with flowers the whole summer. Especially valuable for culture in pots. During the most severe winter experienced in many years, the plants stood outside without any protection whatever, and spring found the bushes alive to the tips of their branches. We have no hesitation in saying that the bushes of Dwarf Perpetual Crimson Rambler are perfectly hardy. The plants grow 24 to 30 inches high.

**Baltimore Belle.** Pale blush, nearly white; double. The best white climbing Rose.

**Crimson Rambler.** Introduced from Japan, the land of wonders. During nearly the entire summer it has a mass of rich, glowing crimson. Perfectly hardy; wonderfully free-flowering; intensely bright and vivid in color. Plant is a strong, robust grower, making shoots 10 to 12 feet long in a season when well established. The flowers are produced in long trusses and panicles, often measuring 8 or 9 inches long and 6 or 8 inches across, pyramidal in shape, often 35 to 40 in a cluster, fairly covering the plant from the ground to the top. The color is simply superb, and is retained unfaded or without showing any of the purplish tinge so often seen in dark Roses, for an unusual length of time. For walls, pillars and porches, or any other place where a hardy climbing Rose is wanted, nothing can be more desirable or beautiful. If grown in beds and pegged down it makes a brilliant display with its profusion of bloom, large clusters shooting out from each joint. As many as 300 blooms have been counted on a single branch.

**Dorothy Perkins.** New. This is a splendid new, shell-pink climbing Rose. It attracted much attention at the Pan-American Exposition, where a bed of fourteen-months-old plants produced a show of bloom unequalled by any other variety, unless it was the famous Crimson Rambler. This new Rose is of the same strong habit of growth as Crimson Rambler, and the flowers are borne in clusters of 30 or 40 and sometimes even 50 to 60. The flowers are large for a Rose of this class, very double, sweet-scented and of a beautiful shell-pink. Absolutely hardy. Mr. Wm. Scott, the assistant superintendent of horticulture at the Pan-American, says regarding Dorothy Perkins: "This has exactly the habit of the well-known Crimson Rambler. It has flowered splendidly and been very brilliant. I believe it to be a good forcing Rose."

**Empress of China.** A very hardy, free-flowering climbing Rose, of good size, blooming in clusters; bright pink flowers; very attractive. It is practically ever-blooming, for on good-sized plants, when well-established in the ground, flowers may be expected the whole season.

**Rubin.** New. Resembles Crimson Rambler, but has larger flowers of a deep red or ruby color. Very attractive.

**The Blue Rose** (Veilchenblau, or Violet-Blue.) The easiest way to describe it is to say that it is a Blue Crimson Rambler, bearing immense trusses of semi-double flowers, all the way from 20 to 100 in a cluster. But instead of the gorgeous crimson flowers we all know so well, has similar clusters of exquisitely beautiful cornflower-blue Roses. Foliage large, healthy, a beautiful shade of green and immune from attacks of insects. Wonderfully strong in growth.

**White Rambler (Thalia).** A worthy companion for the Crimson Rambler. In habit of growth, foliage, manner of blooming and shape of flower, identical with crimson Rambler, differing only in color, which in Thalia is pure.



Dorothy Perkins.



Moss Rose.

**HARDY CLIMBING ROSES**—Continued.

clear white. Flowers quite fragrant and last for a long time after cutting.

**Yellow Rambler (Aglaia).** The only yellow hardy climbing Rose. It has been thoroughly tested and found to successfully withstand, without protection, a continued temperature of zero and below. It is similar to Crimson Rambler in manner of blooming. Flowers are in immense clusters and have the same lasting qualities, remaining in bloom three to four weeks. The plant is even freer in growth than Crimson Rambler and soon makes a fine, showy specimen.

**Moss Roses**

Strong, vigorous growers, much admired for moss-covered buds; hardy. Most varieties bloom but once in a season, but remain for a long time and are very handsome. The petals are thick and velvety and exceedingly beautiful before fully blown in the flower. Fragrant.

**Glory of Mosses.** A moderate grower. Flowers very large, appearing to best advantage when full; color pale rose.

**Perpetual White.** Pure white. Few flowers.

**White Bath.** White, sometimes tinged with flesh; attractive in bud and open flower. The best white Moss Rose. Budded plants.

**Hybrid Tea Roses**

A most beautiful class of half-hardy Roses, combining to some extent the hardiness of the Hybrid Perpetual with the free-blooming qualities and bright

colors of the Teas and Noisettes. Hybrid Noisettes should be in every collection, as they are among the best ever-blooming varieties.

**Charles Dingee.** Blooms continuously, producing immense, deep, double, grandly formed flowers on long, stiff stems. Beauty nothing short of superb. Delicate blending of rose tints in the center, which gradually shades off into pale blush and creamy white. Perfectly hardy in all localities. Sure to become one of the most popular Roses of our day, because it is so beautiful for winter culture indoors, in pots or boxes, it cannot be surpassed. It is never out of bloom.

**Killarney.** The famous Irish Rose. This queen of the Irish Roses excels any other of its class. Bush strong and upright, with beautiful deep, bronzy-green foliage. Free-blooming, bears immense, long, pointed buds and massive flowers on big, heavy shoots. Deep brilliant and sparkling shell-pink, of the most exquisite shade. Unusually hardy and without protection has stood severe winters as far north as Boston.

**La France.** Delicate silvery rose; very large and full; an almost constant bloomer, equal in delicacy to a Tea Rose; has most pleasing fragrance of all Roses. Only a moderate grower.

**Madame Caroline Testout.** Clear pink; flower is as large as Baroness Rothschild and as free as La France. A sensation in the cut-flower market when brought in in good shape, and commands such prices that it is a most profitable Rose to grow for that purpose.

**Meteor.** Dark crimson, perpetual-blooming, ranks as one of the best of its class. Especially valuable for summer and fall, blooming either in the greenhouse or in open ground, and where fine Roses are wanted in summer, this variety will become a great favorite.

**Rhea Reid.** For an all-round garden and outdoor culture this remarkable new bush Rose has few equals. Vivid scarlet-crimson, and the



General Jacqueminot (See page 66).

## HYBRID TEA ROSES—Continued.

flowers are marvels of beauty—large, bold, and of splendid substance, borne in the greatest profusion during the entire season.

**Mrs. Charles Dingee.** Has every quality that belongs to an absolutely first-class Rose—a vigorous constitution that is well nigh perfect; grows in almost any ordinary soil or situation, forms a beautiful, compact bush; has splendid foliage; bears its immense, full, deep, double flowers on stiff stems with the utmost profusion. Pure golden yellow, form of the flower is magnificent.

**White La France** (Augustine Guinoisseau). This beautiful variety, with flowers of pure white, shading to a center of light rose, is a great favorite on account of its great freedom of bloom, fragrance and large flowers. A vigorous grower, producing a great number of buds and flowers; excellent for planting in cemeteries.

## General Collection of Tea, Noisette and Ever-Blooming Roses

Tea Roses are among the most important on account of free blooming, fragrance, delicate colors and fine form. The most popular sort where they can be grown. Not very hardy and require care and attention. Noisette, mostly vigorous climbers; bright green foliage; delicately tinted flowers which have a tendency to grow in clusters.

**Bride.** An ever-blooming pure white Tea, of large size and most perfect form. Buds are pointed and the ends of the petals are slightly curved back. Very free-blooming and has the most delicious tea fragrance.



Madam Caroline Testout.

**Bridesmaid.** On account of its exquisite shape, large, solid, firm buds, with long, stiff stems, one of the best cut-flower varieties. At all seasons is a clear, delicate pink, in all respects a counterpart of *Mermet*, except that it retains this clear color. Large, handsome, pointed buds on long, stiff stems.

**Franz Deegan** (New Forcing Rose). A seedling from *Kaiserin*. Beautiful yellow; a fine grower, having dark leathery foliage and the good habit of throwing up numerous heavy canes, each one crowned by a glorious flower of large size. Composed of large petals; the outer ones are of about the color of *Perle des Jardins*, the inner ones a good orange shade, very rich and deep. Constant bloomer, opening its buds freely. Strong, healthy grower, not subject to mildew.

**Gruss an Teplitz.** As a bedding Rose, one of the finest and most useful varieties ever sent out. Brightest scarlet, shading to deep, rich, velvety crimson. Very fragrant, the freest grower and most profuse bloomer of any ever-bloomer. The mass of color is wonderful. It is a perfect sheet of richest crimson scarlet all summer. Foliage is extremely beautiful, all the younger growth a bronzy plum color. A queen among scarlet bedders.

**Helen Gould, or Balduin.** Has proved so satisfactory with us that we have planted it largely. Probably the most beautiful and satisfactory Rose for general planting ever



Killarney.

## TEA ROSES—Continued.

introduced in America. Has proved itself to be the strong-growing, free-blooming, large-flowering and hardy. Better for general planting than American Beauty. Flowers full and perfectly double, the buds beautifully made, long and pointed; warm, rosy crimson, like the color of a ripe red watermelon. It is as hardy as La France, and one of the best, if not the very best Roses for winter blooming.

**Hermosa (Bengal).** Always in bloom and always beautiful. The flower is cupped, finely formed and full; color the most pleasing shade of pink; fragrant. A favorite with every one.

**Kaiserin Augusta Victoria.** Beautiful, with elegant, large, pointed buds and very large, full, double flowers. Delicate creamy white, deliciously fragrant. Plant a strong, healthy grower and constant bloomer. Flowers on strong, stiff stems, with rich, glossy foliage, making it one of the finest Roses for any use to which cut flowers can be put.

**Mad. Hoste.** Ivory-white, changing during the heat of midsummer to canary-yellow, with amber center; strong, healthy grower and very free bloomer. Flowers and buds large and can always be cut with long stems. Highly prized for cut flowers. Superb buds and long stems. One of the finest for bedding out or for forcing for winter flowers.

**Maman Cochet.** Buds long and shapely, borne on long, stiff stems. Of the largest size. Flower is built up or rounded, and very double. Deep rose-pink, the inner sides of the petals a silver rose, shaded and touched with golden yellow. We pronounce this the finest Rose by far that has been introduced from France in the past five years.

**Maman Cochet White, or Priscilla.** Habit exceedingly strong and upright; large, beautiful, healthy foliage; most profuse and constant bloomer. Flowers of enormous size, remarkably round and full, pure, clear, snowy white throughout, and delightfully tea-scented. A fine and most reliable white bedding Rose. Any one can have the very finest Roses for cutting all summer and autumn by planting a few bushes of it.

**Papa Gontier.** A grand red Tea of fine, crimson shade and silken texture (as distinct from velvety texture). The bud is of good size and graceful form, on good length stem, desirable for cut-flowers.

**Safrano.** Bright apricot-yellow, changing to orange and fawn, sometimes tinted with rose; valued highly for its beautiful buds; fragrant.

**Sunset.** Flowers large, fine, full and very double and deliciously perfumed. A remarkable shade of rich golden amber, elegantly tinged and shaded with deep ruddy copper.

## Climbing Tea and Noisette Roses

**Gloire de Dijon.** A combination of salmon, orange and buff; large and of globular form. Hardy.

**Kaiserin (Climbing).** See Mrs. Robert Peary.

**Marechal Niel.** Beautiful deep yellow; large full and globular. Very sweet.

**Meteor.** (Climbing). This Rose has gained a world-wide reputation as the finest crimson ever-blooming climbing Rose. Rich, velvety crimson, much like the forcing Rose, Meteor, of

which it is a sport. Extremely strong-growing, making shoots 12 to 15 feet long in a single season under favorable circumstances. South of the Ohio river it is perfectly hardy, while in the extreme North it can be laid on the ground and covered with leaves or straw.

**Mrs. Robert Peary (Climbing Kaiserin Augusta Victoria).** Beautiful creamy white flowers and splendidly shaped buds; has remarkably strong climbing habit of growth, sending up shoots 10 to 12 feet high.

**Reve d'Or.** Splendid robust climber, with the very best of foliage. A good plant will soon go to the top of a two-story house and cover space proportionately large the other way. Such a plant in full bloom, with its graceful flowers of delicate coloring, is a charming sight. Color apricot-yellow, with orange and fawn tints; petals of superb and delicate texture; flowers moderately full, always pretty and graceful, whether in bud or fully open; very profuse bloomer.

**Wm. Allen Richardson.** Orange-yellow, copper yellow at center. Very rich.

## Tree Roses

Tree Roses are grafted on hardy Rose stalks 4 to 5 feet high, are tree-shaped and when in full bloom are objects of beauty, making handsome plants for the lawn or rose border. In this shape we offer only the Hybrid Perpetual or hardy class. We have them in white, the different shades of pink, red and crimson. Different varieties of Hybrid Perpetuals as they are listed in the beginning of Rose section. The only difference is in the form of growth.



Crimson Rambler.



An Artistic Rose Garden.

## Index of Roses

HP, Hybrid Perpetual or Hybrid Remontant. HT, Hybrid Tea and Hybrid China. T, Tea. N, Noisette. CL, Climbing.

Aglaia (Yellow Rambler).....Cl	68	Mabel Morrison. White.....HP	66
Alfred Colomb. Carmine-crimson....HP	65	Mad. Caroline Testout. Pink.....HT	68
American Beauty. Red.....HP	65	Mad. Hoste. White.....T	70
Baby Rambler. Crimson.....Cl	67	Magna Charta. Pink.....HT	66
Balduin (Helen Gould). Red.....HT	69	Maman Cochet. Pink.....T	70
Baltimore Belle. White.....Cl. Prairie	67	Maman Cochet (Priscilla). White.....T	70
Bride. White.....T	69	Marchioness of Londonderry. White....HP	66
Bridesmaid. Pink.....T	69	Marechal Niel. Yellow.....Cl. N	70
Burbank. Pink.....Bourbon	65	Margaret Dickson.....HP	66
Charles Dingee. Pink.....HT	68	Marshall P. Wilder. Red.....HP	66
Cl. Kaiserin Augusta Victoria. White..HT	70	Meteor. Dark red.....HT	68
Climbing Meteor. Red.....HT	70	Meteor. Dark red.....Cl. HT	70
Clio. Flesh-pink.....HP	65	Mrs. Charles Dingee. Yellow.....HT	69
Coquette des Alpes. White.....HP	65	Mrs. John Laing. Pink.....HP	66
Coquette des Blanches. White.....HP	65	Mrs. Robt. Peary (Climbing Kaiserin	
Crimson Rambler.....Cl	67	Augusta Victoria). White.....HT	70
Dorothy Perkins. Pink.....Cl	67	Papa Gontier. Red.....T	70
Earl of Dufferin. Crimson.....HP	65	Paul Neyron. Red.....HP	66
Empress of China. Pink.....Cl. HP	67	Perpetual White Moss.....Moss	68
Franz Deegan. Yellow.....HT	69	Persian Yellow.....Austrian	66
Frau Karl Druschki. White.....HP	65	Prince Camille de Rohan. Dark red...HP	66
Gen. Jacqueminot. Red.....HP	66	Reve d'Or. Yellow.....Cl	70
Gen. Washington. Red.....HP	66	Rhea Reid. Crimson.....HT	68
Gloire de Dijon. Salmon-orange...Cl. HT	70	Richmond. Crimson.....HP	66
Glory of Mosses. Pink.....Moss	68	Rubin. Red.....Cl	67
Gruss an Teplitz. Red.....HT	69	Safrano. Apricot-yellow.....T	70
Harrison's Yellow.....Austrian	66	Soleil d'Or. Yellow.....HP	66
Helen Gould (Balduin). Red.....HT	69	Sunset. Yellow.....T	70
Helen Mills. Pink.....HP	66	The Blue Rose. Blue.....Cl	67
Hermosa. Pink.....Bourbon	70	Tree Roses.....	70
Kaiserin Augusta Victoria. White....HT	70	White Bath.....Moss	68
Kaiserin Augusta Victoria. White..Cl. HT	70	White La France (Aug. Guinoisseau)...HT	69
Killarney. Pink.....HT	68	White Rambler.....Cl	67
La France. Pink.....HT	68	Wm. Allen Richardson. Coppery yel...Cl. N	70
Louis Van Houtte. Rose-carmine....HP	66	Yellow Rambler.....Cl	68

## Shasta Daisies (*Chrysanthemum leucanthemum hybridum*)



Shasta Daisies.

Originated by Luther Burbank, from whom we secured our supply. A marvelous combination of size, grace, abundance and general effectiveness of flowers, which are borne on long, clean, strong stems. Snowy white or cream colored, 4 to 5 inches across.

**Alaska. (New.)** The whole plant, roots, stems, leaves, buds and flowers, are gigantic, but compact and graceful in every respect.

Marvelous combination of size, grace, glistening whiteness, abundance and general effectiveness of the flowers, which are borne on long, clean, strong stems. Excellent for cutting for bouquets.

Under the ordinary field cultivation given *Chrysanthemums*, the flowers average  $4\frac{1}{2}$  to 5 inches across on stems 2 or 3 feet long, with thirty-eight to forty-two petals and a very small disc. With proper disbudding produces perpetually, though more abundantly at the usual blooming season.

**California. (New.)** Another giant in growth, and in most respects similar to Alaska, but the buds and half-opened flowers are of a most pleasing clear, pale lemon-yellow, with two rows of petals. When a day or two old these gradually change to pure white. The combination is exceedingly pleasing. The flowers average 4 to 5 inches across, and with ordinary care, are produced perpetually. The common varieties of *Chrysanthemum maximum* are as weeds when compared with these.

**Westralia. (New.)** This is distinguished by its branching habit, which is a strong characteristic in one of the parents of the whole Shasta Daisy family—the Japanese Field Daisy (*Chrysanthemum leucanthemum Nipponicum*).

Well-grown plants are 3 to 4 feet high and nearly as much through; buds and newly opened flowers are of a pleasing cream-color, semi-double, 3 to 4 inches across, and are produced on fairly long stems in bewildering profusion.



Bulletin No. 43

# Spraying Calendar

January 1, 1912

Washington Experiment Station, Pullman Washington,

A. L. MELANDER, Entomologist

R. KENT BEATTIE, Botanist

This applies broadly to all parts of the Northwest.

There is no spraying that will cure everything. Use the ones that fit your case. For information about insect pests, plant diseases and spraying, write to the Botanist or Entomologist of the Experiment Station, Pullman, Washington.

When to Spray	What to Use	What to Spray For	Notes
<b>FALL</b> Just after the leaves fall. Especially for Western Washington.	Sulphur-lime 3 degrees Beaume.	Apple cankers.  Scale insects. Eggs of green aphid and red spider. Pear leaf blister bite. Woolly aphid. Eggs of tent caterpillar. Moss and lichens. Rabbits and field mice.	This spraying may be preceded by a spraying of bordeaux as soon as crop is picked; for canker only.  Write for bulletin on sulphur-lime spraying.
<b>WINTER</b> While buds are swelling. Usual spraying where there is no canker.	Sulphur-lime 3 degrees Beaume.	Bud moth; twig borer; peach-leaf curl.  Scale insects. Egg of green aphid and red spider. Pear leaf blister mite. Woolly aphid. Rabbits and field mice Mildew.	Too early spraying will miss these.  Write for bulletin on sulphur-lime spraying.
<b>SPRING</b> (1) When flower buds are ready to open. (2) While last blossoms are falling.	Sulphur-lime  Lead arsenate, 1 lb. to 50 gal.	Apple scab. New York apple canker. Prune brown rot or fruit mold.  Codling moth.	Spray when central flower of cluster is about to open.  Use a bordeaux nozzle with a crook and spray with force from a raised platform, directly into every flower. Repeat immediately. If so applied, these sprayings are sufficient. Keep a few trees banded. If many worms are trapped, spray. Write for codling moth bulletin.
	Sulphur-lime 1.5 deg. Beaume.	Bud moth; twig borer. Caterpillars. Apple scab. New York apple canker.	Not advisable to mix with arsenate of lead. Omit if there is little scab.
<b>SUMMER</b> When pest appears.	Tobacco (or kerosene emulsion).  Lead arsenate  Sulphur-lime 1.5 degrees Beaume.  As a strong wash. Bordeaux	Aphis (cherry aphid, etc.) Woolly aphid on branches. Red spider.  Oyster shell bark louse. Leaf hopper. Pear and cherry slug.  Caterpillars. Colorado potato beetle. Fruit spot (Baldwin spot; punk rot). Mildew. Red spider; young of oyster shell louse. Trunk borer; flat-head borer. Flea beetles. Cutworms. Grasshoppers. Potato blight.	About June 15 for newly hatched young. Spray early before they acquire wings. Use 1 lb. to 75 gallons. Or dust with lime, ashes or road dust.  Use 1 lb. to 40 gallons.  Early in July. (Treatment in experimental stage).  Keep trunk coated all summer, best to add excess lime. As a repellent.  July 1-15; repeat in two weeks. If much blight near by, give third application two or three weeks later.
Pests controlled by other remedies than spraying.		Pear blight (fire-blight of pear and apple).  Western tomato blight.  Potato scab.	Prune out every sign of blight, cutting well below the disease. Swab every cut with corrosive sublimate (1 to 1000 of water). Clean the tool often with carbolic acid or you will spread the blight with each cut.  Set out strong plants close together, or plant the seed thickly in the rows. Give best of care, shade and plenty of water. You will probably lessen the blight.  Soak seed for two hours in formalin, 1 lb. to 30 gals. water, then cut and plant. Do not plant in soil where scabby potatoes were grown.
(Pests controlled by other remedies than spraying continued on next page.)			

**SPRAY CALENDAR—Continued.**

	What to Spray For	Notes
Pests controlled by other remedies than spraying.	Smut of wheat and oats.	Spray the seed thoroughly with formalin, 1 lb. to 45 gallons water. Cover and let lie in a pile two hours. Dry and plant with a clean seeder.
	Root maggot of radish, turnip, cabbage, etc.	Spray soil with carbolated lime before maggots appear. Repeat often. Cultivate well after crop is removed. Place a three-inch tarred paper collar on young cabbage plants.
	Cabbage worms.	Paris green 1 part, bran 40 parts. Mix well. Dust the plants before worms eat in.
	Climbing cutworms. Garden cutworms.	Paris green 1 part, bran 40 parts. Make a mash by adding water. Season with a little molasses, stale beer, or salt. Scatter by spoonfuls before planting or among plants.
	Woolly aphid on roots.	Expose the roots as much as practicable and spray with tobacco, kerosene emulsion or sulphur-lime. Root treatment is not completely reliable.
Fumigation for insects.	For nursery stock, use 1 oz. cyanide to 100 cu. ft. For grafts and scions, use two-thirds oz. cyanide to 100 cu. ft.	To every ounce of pure potassium cyanide (poison) add 1½ liquid ounces sulphuric acid diluted with 2½ ounces water. The gas generated is extremely poisonous. Fumigate 30 to 45 minutes.

**How to Spray**

Spray thoroughly. Direct your attention to the hardest places to reach. Cover every surface. Wet behind the buds. Reach the bottom of every crack. Fill the lower calyx cup. Do not try to economize on spray. For all orchard spraying use a high-pressure pump (at least 200 lbs.) Use bordeaux nozzles only. Use an 8-foot spray rod. Have a crook to set the nozzles at an angle of forty-five degrees. Spray from a tower if the trees are beyond your reach.

**Sulphur-Lime**

Sulphur ..... 1 pound  
 Water ..... ½ gallon  
 Fresh stone lime..... ½ pound

Slake the lime in the cooker. Add the sulphur and the water. Boil briskly till the sulphur is dissolved (about 45 minutes), stirring continuously and keeping the cooker covered. As it boils down keep adding water. When finished let settle. Use only the clear liquid, which may be stored if kept from the air. Prepared in this way sulphur-lime should have a hydrometer reading of about 26 degrees, a little weaker than the factory-made product.

For use, any concentrated sulphur-lime may be diluted according to the following table:

Hydrometer Test of Concentrate		To make Dilute Spray	
Beaume degrees	Specific gravity	Beaume, 3° Sp. gr. 1.02 1 lb. sulphur in 5 gals.	Beaume, 1.5° Sp. gr. 1.01 1 lb. sulphur in 10 gals.
34	1.302	1-14 water	1-28
32	1.279	13	24
30	1.259	12	24
28	1.236	11	22
26	1.215	10	20
24	1.196	9	18
20	1.158	7	14
16	1.122	6	11

**Carbolated Lime**

Lime .....10 pounds  
 Water .....50 gallons  
 Carbolic acid.....1 pint or more

Slake the lime with a little water, add the rest of the water and the carbolic acid.

**Arsenate of Lead**

Arsenate of lead (poison).....1 pound  
 Water .....50 gallons

For newly hatched insects it is not necessary to use it stronger. Mix well first with a small amount of water. Powdered arsenate of lead is about twice as strong as the paste. Do not use arsenate that settles quickly.

**Bordeaux**

Bluestone .....6 pounds  
 Good lime .....4 pounds  
 Water .....50 gallons

Dissolve the bluestone by suspending it in a sack in 25 gallons of water in a barrel. Slake the lime in another vessel, adding a little water slowly, and dilute to 25 gallons. Mix the two thoroughly. Even the best of bordeaux may scorch in rainy weather.

For double strength bordeaux use twice as much bluestone and lime.

**Kerosene Emulsion**

Kerosene .....2 gallons  
 Whale-oil soap ..... ½ pound  
 Water .....1 gallon

Dissolve the soap in the water by boiling, and add the suds boiling hot to the kerosene, away from the fire. The mixture is then to be agitated violently, preferably by pumping it back on itself with a force pump. After four or five minutes the mixture suddenly becomes creamy in consistence. If well made, the cream will stand for a long time without free oil rising to the surface. Unless otherwise stated, use 1 gallon of the emulsion to 12 gallons of water in spraying. One quart soft-soap or 1 pound laundry soap may be used instead of the whale-oil soap.



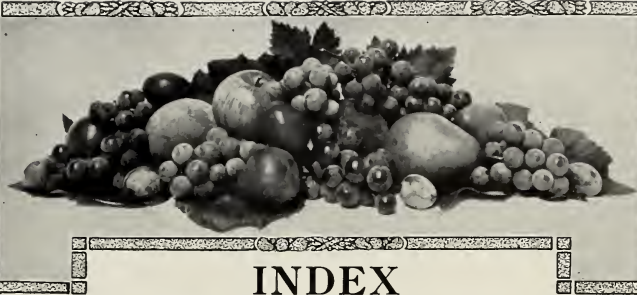












## INDEX

Acacia .....	51	Fraxinus .....	49	Poplar .....	53
Acer .....	52	Fringe Tree .....	51	Populus .....	53
Adam's Needle .....	60	Ginkgo .....	53	Privet .....	57
Aesculus .....	51	Gladioli .....	63	Prunes .....	25-26
Ailanthus .....	49	Gleditschia .....	51	Prunus .....	53, 55
Alder .....	49	Golden Bell .....	56	Pyrus .....	50, 52, 58
Allspice .....	55	Gooseberries .....	42	Quercus .....	52
Almond, Flowering .....	55	Grapes .....	32-35	Quince, Japan .....	58
Almonds .....	44	Gymnocladus .....	51	Quinces .....	31
Alnus .....	49	Hedera .....	62	Raspberries .....	36, 37
Althaea .....	55	Hedges .....	60	Red Bud .....	51
Ampelopsis .....	61	Hercules' Club .....	49	Rhubarb .....	46
Angelica Tree .....	49	Hibiscus .....	55	Rhus .....	51, 59
Apples .....	9-17	Hickory Nuts .....	45	Ribes .....	55
Apricots .....	30	Holly .....	60	Robinia .....	51
Aralia .....	49	Honey Locust .....	51	Roses .....	65-70
Ash .....	49	Honeysuckle .....	62	Roses, Climbing Tea and	
Ashberry .....	60	Honeysuckle Upright .....	56	Noisette .....	70
Asparagus .....	46	Horse-Chestnut .....	51	Roses, Hardy Climbing .....	67
Barberry .....	55	Hyacinths .....	63	Roses, Hardy Perpetual .....	65
Beech .....	49	Hydrangea .....	56	Roses, Hybrid Tea .....	68
Beech, Weeping .....	54	Ilex .....	60	Roses, Tea, Noisette, and	
Berberis .....	55	Iris .....	63	Everblooming .....	69
Betula .....	50, 54	Ivy .....	62	Roses, Tree .....	70
Birch .....	50	Jasmine .....	62	Roses, Moss .....	68
Birch, Weeping .....	54	Jasminum .....	62	Roses, Index .....	71
Blackberries .....	38-39	Jonquils .....	64	Salisburia .....	53
Blackberry-Raspberry .....	40	Judas Tree .....	51	Salix .....	54
Bulbs and Root Plants .....	63-64	Kentucky Coffee Tree .....	51	Sambucus .....	56
Calycanthus .....	55	Ligustrum .....	57	Shrubs .....	55-60
Canna .....	63	Lilac .....	56	Smoke Tree .....	59
Catalpa .....	50	Lily-of-the-Valley .....	64	Snowball .....	58
Cercis .....	51	Lilies .....	64	Sorbus .....	54
Cherries .....	20-21	Lilium .....	64	Spanish Bayonet .....	60
Chestnuts .....	44	Linden .....	51	Spiraea .....	58
Chionanthus .....	51	Liriodendron .....	53	Spraying Calendar .....	73, 74
Chrysanthemum .....	72	Locust .....	51	Strawberries .....	43
Clematis .....	61	Lonicera .....	56, 62	Sumac .....	59
Climbing Vines .....	61-62	Mahonia .....	60	Sycamore .....	53
Convallaria .....	64	Maidenhair .....	53	Syringa .....	56, 59
Cornus .....	50, 56	Maple .....	52	Tamarisk .....	59
Corylus .....	56	Meadow Sweet .....	58	Tamarix .....	59
Crab .....	50	Mock Orange .....	59	Thorn .....	53
Crab Apples .....	17	Morus .....	54	Tigridia .....	64
Crataegus .....	53	Mountain Ash .....	52	Tilia .....	51
Crocus .....	63	Mountain Ash, Weeping .....	54	Trees .....	49-54
Currants .....	41	Mulberries .....	43	Tree of Heaven .....	49
Currant, Flowering .....	55	Mulberry, Weeping .....	54	Tuberose .....	64
Cydonia .....	58	Narcissi .....	64	Tulip Tree .....	53
Dahlias .....	63	Nectarines .....	26	Tulips .....	64
Daisy, Shasta .....	72	Nut Trees .....	44-45	Ulmus .....	50, 54
Deutzia .....	55	Oak .....	52	Viburnum .....	58
Dewberries .....	40	Peaches .....	27-29	Virgin's Bower .....	61
Diervilla .....	59	Pears .....	18-19	Walnuts .....	45
Dogwood .....	50, 56	Pecans .....	45	Weigela .....	59
Elder .....	56	Peonies .....	63	Whitewood .....	53
Elm .....	50	Philadelphus .....	59	Willow .....	54
Elm, Weeping .....	54	Platanus .....	53	Willow, Weeping .....	54
Evergreen Shrubs .....	60	Plums .....	22-25	Wistaria .....	62
Fagus .....	49, 54	Plum, Flowering .....	53	Yucca .....	60
Filberts .....	44, 56	Polyanthus .....	64		
Forsythia .....	56				

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