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U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

The Willis --- --- **Nurseries** --- ---



Ottawa, Kansas.

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We take much pleasure in presenting our patrons and others with our Illustrated and Descriptive Catalogue of Fruit Trees and Ornamentals, Shrubs, Plants, etc. We solicit your patronage. All inquiries and orders will receive careful and prompt attention.

A. WILLIS, Proprietor.



THE WILLIS NURSERIES.



IN sending out a new edition of the catalogue of the Willis Nurseries, we wish to present our best thanks to our numerous patrons, both wholesale and retail, and to assure them that in the future, as in the past, their best interests shall have our most careful attention.

These nurseries are located at the beautiful city of Ottawa, Kansas, on high prairie, and the stock is grown under the most favorable conditions to secure a well developed system of roots and strong, shapely, well grown plants. These nurseries have been continuously under the management of the present proprietor since their establishment more than thirty years ago. The beginning was small, but the soil was here, the climate was here, laborers were here who wanted to work, and people were here scattered all over Kansas and many other states,

who wanted the products of a first-class nursery, and we set ourselves to work the best we knew how to give these laborers work and these people who wanted the products of a reliable nursery a choice selection of the best nursery stock, and with what success, we leave to our patrons to judge. The nursery has grown from its humble beginning to be one of the largest in the west, and as the demand for choice nursery stock comes to us each new year with increasing volume, we feel assured our efforts to please are favorably received and that we may anticipate in time to come still larger growth. We assure the public we shall ever seek to deserve the favors they so kindly extend to us. The past year the nurseries have used in trade the product of about 200 acres of land and have filled orders to the amount of more than fifty thousand dollars. We have a well furnished office with an efficient force. We have growing the largest stock of choice trees we have ever had. We have one of the largest and best packing houses in the west, and everything in the way of packing material and appliances that can be used in a first-class establishment. The facilities for transportation supplied by our railroad and express companies are among the best enjoyed by any city in the west.

Correspondence.

All correspondence, whether you wish to buy or not, will receive prompt and careful attention.

Entomologist's Certificate.

Our nurseries are each year inspected by an entomologist authorized by the State Board of Agriculture, of the State of Kansas, to do this work and all shipments are made under his certificate of freedom from insect pests and disease.

Advice to Correspondents.

1st. Please always write plainly being especially careful about the name and always give the name of your post office.

2nd. We will be responsible for money when sent us by postal order, express money order, bank draft, or registered letter, but not otherwise.

3rd. It will be a great convenience to us and many times a benefit to you to send in your orders early.

4th. When the cash is sent with the order, all orders for \$1 or more will be packed and delivered at railroad or express office free, and if the order amounts to \$5 or more, transportation charges will be paid to nearest freight or express office. All trees will be carefully labeled and packed.

5th. Substitution. We will fill all orders as near as possible as requested, but when, as is sometimes the case, we run out of particular varieties, we will, unless otherwise directed, fill the order as given as far as we can and substitute good varieties for those we cannot supply.

6th. Our customers will please designate the route over which they prefer their goods shipped. We will deliver our goods to the forwarders in good order, after which our responsibility ceases and the purchaser must look to the forwarding companies for redress for any loss the goods may suffer while in transit.

7th. Our customers will please notify us *at once* in case of any shortage or errors in filling their orders, that we may make proper amends. We are anxious to give all our customers the full worth of their money and to retain to the fullest extent their confidence.

The packing season with us usually begins from March 1st to March 15th and continues from April 15th to May 1st in the spring, and in the fall from about October 10th to the 1st of December, and sometimes favorable weather continues till Christmas.

In this catalogue we make no pretence to giving the largest assortment, but we have tried to select a list of varieties that will when planted and cultivated to fruitage give good returns for the investment made.

Warranty.

We will warrant our stock true to name to the extent that we will refund the money paid or replace free of charge any stock sent out not true to name, but in no case could we make an warranty that would go farther. We shall at all times use every care to have everything sent exactly as represented.

Plant Young Trees.

We cannot too strongly recommend to our customers the procuring of young trees, especially for orchard planting, instead of selecting the largest that can be had, to secure a more immediate effect. Young trees cost less at the nursery, also in freight, handling and planting; they can be taken up with more perfect roots, and will become sooner established in a new location. They can also be more readily trained to any desired shape. The largest and most successful planters invariably select young thrifty trees as the surest in the end to give thorough satisfaction.

For small grounds, or street planting, where it is necessary to make a show as soon as possible, large trees are often desirable, and when handled with care should not fail to do well, but with the general planter the average of loss will be much less, and both time and money will be saved if young trees are selected to commence with.

We have been slow to recommend novelties, believing our customers would in the end be better satisfied with the good returns that can be realized from the planting and careful cultivation of known reliable kinds. There are numerous candidates for favor offered to the planter every year, but the list of kinds our best horticulturists consider thoroughly reliable is not rapidly increasing. Would I then advise my customers to plant no new fruits? Hardly, and yet if you plant to raise fruit the most certain way is to plant well tested successful kinds. If you plant new fruits, plant no more than you are willing to risk in an experiment. If you have means and leisure to devote to them, there is nothing you can do as means of enjoyment within your reach that will afford more satisfaction than to experiment with horticultural novelties, and the effort to produce new fruits that will prove valuable yourself; and should you succeed in producing a new fruit that has real value, the public want it, and are willing to pay well for it.

Soil, Its Preparation, Exposure, Etc.

Any soil that will grow good crops of corn and small grain will answer for fruit trees, etc. Eastern and northern exposures are usually considered the best, but perhaps more depends on the quality of the soil and its preparation and after-culti-

vation than on the exposure. If the ground is naturally wet, spouty and cold, artificial draining is necessary before planting. Any ground should be well prepared by twice plowing, using the sub-soil plow after the common one at the second plowing, and stirring the ground twenty inches or more deep, the deeper the better; this is not only for trees but small fruits as well. On good rich soil manuring will be unnecessary, but on poor soil, fertilizers, such as well decomposed manure or compost, should be applied freely. Never grow small grain in the orchard, but always some crop that will require some cultivation, and the rows of trees should be kept cultivated at least until the month of August.

Transplanting. When the trees are received, open the bundles and heel in so that mellow earth will come in contact with all the roots. It may be necessary to apply water to moisten the soil; before planting, the ends of all bruised and broken roots must be cut sloping from the under side. If the soil is properly prepared the holes may not be dug much larger than to receive the roots in their original position. In planting in sod in yard or lawn the hole should be dug four to six feet in diameter and a little deeper than is necessary to set the tree, always using good mellow soil in filling in, pressing the ground well about the roots, and in such a manner as to leave them in their natural position as much as possible. Water freely used in planting helps to settle the earth about the roots and a mulching of three or four inches thick and four to six feet in diameter should be applied as soon as the tree is planted, but the earth should be well pressed about the tree before applying the mulching.

Depth to Plant.

About the only correct guide that can be given in regard to the depth to be planted is that when the ground is well pressed about the tree or plant it will be as deep or a little deeper than it stood in the nursery; and in this it is well to bear in mind that the roots of some trees such as the Standard Pear, strike their roots deep, and require a deep hole even to plant them as deep as they were in the nursery. Dwarf trees should be planted so that all the stock on which they are worked will be under the ground.

Pruning.

Cut back one third to one-half of the last season's growth and one year old Peach to almost a bare stock and headed back to the desired height for forming the top; the buds on the body of the tree will make a better growth and form a better top than if the side branches are left on. It is not advisable to do any of this pruning until just before the buds start in the spring. Remove the labels before the trees begin to grow.

Wintering Trees,

when procured in the fall. Procuring trees in the autumn for early spring planting is recommended when the purchaser is not prepared to plant in the fall or prefers spring setting or where the winters are too severe to set out young trees and plants in the fall; the greatest advantages derived in doing so are that when the roots have been cut or pruned, it will be found upon taking them up in the spring that a callus has been formed ready for the producing of new rootlets, and the trees being planted without much exposure as soon as the frost is out of the ground, will become thoroughly established the first season and should make twice the growth of late planted trees; and the labor of planting is then done before the rush of the spring work sets in. To insure success select a dry spot of ground where water will not stand during winter and where no grass or litter will invite mice. Dig a trench from three to four feet wide according to the amount of trees to be heeled in and deep enough to admit one layer of roots and sloping enough to let the trees lay at an angle of about thirty degrees, throwing the earth on the back part of the trenches so as to make a more perfect slope on which to lay down the trees. Put in one layer of trees, placing the roots as close together as can conveniently be done, cover with well pulverized soil well up on the bodies and as carefully worked in about the roots as if they were being planted; then add another layer of trees overlapping the first and continue as at first until all are heeled in, throwing the ground well up around the trench, and where the winters are very severe it is advisable to cover the tree entirely up with earth. Evergreen boughs or coarse straw or corn fodder can be placed over the tops, but not thick enough to admit of a harbor for mice. The roots should be pruned before laying them down in the fall.

Treatment of Trees, Etc.,

that have been frozen in the packages or received during frosty weather. Put them unopened in a cellar or some other cool protected place free from frost, or cover them up heavily and entirely with earth until they are fully thawed out, when they can be unpacked and planted or placed in trenches until convenient to plant; treated in this way they will not be injured by the freezing.

Suitable Distances for Planting.

Apples, Standard	25 to 40 feet	Quinces	10 to 12 feet
Apples, Dwarf	6 to 8 "	Grapes	8 to 10 "
Pears, Standard	16 to 18 "	Currants	3 to 4 "
Pears, Dwarf	10 "	Gooseberries	3 to 4 "
Peaches	16 to 18 "	Raspberries, Red	4 to 5 "
Nectarines and Apricots	16 to 18 "	Raspberries, Black	5 to 6 "
Cherries, Sweet	16 to 20 "	Strawberries, Rows	1 by 3½ "
Cherries, Sour	12 to 15 "	Strawberries in Beds	1½ by 1½ "
Plums	16 to 20 "	Asparagus in Beds	1 by 1½ "

Number of Trees and Plants on an Acre at Various Distances.

1 foot x 1 foot	43,560	5 feet x 5 feet	1,742
2 feet x 1 foot	21,780	6 feet x 6 feet	1,210
2 feet x 2 feet	10,890	8 feet x 8 feet	680
3 feet x 1 foot	14,520	10 feet x 10 feet	435
3 feet x 2 feet	7,260	12 feet x 12 feet	302
3 feet x 3 feet	4,840	15 feet x 15 feet	193
4 feet x 1 foot	10,890	16 feet x 16 feet	170
4 feet x 2 feet	5,445	18 feet x 18 feet	134
4 feet x 3 feet	3,630	20 feet x 20 feet	108
4 feet x 4 feet	2,722	25 feet x 25 feet	69
5 feet x 2 feet	4,356	30 feet x 30 feet	48
5 feet x 3 feet	2,904	33 feet x 33 feet	66
5 feet x 4 feet	2,178		

The number of plants required for on acre, at any given distance apart, may be ascertained by dividing the number of square feet in an acre (43,560) by the number of square feet given to each plant, which is obtained by multiplying the distance between *rows* by the distance between the *plants*. Thus, Strawberries planted three feet by one foot, gives each plant three square feet, or 14,520 plants to the acre.



March 30, 1901—I wish to thank you for the fine condition the stock arrived in. I think it was the best packed stuff I ever saw, and your locust trees were par excellence.

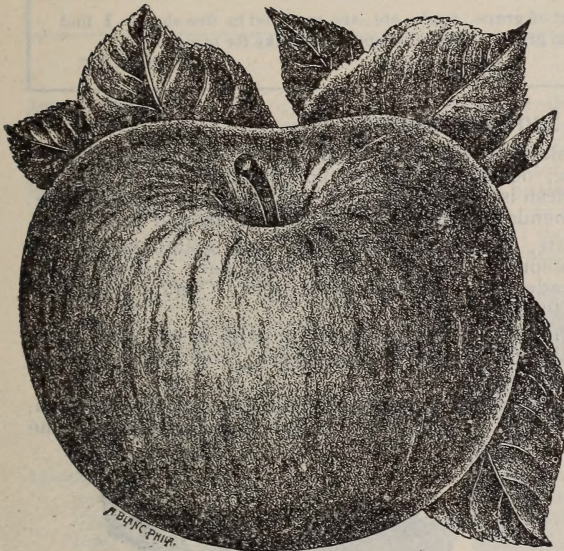
G. D. MAYES.

June 28, 1901—My small fruit, those raspberries I got, I set myself. I never saw better vines. Everything I got has done well.

E. E. BURRELL.

FRUIT TREES.

Apples.



WEALTHY.

THE Apple stands at the head of the list in importance both for general culture and for commercial purposes. Its season unlike that of other fruits extends nearly or quite through the year. By planning judicious selections of Summer, Autumn and Winter sorts, a constant succession can be obtained of this indispensable fruit for family use. Past experience has proven that no other farm crop will produce as the Apple orchard. As it takes from five to seven years for an Apple orchard to come into bearing some persons hesitate to plant, regarding the time too long to wait, but when we look back a period of a few years we observe how quickly time has passed, and so it will be in the future as in the past, and

one thing is certain if we do not plant we never will obtain. To encourage those who are hesitating as regards the profits obtained from the growing of Apples for the market, a statement from Messrs. Wellhouse & Son, of Fairmount, Leavenworth county, Kansas, dated July 13, 1892, is here given as follows:

"GENTLEMEN:—Yours of July 9th is at hand and in reply have to say that our bearing orchards were planted in 1876, 1878 and 1879 and cover 437 acres and commenced bearing in 1880, and up to this time from twelve crops we have gathered and sold 300,565 bushels, and after paying for gathering, packing and marketing, these crops have netted us a little over \$82,000.00." Now this indicates what perseverance and determination will do, and to show the confidence that these mammoth fruit growers have in this lucrative business they further add: "We have planted eight hundred acres in the last three years and will plant three hundred acres a year from next spring." Observe that the net profits in twelve years were a little over \$82,000, and this begins only four years after the first planting.

April 17, 1901. I must say one thing: You have the finest stock I ever bought; put up in good shape, and everything seems to be doing finely. I expect to put out plenty of stock next year so will remember you.

WM. S. M'DONALD.

Some persons may say that there are so many orchards being planted that the demand will not equal the supply and thus hesitate to plant. This has been the cry for the past thirty or forty years, and it is the commercial fruit grower today that is taking in the money far exceeding that obtained by the ordinary farmer. This is a large country and it is seldom that there is a full crop of fruit in all the states and territories the same year, and the evaporating of fruits has become such an immense business that it may be doubted if orcharding will ever in any season be less than highly remunerative.

If apples are planted at the rate of fifty trees per acre, rows of Peach trees can be planted between the Apples, which, growing more quickly than the Apple trees, soon protect them from the wind, and thus are a great benefit to them. After eight or ten years of productiveness, as the space is needed for 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 trouble.

April 18, 1901. Your shipment of grape, apple, etc., are received in fine shape. I find them all that could be desired as to grade. Kindly accept my thanks for same.

J. K. BORUFF.

Summer Apples.

American Summer Pearmain—Tree slow grower, but when grown to maturity a good bearer. Fruit medium size, oblong or round; color, greenish yellow, more or less covered with dull red; flesh is tender and juicy, mild, sub acid. Quality best. Use dessert; is not recommended for market. Season August and September.

Carolina Red June—Tree moderate, upright grower, early and abundant bearer. Fruit small to medium, oblong; surface smooth; color dark red and white ground; flesh white, very tender, fine grained, juicy, acid. Quality good; use table and market. Season June and July.

Cooper's Early—Size medium, color pale yellow with faint blush on sunny side; flesh white, crisp, sprightly, mild acid, a good cooking variety; tree hardy, an early bearer and heavily productive.

Tetofski—A Russian apple tree; moderate upright grower; fruit small to medium, surface smooth, yellow, striped and splashed with red; flesh yellowish white, fine grained, juicy; flavor acid; quality good. Season June and July.

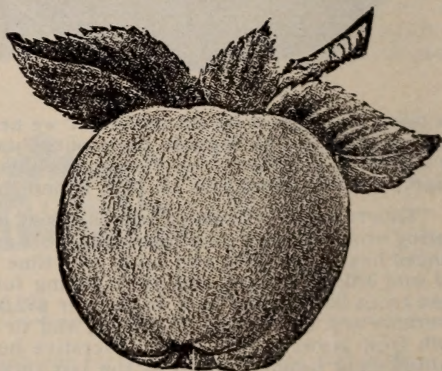
Duchesse of Oldenburgh *Syn Oldenburgh*

—A Russian apple and considered of great value farther north, here not often called for; tree moderate grower and hardy, fruit medium size; surface smooth, waxen yellow with stripes and splashes of red; flesh white, tender, and juicy, sour and good for cooking.

Early Harvest—The most popular summer apple on our list, tree healthy, vigorous grower and good bearer; fruit medium size, nearly round, somewhat flattened; surface smooth, clear waxy yellow, rarely blushed; flesh tender, juicy, acid to sub-acid, flavor good; quality best, use table and kitchen. Season July.

Red Astrachan—Another Russian apple that has proved to be very popular with planters; tree vigorous, upright grower; hardy and productive; fruit, medium to large; surface smooth, marbled and striped on greenish yellow, flavor acid, use kitchen and market.

High Top Sweet *Syn. Sweet June*—Tree strong, upright grower, very productive, fruit small to medium, round, greenish yellow; flesh white or greenish white; fine grained, tender, quality good; use table and kitchen. Season June and July.



YELLOW TRANSPARENT.

- Summer Queen**—Tree vigorous, large spreading, productive; fruit medium, round, surface yellow covered with mixed red and scarlet; flesh firm, yellow; flavor, acid, spicy; quality very good; use kitchen. Season July and August.
- Yellow Transparent**—A Russian variety, new and promising in the north. Tree hardy and moderately vigorous, an early and good bearer; fruit medium to small, skin clear white at first, becoming pale yellow when fully mature, often with a clear blush cheek; flesh white, tender, juicy, sub-acid, quality good. Season early in August.
- Keswick Codling**—An old English variety very much liked by some as a cooking apple; tree a vigorous grower hardy and productive; fruit medium size, oblong; surface smooth, pale yellow; flavor acid; quality good to very good for its use, cooking. Season July to September.

April 22, 1902. Everything came all in good shape and they are all satisfied. The trees were first class. Best hedge ever came to Burns. Thanks very much for same.
O. J. SWINGEL.

Fall Apples.

- Autumn Strawberry**—Tree upright, thrifty grower; fruit medium, roundish, angular; surface smooth, waxen, yellow mixed and striped with scarlet; flesh yellow, tender, fine grained, very juicy; quality best, for dessert, especially. Season August and September. Not so much called for as it should be.
- Fall Pippin**—Tree strong grower, not an early bearer, moderately productive when old; fruit large, globular; surface smooth, rich yellow, sometimes blushed; flesh yellow, very fine grained; flavor acid; quality best, use dessert, kitchen, market, and drying. Season August to October.
- Fameuse Syn. Snow**—Tree hardy, vigorous and productive; a fine apple of medium size, round, surface pale yellow nearly covered with red made up of stripes and splashes; flesh snowy white, tender, fine grained, juicy; flavor mild, sub-acid; quality good, to very good; use dessert, kitchen, market.
- Lowell**—Tree strong vigorous grower and good bearer; fruit large to very large, round; surface smooth, waxen yellow, not blushed, becoming greasy when kept indoors; flesh yellow, fine grained, juicy; flavor sub-acid; quality good to very good; use table, cooking, drying, market. Season, August and September.
- Bailey's Sweet**—Fruit large, round, mottled and striped deep red; flesh yellow and tender, with a mild, rich, sweet flavor. Best. September.
- Maiden's Blush**—Rather large, oblate, smooth, regular, with a fine, evenly shaded red cheek or blush on a clear, pale yellow ground; flesh white, tender, sprightly, with a pleasant sub-acid flavor; bears large crops. August and September.
- Mother**—Fruit medium, form roundish, slightly conical; color yellow, almost entirely overspread with light, clear, rich red, splashed and marked with many deeper shades, many minute light dots; flesh tender, juicy, rich, aromatic, sub-acid; best quality; tree slow grower. September.
- Rambo**—Medium, yellowish, streaked with dull red and somewhat dotted; mild, tender and good; productive and vigorous. September to November.

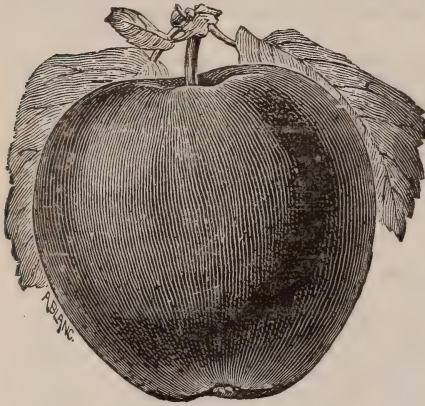


MAIDEN'S BLUSH APPLE.

April 12, 1902—I received the bale of trees all O. K. Trees very nice and well packed and in good condition.
HALL & SON.

Winter Apples.

Ben Davis—More criticised and more planted than any other in the list; scarcely needs description; everybody plants it for market and nearly everybody for home use, then they criticise its poor qualities and then they buy more, taking care that a



GANO.

liberal proportion of each new purchase is Ben Davis. Tree thrifty, upright grower of almost perfect shape. Fruit large, round, sometimes variable in form, surface smooth, often polished, bright yellow covered with red and splashed; flesh white, tender, juicy; flavor sub-acid, not rich; quality only good; use market and cooking. Season November to spring.

Baldwin—Tree strong, thrifty grower; fruit large, round, or somewhat flattened, sometimes irregular; surface smooth, yellow in shade, when exposed red; flesh yellow, juicy, rich; quality good; use table and cooking. Season October to December.

Arkansas Black—New, from Arkansas; size somewhat above Winesap; fruit roundish; color rich dark red; flesh yellow; quality good, an apple of

some promise. We would recommend the planting of a tree or two by any who desire to experiment with new fruits.

Gano—A seedling of the Ben Davis originated at Parkville, Mo. It very much resembles the Ben Davis in appearance, both in tree and fruit. It is claimed to be more productive, better flavor and more profitable than its parent. Season January to April.

Hubbardston's Nonsuch—Tree vigorous grower, early bearer and productive; fruit large, fair, handsome, round; surface often uneven, yellow, covered with mixed red and broken stripes, presenting a rich brownish appearance; flavor acid, rich; quality very good; use cooking and table when fully ripe. Season October and November.

Huntsman's—Tree very upright, thrifty grower and good bearer. Fruit medium or above in size; color a rich yellow when fully ripe; shape round, considerably flattened at the ends. Flesh pale yellow, somewhat coarse, juicy and rich, acid, very good. Season November to March. Use table and market

Grimes's Golden—This is one of the most popular apples in cultivation. Tree strong, thrifty grower, spreading branches. Fruit medium or above, cylindrical, regular surface, yellow vein, russeted. Flesh yellow, firm, very fine-grained, juicy, flavor sub-acid, rich, quality best; use dessert, cooking and market.

Rawle's Genet *Syn. Jenaton*—Tree good grower, not so large as some. Fruit medium, somewhat conic, regular; surface smooth, mixed and striped on yellow and green. Flesh yellowish, crisp, fine-grained, juicy; flavor, sub-acid; quality good to very good; use dessert, kitchen, market and cider. Season November to spring. One of the best of our old favorites.

Jonathan—Tree rather slender growth and spreading habit. Fruit medium or above in size, round or oblong surface very smooth, waxy yellow, often wholly covered with brilliant red. Flesh whitish yellow, tender, very juicy; use dessert and cooking, also one of the most profitable market apples; quality best, a general favorite; everybody likes Jonathan. Season October and November.

Lawyer—An apple by some highly esteemed. Tree rapid grower. Fruit medium or above in size, surface yellow, nearly covered with rich bright red; flavor sub-acid, good; use table and market. Season November till Spring.

Mann—The Mann is one of the newer sorts, that makes considerable promise of becoming popular when better known. The tree is a strong upright grower.

Fruit medium to large, roundish, oblate; skin, deep yellow, when fully ripe, often with a shade of brownish red. Flesh, yellowish, half tender, juicy, mild, pleasant, sub acid, good to very good, an early and annual bearer.

Milam—Tree moderate grower, annually productive and an early bearer. Fruit small to medium, conical, regular, surface smooth, yellow covered with marbled red. Flesh white, tender, juicy; flavor sub acid agreeable and refreshing; quality good; use dessert. Season October to December.

King Tompkins County—Tree vigorous grower with spreading top. Fruit large, handsome, globular, somewhat conic and sometimes irregular, surface smooth, yellow, covered with red, marbled and striped. Flesh yellowish white, tender; flavor sub-acid; quality good; use table kitchen and market. Season November to Spring.

McAfee Nonsuch, *Syn. Large Striped Pearmain*—This apple was some years ago regarded as being very valuable, but for some years has not been so much called for. Tree strong grower and productive. Fruit medium to large, round, somewhat flattened, surface smooth, somewhat covered with pale purplish red on yellow; flavor sub-acid; quality good; use market kitchen and table. Season November to January.

March 10, 1901. Last year the Crosby and Elberta peaches that we ordered of you fruited for the first time. All were loaded with the finest peaches. One Burbank plum tree bore so heavily that its branches broke and we had to support the rest. Our grapes especially the Marthas, were very large and fine. We were much pleased.

J. WARE BUTTERFIELD.

Northern Spy—Tree strong upright grower, does not bear young; a good bearer when old. Fruit large, roundish, sometimes angular; surface smooth, yellow, mixed and splashed with scarlet or crimson; flesh yellowish white, breaking, juicy; flavor acid, rich; quality, best. Use table, kitchen and market. Season September to November. North and East is one of the best winter apples.

Gilpin, *Syn. Little Red Romanite*—Tree very strong grower with spreading, open top. Fruit medium to small, round flattened at the ends; surface smooth, deep red; flesh greenish yellow, firm, juicy; flavor rich, little if any acid; quality good. Use cider and table; one of the longest keepers. Season February to May. One of the most productive sorts.

Red Wt. Pearmain, *Syn. Kirby Red*—An apple very highly esteemed by some. Tree fair upright grower and good bearer. Fruit medium to large, conic; surface deep red, almost purple on yellow; flesh breaking, juicy; flavor mild, sub-acid, almost sweet, rich; quality good. Use table and kitchen. Season November and December.

Ingram—A seedling of Rawle's Genet. Tree more upright, fruit medium size, roundish inclined to conical, smooth, yellow ground, striped bright red; flesh greenish yellow, delicate, tender, juicy, sub-acid. A late keeper.

Rome Beauty—Tree thrifty upright grower. Fruit large to very large, roundish oblate, sometimes conical; surface smooth, pale yellow, striped and mixed with red; flavor sub acid, not rich; quality good; desirable market fruit on account of its productiveness and fine appearance. Season November to January.

Rhode Island Greening—Tree strong grower, crooked, spreading, productive. Fruit large, varying in shape from round to flat, surface somewhat rough and russeted; color dull green, becoming yellow at maturity; flesh very yellow, juicy with rich acid flavor; quality very good. Use table. Season September to November.

Roman Stem—Tree moderate grower and productive. Fruit medium, globular; surface smooth, yellow, sometimes blushed; flesh yellowish white, fine grained and juicy; flavor mild, sub acid, rich; quality very good. Use table. Season October to December.

Smith's Cider—Tree strong grower, hardy, productive and an early bearer. Fruit medium to large, round sometimes lopsided; surface smooth, pale yellow, covered with mixed light red, splashed with carmine; flesh white, juicy; flavor

acid to sub-acid, not rich; quality good for cooking, makes much cider, but most valuable for market.

Stark—Tree strong grower with spreading top, considered valuable as a long keeper and a good market apple. Fruit large, greenish yellow, shaded and striped with red; flesh yellowish, moderately juicy, mild, sub-acid; quality good to best. Season November to Spring.

Missouri Pippin—Tree strong upright grower and great and early bearer, the branches frequently breaking down under the burden of fruit, Fruit medium or above in size, rich bright red striped and splashed on yellow ground; shape lopsided, flattened at the ends; flesh yellow; flavor acid; quality good; use market, kitchen, cider. Season November till Spring.

Tallman Sweet—Tree hardy and strong grower; fruit medium, nearly round, somewhat flattened; surface smooth yellow; flavor sweet, rich; flesh yellow and firm; use baking and dessert. Season October to December.

Walbridge—Tree strong grower and productive, highly prized farther north for its extreme hardiness; fruit medium size, color pale yellow shaded with red; flesh crisp, tender and juicy; quality good. Season December to Spring.

Wealthy—Another tree highly valued for its extreme hardiness at the far north; tree thrifty grower and good bearer; fruit medium, roundish; skin smooth, oily, mostly covered with dark red; flesh white, fine grained, juicy, sub-acid, good. Season November to January.

White Winter Pearmain—Tree moderate grower with spreading top; fruit medium handsome when fair but sometimes scabs badly; surface smooth, yellow, sometimes bronzed; flesh yellow, fine grained, tender, juicy; flavor mild, sub-acid-very rich; quality best; use table, kitchen, market. Season November to January.

Willow Twig—Tree good grower, branching and twiggy, good bearer; fruit globular: surface smooth, dull, greenish yellow, marbled and striped dull red; flesh greenish yellow, juicy; flavor acid; quality only good; valuable for market and kitchen, Season November to Spring.

Winesap—An old favorite, one of the best; tree vigorous grower with spreading top; fruit medium, conical; surface smooth, bright or dark red on yellow ground; flavor rich, acid to sub-acid; quality nearly best; use table, market, kitchen, cider; very desirable on account of its productiveness and general good quality.

Yellow Bellflower—Tree strong grower with large spreading top, generally a poor bearer; fruit large to very large, oblong; surface smooth, light yellow, sometimes blushed; flesh yellow, fine grained, juicy; flavor acid to sub acid, rich; quality best; use table, kitchen, market. Season October and November.

Dominie—Tree strong grower, making a straggling open head; fruit large, flat, regular; surface yellowish green blushed with red; skin rough; flesh light yellow, tender, juicy; flavor slightly sub-acid, rich; good for the table, kitchen, market. Season October to December.

York Imperial—Generally known and popular with many of our most experienced orchardists; tree moderate grower and productive; fruit large, lopsided; surface smooth; color mixed bright red on yellow ground; flesh yellowish, tender, juicy; flavor mild, sub-acid; quality very good; use, market, table, kitchen. Season November till Spring.

☞ The following comparatively new sorts of apple are believed to be especially desirable and are highly recommended for trial.

Bayard—Tree upright, vigorous grower; abundant and constant bearer; fruit large, round; skin dark red with white dots; flesh white, fine grained, solid, crisp, juicy with a refreshing vinous flavor. Season October to May.

Stayman's Winesap—Originated on the grounds of Dr. J. Stayman, Leavenworth, Kansas; tree hardy, vigorous, spreading, irregular, tough, wiry, droops like a weeping willow with loads of fruit never breaking a limb; an early bearer and very productive; fruit medium size, round, approaching conic; skin smooth, greenish yellow, splashed and striped with red and purple, covered with a white bloom, dots

May 22, 1901. I was up to Missouri a short time ago and went out to see the trees. It is a very nice lot and I believe they will do well.

W. B. WILLIM.

small, gray, scattered; stem medium, rather slender; cavity wide, deep, much russeted, regular; calyx large, open or half closed; segments large, erect; basin rather narrow, abrupt, deep furrowed; core medium; flesh yellow, firm, tender, juicy, rich, mild, sub-acid, aromatic, quality best. Season January to May.

Dr. Stayman says of this variety: "It has never failed bearing a heavy crop. It is worth a whole race of winter apples."

Prof. Van Deman writes of this variety: "I am sure this apple will eventually supercede the old Winesap. To produce this one variety is worth almost a lifetime."

The Missing Link—Is a vigorous grower, exceeding any apple known to horticulturists for rapid growth, symmetrical form, never needing to be pruned while shaping the head; branches heavily shouldered, making the tree absolutely wind and storm proof; fruit large, oblong, flattened at ends, red and green when picked; green turning to rich golden yellow as the fruit comes into season for use; stem long thus enabling the fruit to sway with the wind, adhering firmly until picking time; calyx large, basin open, deep furrowed; flesh yellowish marbled, tender and juicy, improving with age and highly aromatic. Season for use, March to September. Keeps twelve months or more in any cellar.

An apple of this kind grown in 1901 was kept in my office, exposed to all the heat and dust and unfavorable conditions of such a place from August 20th to September 20, 1902, and was still in condition for eating. I have never seen elsewhere such a long-keeping apple I think this tree well worthy a trial.

Winter Banana—New, excellent. The name is most appropriate as it has a delightful banana perfume; fruit keeps well till spring; the color is a striking red blush on a deep yellow ground; it is large size and very showy in appearance, roundish inclining to conical; stalk three-fourths of an inch long; cavity moderate, apex shallow; originated in Indiana. The claims for this apple are such that we recommend it for trial.

Crabs.

The introduction of improved varieties of this beautiful fruit has made the planting of a few trees desirable for every family. They are universally desired for cooking, preserving and are especially valuable for cider.

Besides being useful, they are also very ornamental when in bloom, and also when loaded with their highly colored fruits.

The following are the most valuable varieties:

Hyslop—Tree a moderate grower, making a beautifully shaped, thrifty tree; bears young. Fruit large, nearly round, flattened at the ends; skin smooth; color dark rich red on yellow ground; flavor very good. One of the most beautiful fruits grown.

Montreal Beauty—Tree good grower, hardy and productive. Fruit medium size, bright yellow shaded with red; flesh rich, firm, acid, very good. Season, September.

Quaker Beauty—Tree one of the strongest growers; good bearer; quality good. Season October to January.

Transcendent—Tree strong grower, making a large beautiful tree and an early and abundant bearer; perhaps the most valuable of the varieties of this class of fruit. Fruit large, round; skin smooth; color rich yellow shaded with red. Valuable for preserving and cooking; said to be one of the best for cider. Season August and September.

Whitney's No. 20—Tree thrifty, upright grower. Fruit large; skin smooth, striped and splashed with carmine; flesh firm, juicy and pleasant flavor. Season, August. A productive bearer and considered one of the best.

Martha. A seedling of Duchess of Oldenburg, which originated in Minnesota. Earlier than the Transcendent; very ornamental as well as a fine fruit; bears in profusion every year. September and October.

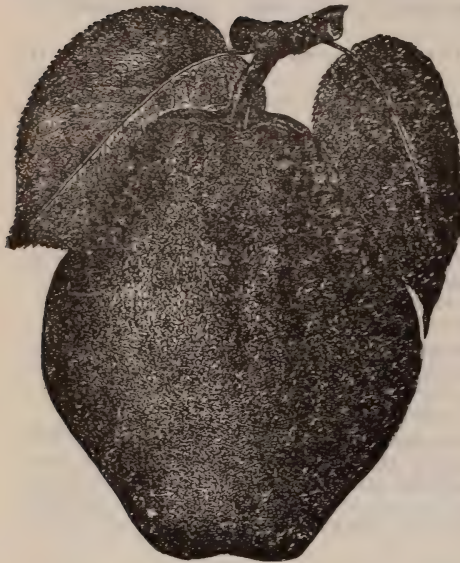
March 26, 1902. Trees and stock all satisfactory.

C. M. MOSHER.

May 8, 1902. Stock was in nice shape; wish I had got more. Have no trouble in selling your stock.

R. W. CRANDALL.

Pears.



KEEPER PEAR

THE cultivation of this noble fruit is rapidly extending as its value is appreciated. The range of varieties is such that, like apples, they can be had in good eating condition from August until early Spring.

The melting, juicy texture, the refined flavor, and the delicate aroma of the Pear, give it rank above all other fruits except the grape.

But the Pear, like most things highly desirable and valuable, cannot be had without attention, labor and skill. The relative prices of the apple and pear being about as one to ten, show at the same time the superior value of the latter, and the greater skill required to bring it to perfection.

There seems to be but one drawback to the profitable cultivation of the Pear, either as standard or dwarf and that is the "blight" which brings ruin to so many trees and for which there is no known remedy. But Pear trees do not all blight, as we can well

testify when we visit any fruit market in their season. While the good prices and productive habits of the trees, their comparative freedom from other diseases and from insect enemies make the Pear a desirable fruit to plant, in a moderate way for market; and the high quality and many ways in which it can be used to pleasure and profit, make the planting of a liberal supply for home use scarcely less than a necessity. Standard trees are budded or grafted on seedling pear roots; dwarf trees are budded on Angers Quince roots.

Dwarf pears should be set so deep that the joint where the pear is united to the quince will be at least two inches below the top of the ground. By this means roots will be thrown out from the pear and larger trees are secured.

Standard Pears

Should be planted twenty to twenty-five feet apart. They will grow on almost any soil, provided the sub-soil is not too wet. Whenever this is the case the ground should be thoroughly under-drained. In very poor soil, a moderate top-dressing of manure, in the fall, will be of advantage. When a tree is assailed by blight cut off the part affected several inches below all appearance of the disease.

Dwarf Pears

Should be planted eight or ten feet apart. At the time of planting and every spring thereafter they should be thoroughly pruned, shortening in the current year's growth about one-half, aiming to form a round and well proportioned head. The ground should be well cultivated, and enriched by a top dressing of manure in the autumn, and well mulched in the spring. Pears grown on standards or dwarfs should never be allowed to ripen on the tree.

Gathering Pears In order to retain the juice and best flavor, summer pears should be gathered at least ten days before they are ripe, and autumn pears at least two weeks before; and winter varieties before danger of injury from frost.

Thinning the fruit. When the trees are heavily laden the fruit should be thinned when about one-third grown, else the fruit will be poor and the trees injured.

The letters, "D". and "S"., used in the descriptions of varieties, indicate favorable growth either as "Dwarfs" or "Standards," or both. Those designated as "moderate growers" are usually smaller trees.

- Bartlett.** S. and D. An old favorite, more generally known and highly esteemed than any other sort. Tree thrifty, upright grower; fruit large, irregular pyramidal; skin thin and smooth, clear yellow, sometimes with faint blush on the sunny side; flesh white, fine grained, buttery, juicy, sweet; quality best. August and September.
- Beurre de Anjou.** S. and D. Tree good grower and bearer; fruit large, obtusely pyriform, sometimes nearly round; skin greenish, sprinkled with russet, sometimes shaded with dull crimson; flesh whitish, melting, juicy. September to November.
- Buffum.** D. Tree an unusually strong grower; fruit small to medium; skin fair, deep yellow and bright red, sprinkled with russet dots; flesh white, buttery, juicy, sweet, excellent flavor. August and September.
- Clapp's Favorite.** S. and D. A splendid pear, resembling Bartlett, ripening a few days earlier; a cross between that variety and Flemish Beauty. Fruit large; color yellowish green, marbled with red in the sun; vinous, melting, rich. One of the best summer pears. August.
- Duchesse d'Angouleme.** D. Sometimes planted as a standard, but an especial favorite as a dwarf. Tree vigorous and productive; fruit of the largest size, with an uneven, somewhat knobby surface; skin dull greenish yellow, a good deal streaked and spotted with russet; flesh white, buttery and very juicy, with a rich, excellent flavor. September and October.
- Flemish Beauty.** S. Tree generally preferred as a Standard. Fruit large; skin a little rough, pale yellow mostly covered with patches of russet, becoming reddish brown at maturity on the sunny side; flesh yellowish white, juicy and rich. September. Should be picked before it is fully ripe. One of the best.
- Garber's Hybrid.** S. Is kin to and very much like Kieffer, but is larger, of better quality, and ripens two or three weeks earlier. Is as yellow as an orange. Immensely productive, bears at three years from the nursery. A valuable market fruit.
- Howell.** S. and D. Tree strong, free grower; fruit above medium size; skin light waxen yellow, often with a finely shaded cheek; flesh white, rather coarse, with a rich aromatic flavor. August and September.
- Keiffer.** S. Tree one of the strongest growers, with rich, glossy foliage; is not recommended as a dwarf, but is highly recommended as less subject to blight than most others, though not in all cases free from blight. The Keiffer, by its good qualities of tree and fruit, has pushed its way to the front, so that it is today regarded as one of the most valuable kinds. Fruit large, golden-yellow, blushed with red in the sun; flesh slightly coarse, juicy, melting. Tree a great bearer; fruit especially valuable for cooking and market.
- Koonce.** S. Medium to large, very handsome, surface yellow, one side covered with bright carmine, dotted with brown; very early, quality good, spicy, juicy, sweet.
- Lincoln Coreless.** S. An interesting and remarkable fruit from the fact that it possesses neither seed nor core; fruit large, high colored; flesh yellow, rich, aromatic and a late keeper; tree a good grower, hardy and free from disease.
- Lawrence.** S. Tree of moderate growth; early and good bearer; fruit medium size, obtuse pyriform; skin fine, light yellow, very thickly covered with minute brown dots; flesh whitish, somewhat buttery, with rich, aromatic flavor. One of the best early winter Pears. October to December.

April 5, 1902. — Your stock came today and we were very well pleased with it, but you shipped us forty more Bokara than the invoice calls for, so please charge us with the forty extra. SIOUX CITY SEED AND NURSERY CO.

- Lawson**—*Syn Comet*—D. and S. Fruit large for so early a pear, the larger specimens measuring more than 9 inches in circumference; sufficiently firm to insure its being a good shipper; of brilliant crimson color on yellow ground; flesh crisp, juicy and pleasant, yet like many of our most popular market fruits not of highest quality, but what it lacks in flavor is offset by its charming exterior, being one of the most beautiful things imaginable in the way of a pear. July.
- Louise Bonne de Jersey**—D. Tree especially desirable as a dwarf; vigorous grower, very productive; fruit medium size, pyriform, somewhat one-sided; skin smooth, glossy, pale green in shade but brownish-red in the sun; flesh greenish white, very juicy with a rich, excellent flavor. September.
- Seckel**—S. and D. Tree a moderate grower, said to be less subject to blight than most varieties; fruit small to medium; regularly formed; skin dull yellowish brown, with lively red cheek; flesh whitish, buttery, very juicy and melting with a peculiarly rich, spicy flavor; a regular and abundant bearer. August to October.
- Sheldon**—S. Tree moderate grower and good bearer; fruit medium size or above; roundish oval; skin yellow or greenish russet with a richly shaded cheek; flesh melting, juicy, with a brisk, vinous flavor. September and October.
- Vicar**—D. Tree very strong grower; fruit large and long pyriform, somewhat one-sided; skin fair and smooth, pale yellow, sometimes with brownish cheek; flesh greenish white, generally juicy, sometimes buttery, with a good, sprightly flavor. October to December.
- Wilder Early**—S. Size medium; greenish yellow with a brownish red cheek and numerous dots; flesh white, fine grained, melting, excellent; about three weeks earlier than Bartlett.

Plums.

THE Plum tree, like the Pear and other finer fruits, attains its greatest perfection on heavy soil, being entirely free from disease. The curculio, a small dark brown beetle, often stings the fruit, causing it to drop off; but the following directions faithfully observed, will secure a crop of this splendid fruit everywhere.

As soon as the blossoms are fallen spread two sheets under the tree and give the tree a sudden jar by striking a smart blow with a hammer upon the stub of a limb, sawed from the tree for this purpose. The insects will drop on the sheets and can be killed. Collect all the fallen fruit and burn or feed to swine. Repeat the operation every day for two or three weeks. It should be done early in the morning.

The cost of protecting large orchards from the attacks of this enemy will not exceed ten cents per tree for the entire season.

European Varieties.

- Bradshaw.** Fruit very large; dark violet red; flesh yellowish green; juicy and pleasant; productive; vigorous. Middle of August.
- Coe's Golden Drop**—Large and handsome; light yellow; firm, rich and sweet; one of the best late plums; moderate. September.
- Damson**—Fruit small, oval; skin purple; covered with blue bloom; flesh melting and juicy, rather tart; separates partly from the stem; moderate. September.
- Fellenburg**—*Syn. Italian Prune.* A fine late plum, oval, purple; flesh juicy and delicious; parts from the stone; fine for drying; tree very productive; free. September.
- German Prune**—A large, long, oval variety; much esteemed for drying; color dark purple; of very agreeable flavor; vigorous. September.
- Lombard**—Perhaps the best of the European varieties now in cultivation; tree vigorous, hardy and productive; fruit of medium size, roundish, oval, slightly flattened at the ends; skin delicate violet red, paler in shade; flesh deep yellow, juicy and pleasant. Season August.

Moore's Arctic—Originated in Maine, and celebrated for its remarkable hardiness, great bearing qualities and freedom from curculio; fruit grows in large clusters, large, dark purple; flavor very fine, both for preserving and dessert. A long keeper.

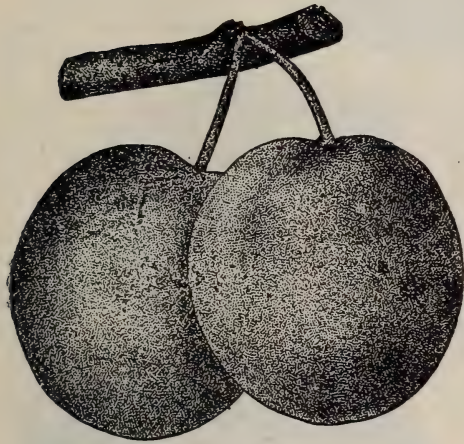
Shipper's Pride—This plum originated in northwestern New York, near the shore of Lake Ontario and has never been known to freeze back a particle in the severest winters. Size large, color dark purple, flesh firm and excellent quality. First of September.

Shropshire Damson—A plum of fine quality, as free from the attacks of the curculio as the common Damson, and of the same color. The flesh is amber colored, juicy and sprightly. In market it has commanded nearly double the price of the Common Damson, and is enormously productive. Free. Last of September.

August 18, 1903—The trees that I sold here have given remarkable satisfaction and I have had a number of inquiries and several have asked me to take some orders for next Spring.

M. D. MORSE.

Native Varieties.



WILD GOOSE.

DeSoto—Medium, bright red, sweet, rich, of fine quality. Extremely hardy and productive.

Miner—*Syn. Townsend*. Medium size, oblong, skin dark, purplish red; flesh soft, juicy, vinous and adheres to the stone; excellent for canning and cooking, and esteemed for market; productive.

Mariana—Fruit large, round, has a singularly rich red color and most magnificent appearance; is not easily blown off by winds; skin rather thick, stone small, quality excellent; good for shipping and market. July. Free. A good grower.

Pottawatomic—Perfectly hardy and an immense early annual bearer; fruit is yellow, overspread with a bright pink and prominent white dots; flesh yellow, luscious, good, ripens in July.

Weaver—Fruit large, purple with blue bloom, of good quality; a constant and regular bearer; tree hardy and thrifty grower.

Wild Goose—The most popular of plums with some fruit growers; tree a vigorous upright grower; fruit medium to large, rich golden yellow, richly shaded with red; flesh yellow, juicy; flavor rich and good.

Wolf—Fruit nearly as large as Lombard and a perfect free stone; quality superb for cooking and for serving with sugar; tree a good grower, hardy and is becoming very popular wherever known, promising to lead all other native plums. Aug.

April 23, 1902. You have always sent us good stock and we can always pay such bills cheerfully.

J. W. TETIRICK & SON.

November 14, 1902. The long delayed box received a few days ago, and I was surprised to find stock in good condition, and it was fine stock, too.

W. W. LITTLE.

March 17, 1902. Trees all in and am well pleased with them. They came through in fine shape, not a dry root in any of the boxes.

F. B. ORTON.

Japan Varieties.



A unique class of plums, of great beauty and productiveness. The fruit is exquisitely perfumed, with a charmingly attractive bloom. Trees are exceedingly ornamental, with smooth branches and rich, light-green foliage, and quite distinct from other varieties, early and prolific bearers. The flesh is so firm and meaty that they can be safely shipped long distances, and kept for a long time in excellent condition.

Botan or Abundance—This remarkable plum is being catalogued by some under the name of Abundance on account of its wonderful

bearing qualities. It is one of the imported Japan varieties, the correct name being Botan. It is so remarkably strong and handsome in growth and foliage as to make it an ornament to any yard. It excels in early and profuse bearing. The fruit is large and handsome, showy and practically curculio proof; fruit is beautiful lemon yellow ground, nearly overspread with bright cherry and with a heavy bloom, large to very large, oblong, tapering to the point; flesh orange yellow, melting, rich and highly perfumed. July.

Burbank—The best of all the Japan sorts of plums; nearly globular, clear cherry red with a thin lilac bloom. The flesh is a deep yellow color, very sweet, with a peculiar and very agreeable flavor; tree vigorous, with strong upright shoots, large, broad leaves; commences to bear usually at two years. It blooms late and consequently is more likely to escape the late spring frost.

Prunus Simoni Syn. Apricot Plum. This remarkable plum came from Northern China; fruit large, cinnamon red color; the flesh is firm, rich, sweet, aromatic and delicious pineapple mingled with banana flavor; tree an upright grower, long hanging leaves, distinct. July.

Satsuma Blood—A fine large plum of the Oriental class, large as Kelsey, more globular in shape and from five to six weeks earlier; the flesh is solid, of a purplish crimson color from pit to skin, juicy and of fine quality; pit exceedingly small—very little larger than a cherry stone; tree a strong, vigorous grower with a brownish red bark and lanceolate foliage.



WIXON PLUM.

Kelsey—Fruit very large, from 7 to 9 inches in circumference; heart shaped, long pointed, usually somewhat lop-sided, with deep furrow like suture; skin greenish yellow, sometimes overspread with bright red, with a lovely blue bloom, very showy; flesh a light yellow, firm, meaty, and of pleasant flavor; quality excellent; free, bears heavily, coming in young.

Wixon—A remarkably handsome and very large deep maroon red plum of the Kelsey type; long cordate or oblong-pointed; flesh firm, deep amber-yellow, clinging to the small pit. There is apt to be a hollow space about the pit as in Kelsey; of first quality; an excellent keeper. Cross of Burbank with Kelsey, Burbank furnishing the seed.

Willard—Earliest of all Japan plums and hence very valuable for market; a strong, vigorous, hardy tree; very productive; fruit medium size, bright claret red with many minute dots; firm white flesh; free stone.

Cherries.



EARLY RICHMOND.

eight hundred trees it readily attracted attention as being the most thrifty and beautiful. When the original tree was eight years old it had fruited five years and was then one-third larger than any early Richmond of the same age.

Black Tartarian—Very large, bright purplish black; half tender, juicy, very rich, excellent flavor, productive. Free. Ripens first to middle of July.

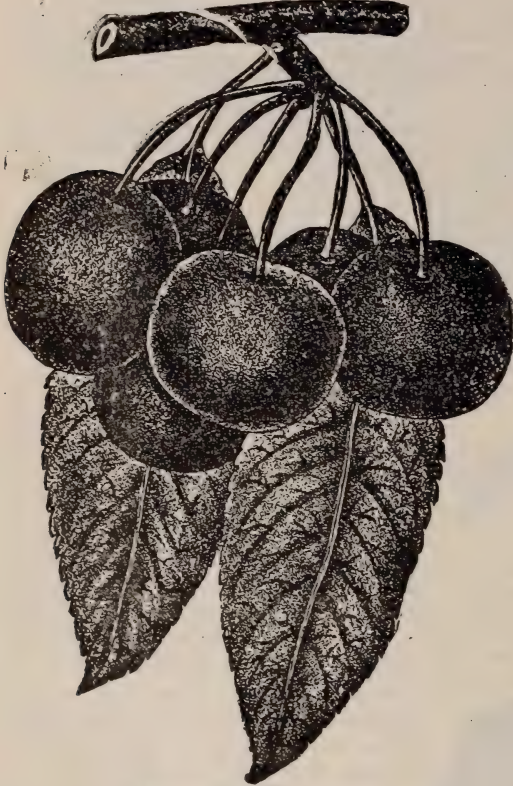
Dyehouse—This variety partakes both of the Morello and Duke, wood and fruit; a very early and sure bearer; ripens a week before Early Richmond; of better quality and quite as productive. Free. May and June.

Early Richmond—Everywhere the most popular; tree strong, thrifty grower, making a large symmetrical head; fruit medium size, dark red, melting, juicy, sprightly acid flavor, and especially valuable for cooking purposes; tree an early and abundant bearer. Season last of May and first of June.

CHERRY culture has been a success when proper attention has been given to the selection of varieties and their culture. The hardy, thrifty varieties of the Morello type may be freely planted with confidence of profitable results. The cherry tree should be planted in a naturally dry soil or the soil should be well drained so water may not remain near the roots for any considerable time. Cherries are now generally worked on Mahaleb, a stock that does not throw up sprouts from the roots. The most successful varieties in general cultivation are:

Baldwin—Tree an upright, vigorous grower, forming a round head; leaves large and broad; bloom pure white changing to pink; fruit large, almost round, very dark transparent wine color; flavor slightly acid, yet the sweetest and richest of the Morello type; stems rather large, of medium length and generally in pairs. Unexcelled in earliness, vigor, hardness, quality and productiveness. Out of

English Morello—Tree moderate grower; hardy, great and early bearer. The most valuable of the late varieties; fruit large, round, skin dark red, becoming nearly black when fully ripe; flesh dark red, tender, juicy, and of a pleasant sub-acid flavor when fully ripe. Season July.



LARGE MONTMORENCY CHERRY.

Lieb—Tree a fine upright grower, a variety of recent introduction of the Morello class; said to be an unusually promising variety ripening one week later than the Early Richmond; flesh firm and juicy with pleasant flavor.

May Duke—One of the best of cherries, and one of the most popular among experienced fruit growers in Kansas; fruit roundish, obtuse, heart-shaped, growing in clusters, and when fully ripe of a rich dark red; flesh reddish, tender and melting, very juicy, and when fully ripe of a rich excellent flavor. Season May and first of June.

Montmorency—This is a cherry of Early Richmond class, some larger and about ten days later; a strong upright growing tree and good bearer, and is by experienced horticulturists considered one of the most valuable varieties.

Olivet—Fruit large, globular, a shiny deep red sort; ripens early in June, and retains its excellence longer than most others; spoken of highly as a promising variety of recent introduction.

Ostheimer *Syn. Ostheimer Weichsel*. This magnificent late cherry was taken to Germany from Spain 1814, and brought from there to Kansas City where it was beginning to attract much attention about the time the Ostheim, a much inferior sort, was heralded abroad; when without any apparent cause they were tacitly assumed to be identical—greatly to the loss of cherry culture generally. The Ostheimer has done remarkably well, and is the cherry for the west. Mr. G. F. Espenlaub, of Kansas, says: "The best, most valuable and profitable sort I have. Good grower, bears early, is very productive; fruit large, dark liver-colored when fully ripe; juicy, rich, almost sweet."

Gov. Wood—One of the best of all the varieties of sweet cherries. The tree makes a fairly healthy growth. The same is true of Black Tartarian, Yellow Spanish and many others of the same class.

Wragg—Originated in Iowa. Medium to large in size, long stem, dark purple when fully ripe. A variety well adapted for the high latitude and prairie regions of the northwest. July.

March 17, 1902. The box of stock all in good shape and satisfactory.—H. J. HANSEN.

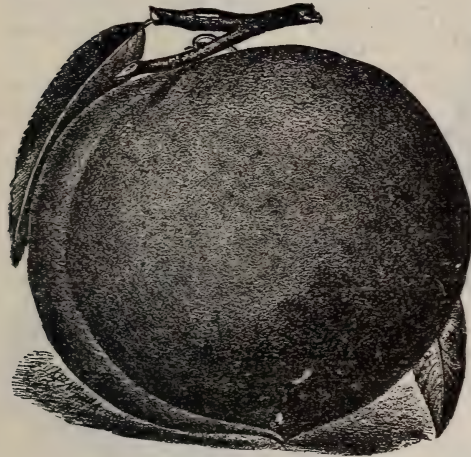
March 6, 1903. Trees came all right.—M. L. BONHAM.

Peaches.

PEACH trees should be planted 16 or 18 feet apart. To secure healthy, vigorous and fruitful trees and fine fruit, the following points should be well attended to: (1) Keep the ground clean and mellow. (2) Keep the heads low—the trunk should not exceed 3 feet in height. (3) Give them an occasional dressing of wood ashes; soap-suds also are good. (4) Prune every spring, shortening the shoots of the previous year's growth. This keeps the head round, full and well furnished with bearing wood. Cut weak shoots back about one-half, and strong ones about one-third, but see that there is left sufficient supply of fruit buds. Sickly and superfluous shoots should be cut out clean. The fruit is born on wood of last season's growth, hence the necessity of keeping up a good supply of vigorous annual shoots all over the tree. Young trees should be well mulched every spring.

Arkansas Traveler—Said to ripen earlier than Amsden, of which it is a seedling; fully equal to it in every respect.

Alexander Early—Large, well-grown specimens measuring 8 inches in circumference; handsome and regular in form, with deep maroon shade, covered with the richest tint of crimson; rich and good in quality, with a vinous flavor; adheres to the stone; should remain on the tree until fully ripe. Late June.



THE CHAMPION.

red cheek; skin tough, flesh of good quality; a perfect freestone. Prof. Budd says: "They are 30 per cent hardier than the old strain of Peaches." Sept. 1.

Carmen—Large, resembles Elberta in shape; color creamy white or pale yellow with deep blush; skin very tough, flesh tender, fine flavor and quite juicy; ripens with Early Rivers; one of the hardiest in bud, in shipping qualities and freedom from rot unsurpassed. Promises to stand at the head for a general long distance profitable market variety, in quality ranking superior to anything ripening at the same time. August.

The Champion—Fruit large, beautiful in appearance; flavor delicious, sweet, rich and juicy; skin creamy white, with red cheek; freestone. The peculiarity of this great acquisition is its hardiness. It stood a temperature of 18 degrees below zero in the winter of 1887-8, and produced an abundant crop the following season; and again in 1890 produced a full crop, when the peach crop was a universal failure. August 15.

Crawford's Early—This beautiful yellow peach is highly esteemed for market purposes. Fruit very large, oblong; skin yellow, with fine red cheek; flesh yellow, juicy, sweet and excellent; productive; free. July 1.

Amsden—Fruit medium size; color red, beautifully shaded and mottled with a very dark red, nearly covering the greenish white ground; flesh white, with a delicious flavor when ripened on the tree. June 15 to 30.

Blood Cling—A variety of the old Indian Peach. Fruit very large, form nearly round, skin dark purplish red, flesh very red; juicy and good. September and October.

Bokara No. 3—Raised from seed received from Bokara, Asia. The hardiest peach known; has been in bearing for several years in central Iowa, and produced fruit after 28 degrees below zero. Fruit measured over 7 inches in circumference. Yellow, with

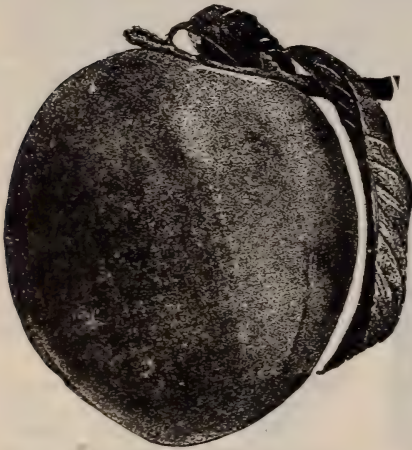
Crawford's Late—Fruit of the largest size; skin yellow, or greenish yellow, with dull red cheek; flesh yellow; productive; one of the best; free. Late August and September.

Crosby—Medium size, roundish, with distinct seam on blossom end; skin light golden yellow and very downy; flesh bright yellow and rather firm. Ripens between Early and Late Crawford. Tree of rather dwarfish habit. Has won special favor on account of great hardiness. A recent introduction, that has attracted very wide attention on account of its disposition to produce good crops in "off years," when other varieties usually fail.

Early Rivers—Large, light straw color, with delicate pink cheek; flesh juicy and melting, with very rich flavor. First of July.

Elberta—Very large and well colored; all things considered, the finest yellow free-stone in cultivation; no one can go amiss by planting it. Fruit perfectly free from rot; one of the most successful shipping varieties. August 20.

Family Favorite—Free; seedling of Chinese Cling, of better color; clear, waxen complexion, with blush; large, firm, valuable for shipping, canning or drying; prolific. Late July.



ELBERTA PEACH, REDUCED SIZE.

Foster—Large, deep orange red, becoming very dark red on the sunny side; flesh yellow, very rich and juicy, with sub-acid flavor; earlier than Early Crawford; very handsome; free.

Greensboro—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. A promising market variety.

Globe—An improvement on Crawford's Late; fruit large, globular, of a rich golden yellow with a red blush, flesh yellow, juicy. August.

Hale's Early.—Fruit medium size; skin clear, smooth, white, delicately marbled with bright and dark red on the sunny side; flesh very melting, juicy and highly flavored. July 10th to 20th.

Heath Cling—Large, oblong, creamy white, slightly tinged with red in the sun; very tender, juicy, melting; very rich and luscious. September 15th.

Large Early York—Large, white, with red cheek, fine grained, very juicy, rich and delicious; vigorous and productive; one of the best; free. First of August.

Lemon Cling—[Pineapple Cling.] Large, oblong, having a swollen point, similar to a lemon; skin yellow with red cheek; flesh yellow, firm, juicy and sweet; tree a fine grower. August.

Lemon Free—Almost lemon shape, pointed at the apex, color a pale yellow when ripe; it is of large size, the finest specimens measuring over twelve inches in circumference, of excellent quality, ripens after the Late Crawford, is immensely productive.

Mountain Rose—Large, red; flesh white, rich, juicy, excellent; one of the best early peaches, ripening with Hale's Early, and much larger and finer than that variety; should be in every collection. July.

Old Mixon Cling—Large, pale yellow, with red cheek; juicy, rich and highly flavored; one of the best clingstone peaches. August 20th.

Old Mixon Free—Large, pale yellow, with deep red cheek; rich and good; one of the best. August.

- Salway**—Fruit large, roundish, deep yellow, with a deep marbled brownish red cheek; flesh yellow, firm, juicy, rich and sugary; a new English variety; a late showy market sort; free. Last of September.
- Smock Free**—Fruit large, oval, skin orange yellow, mottled with red, a good market sort. September 15th.
- Sneed**—The most remarkable early peach yet introduced; it ripens a week to ten days earlier than Alexander, and belongs to an entirely different type from Alexander and Hale's Early; it is very distinct in tree and fruit, belonging to the Chinese Cling type; size medium, color white, with flush on cheek.
- Stump the World**—Very large, roundish; skin white, with a bright red cheek; flesh white, juicy and good. Last of September.
- Triumph**—Earliest yellow flesh peach, with good eating and shipping qualities. Ripens with Alexander, blooms late; sure and abundant bearer; strong, vigorous grower. Fruit good size, yellow, with red and crimson cheek.
- Wager**—Very large, more or less colored on sunny side; juicy and of fine flavor; free. First to middle of August.
- Wonderful**—This good peach created a remarkable furor at the Mt. Holley Fair of New Jersey. In beauty, productiveness and other desirable qualities, it is so fine the word "Wonderful" unconsciously escaped so many upon seeing it, that it became noted at once as that "Wonderful peach," hence that name has been accepted for it, contrary to the wishes of the owners by force of circumstances. It is a freestone of the richest golden yellow, largely overspread with vivid carmine, and ripens after nearly all other peaches.

Apricots.



A DELICIOUS fruit of the plum species, valuable for its earliness. It is liable to be attacked by curculio, and requires the same treatment as the plum; it bears immense crops; ripens in July and August.

Early Golden—Small, pale orange; juicy and sweet; hardy as the Russian apricot, and productive. Vigorous. First of July.

Harris—A new variety, recommended for its good bearing qualities and extreme hardiness. It was brought into notice by orchardists at Geneva, N. Y., who prize it highly as a market variety. It is equal in size and quality to the best cultivated sorts and should take the place of the Russian Apricot.

Moorpark—One of the largest; orange with a red cheek; firm, juicy, with a rich flavor; very productive. Vigorous. July.

Peach—Very large; orange, with a dark cheek; juicy and highly flavored; similar to Moorpark.

Improved Russian Varieties.

Alexander—An immense bearer; fruit of large size, oblong, yellow flecked with red, flavor sweet and delicious; tree hardy; one of the best. July 1st.

Alexis—Large to very large; yellow with red cheek; slightly acid, but rich and luscious; tree hardy and abundant bearer. July 15th.

Gibb—Medium size; yellow, sub-acid, rich and juicy; the best early sort, ripening with the strawberry.

J. L. Budd—Of large size; white, with red cheek; flavor sweet, juicy, extra fine; a hardy, strong grower and profuse bearer; the best late variety. August 1st.

Quinces.

THE Quince is, of late, attracting a great deal of attention as a market fruit. The tree is hardy and compact in growth, requiring but little space, productive, gives regular crops, and comes early into bearing. The fruit is much sought after for canning for winter use. When put up in the proportion of about one quart of quinces to four of other fruit, it imparts to them a most delicious flavor.

It flourishes in any good garden soil, which should be kept mellow and well enriched. Prune all the dead and surplus branches, and thin out the fruit if bearing too freely.

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 variety. October.

Champion—A new variety, originated in Connecticut, where it is exciting marked attention. The tree is described as a strong grower, a prolific and constant bearer; fruit averaging larger than the Orange, more oval in shape, quality equally fine, and a longer keeper.

Missouri Mammoth—The largest Quince in cultivation. Brought into notice in the vicinity of Kansas City, Mo., where it is fruited extensively, and is attracting great attention on account of its being large in size, perfect in shape, very rich and aromatic; tree vigorous, productive, an early bearer and free from blight.

Nectarines.

A MOST delicious, smooth skinned fruit, which thrives wherever peaches will grow, but it is liable to be stung by the curculio, and requires the same treatment as plums.

Boston—Large, deep yellow, with a bright blush and mottlings of red, sweet and peculiar, pleasant favor; freestone; the largest and most beautiful variety known; hardy and productive. Vigorous. August.

Mulberries.



DOWNING MULBERRY.

Downing's Everbearing—Color blue black; flesh juicy, rich, sugary, with a sprightly, vinous flavor; tree ornamental as well as fruitful.

Hick's Everbearing—Wonderfully prolific. Said to be superior to the Downing.

New American—Fruit of the largest size, black, delicious in flavor; an attractive lawn tree, with very large leaves; of rapid growth; hardy.

Russian—This makes a good shade and ornamental tree; growing full and symmetrical; holding its leaves late in the Autumn. It is a very rapid grower, bears fruit at two or three years of age, and every year. Color of the fruit varies some, but is generally black; very valuable.

Chestnut, American Sweet.

AMONG our large collection of ornamental native forest trees the Chestnut is unrivaled for its beauty. When grown in the open ground, it assumes an elegant symmetrical form. The foliage is rich, glossy and healthy, and the whole tree is covered in early summer with long, pendent, tassel-like blossoms. It is especially desirable for its nuts, which it bears profusely a few years after transplanting. The Chestnut thrives well in any soil except a wet one. When nursery grown, bears transplanting well, and once established grows rapidly, and soon comes into bearing.



Grapes.

TOO much can not be said in praise of the Grape. It is one of the best and most popular fruits, delicious for eating, especially desirable for cooking and preserving, and everywhere in large demand.

The vine comes quickly into bearing, yielding fruit usually the second year after planting, requires but little space, and when properly trained, is an ornament to the yard, garden or vineyard.

Almost everyone can find room for from six to a dozen or more Grapevines. They can be trained up the side of any building or over a garden fence, but the best and cheapest way to grow them, either in small or large quantities, is on a wire trellis.

Work the ground deep for grape vines, and plant a little deeper than they were in the



MOORE'S EARLY.

nursery. Make the rows 8 feet apart and plant vines 6 to 8 feet apart in the rows. Some of the tender varieties would be benefited by laying the vines flat on the ground during winter, with a light covering of earth or litter.

Agawam—Red, large, round, early, and of great vigor of growth; rich, high, peculiar aromatic flavor. Considered by Mr. Rodgers as the best of his strictly red hybrids.

Brighton—A cross between the Concord and Dianna Hamburg; bunches large, berries of medium size, flesh sweet, tender, and of the highest quality; ripens early; purple.

Campbell's Early—A seedling of Moore's Early, crossed with pollen of a choice seedling that resulted from a cross of Muscat Hamburg on Belvidere. It is regarded by Mr. Campbell as the finest Grape in all respects that he has produced in forty years of experimenting. Cluster large, shouldered, moderately compact; stem large, long, strong; berry large, nearly round, slightly elongated; black, with profuse, light blue bloom; skin thin, with slight pulpiness; flesh translucent, very tender and very juicy; flavor sweet, rich aromatic; aroma delicate, not foxy; quality best for both market and dessert. Season early.

Catawba—Well known as the great wine Grape of Ohio, Kentucky, etc. Bunches large and loose; berries large, of a coppery red color, becoming purplish when well ripened; two weeks later than Isabella. Where not subject to rot still holds its own as one of the best varieties.

Concord—A most popular variety, universally healthy, vigorous and productive; flesh somewhat buttery, moderately juicy and sweet; bunch large, nearly black, with bloom; early. Much is said about some grape to take the place of the Concord, its poor quality, etc., but the fact is generally recognized that the man who plants and cares for Concord vines will get bountiful crops of grapes and if they are allowed to remain on the vines until fully mature the quality is excellent. No other grape can be planted with the confidence that is felt in the Concord.



NIAGARA.

Delaware—Holds its own as one of the finest Grapes. 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; vines moderately vigorous, very hardy and productive; ripens before Concord.

Dracut Amber—Vine strong, hardy and productive; bunch medium in size; berries large, round; skin thick, pale red; valuable for market and cooking.

Early Ohio—Briefly, its points of merit are extreme earliness, hardiness and productiveness; the berry is black, smaller than Concord, firm in texture; the vine is thrifty, a strong, rapid grower and an abundant bearer. Its exceeding earliness makes it a decided acquisition.

Goethe—A fine, light-colored variety, tinged and nearly covered with red when fully ripe. It has more



BRIGHTON.

the flavor of its foreign parent than any of the others, being tender to the center; bunch and berry large; ripens with Catawba.

- Hartford Prolific**—Valuable in Northern localities. Bunches large, compact, shouldered; berry large, round; skin thick; flesh sweet, juicy; vine vigorous and exceedingly productive. Ripens two weeks before the Concord.
- Ive's Seedling**—Vine healthy, strong grower; fruit bunch medium to large; flesh sweet and juicy, but foxy and puffy; a desirable market grape on account of its good keeping qualities; it colors early, but ripens later than the Concord.
- McPike**—This grand variety was originated in Southern Illinois. Has taken premiums at Ohio, Illinois, Indiana, and Missouri state fairs. The McPike is a seedling of the Worden, perfectly hardy, with leaf unprecedented. It is earlier than the Concord; bunches large, even and compact; berries even in size, covered with a beautiful bloom, black in color, ripens uniformly, and has generally the appearance of Worden. The berries are of mammoth size, being three inches in circumference, and of superb quality; by far the best grape grown.
- Martha**—A seedling of the Concord which it resembles in growth and hardiness; bunch of good size, and berry large, of pale green or light color; sweet, juicy, sprightly; ripens with Concord.
- Moore's Early**—Seedling of Concord, combining the vigor, health and productiveness of Concord, and ten days earlier than Hartford; in quality hardly to be distinguished from Concord. This grape has taken the first prize at the Massachusetts Horticultural Society each year since 1872, when first exhibited, and the \$60 prize of same society for the best new seedling in Fall, 1877. A valuable acquisition. Bunch large; berries very large, black.
- Niagara**—Bunch medium to large, compact, sometimes shouldered; berries large, roundish, uniform; skin thin but tough, pale green at first, changing to pale yellow when fully ripe, with a thin whitish bloom; flesh slightly pulpy, tender, sweet before it is fully ripe; vine vigorous, healthy and productive; ripens with the Concord.
- Pocklington**—Seedling from Concord. Originated and raised from seed by John Pocklington, Washington, County, N. Y., an elevated, cold, late locality. The vine is thoroughly hardy, both in wood and foliage; a strong grower, never mildews in vine or foliage; called a white grape, but the fruit is a light yellow, clear, juicy and sweet to the centre, with little or no pulp; bunches very large, sometimes shouldered; berries round and very large and thickly set; quality, when fully ripe, superior to the Concord; ripens with the Concord.
- Salem**—(Rogers' No. 53). Bunches large and compact; berries large, round; flesh tender, juicy, sprightly, sweet and good; ripens soon after the Delaware.
- Woodruff Red**—Very hardy, a rank grower, and very healthy; the fruit is large in bunch and berry, attractive, shouldered, sweet and of fair quality. Desirable as a market variety; ripens soon after Concord.
- Worden**—Seedling of 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. These qualities will give it the foremost rank among native Grapes.
- Wyoming Red**—A very early, medium sized red variety; bunch small but compact; skin bright red; sweet, very agreeable were it not for the slight foxy odor apparent when first gathered.

April 11, 1903. Received shipment of trees shipped March 28 O K. Twelve days on the road. C. CORNELIUS.

April 19, 1903. I received box of trees and shrubs from you it came in due season and good shape. I think I will want more stock yet. W. P. GRIFFITH.

April 4, 1903. Trees arrived Friday night all right will make several deliveries around town today. I am pleased with them. W. B. WALTON.

SMALL FRUITS.

THESE may everywhere be successfully cultivated, and yield large returns at comparatively small expense. They should have a place in every garden. Since the introduction of self sealing jars and cans, they can be had throughout the year almost as fresh as when gathered. If any thoughtful farmer will figure up the returns from a berry patch as compared with one of his heavy crops by area, he will be convinced as to the profits.

Strawberries.

The ground should be prepared the same as for other crops; if not already rich, make it so by manuring. Mark out the rows the desired width, and set plants 12 to 18 inches apart in the rows. If set 12 inches apart in rows 4 feet apart, an acre will require 10,890 plants, same as if set 16 inches, in rows 3 feet apart. In early winter, when the ground is frozen, cover the whole with long straw, which should not be removed from the plants in the spring, but allowed to remain on the ground as a mulch, to keep the berries clean the next summer.

Pistilate varieties marked P fertilize with staminate varieties marked S.

Beder Wood—Large, roundish conical; bright scarlet, moderately firm, fair quality; plant vigorous and very productive. A very valuable early sort for home use or near market, following Michael's Early.



BUBACH NO. 5.

its productiveness. The plants are wonderful in growth, taking entire possession of the ground to the exclusion of weeds and grass. At home on all soils.

Cumberland Triumph—S. Berries immense; of fine form and flavor. Plant very vigorous and productive.



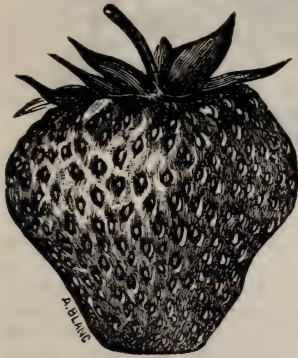
Bubach No. 5—P. A wonderful berry in vigor of plant and yield of fruit even under careless culture. The fruit is in many instances enormous, and the average is large and handsome. It is exceedingly productive and very valuable for a nearby market. Midseason.

Captain Jack—S. A most vigorous grower, healthy and productive. Berries large, handsome and solid.

Charles Downing—S. Large, conical, crimson; flesh firm, of fine flavor and good quality; plant healthy, vigorous and productive. A good fertilizer for all pistilate varieties.

Crescent—P. Medium, conical, bright scarlet, very uniform in size. A beautiful berry, beginning to ripen with Wilson's Albany, and continuing in fruit longer. Has been shipped 200 miles without changing color. It is astonishing in

Gandy—S. A reliable late variety; berries bright crimson, very uniform in size and shape, large, firm; plant vigorous and healthy.

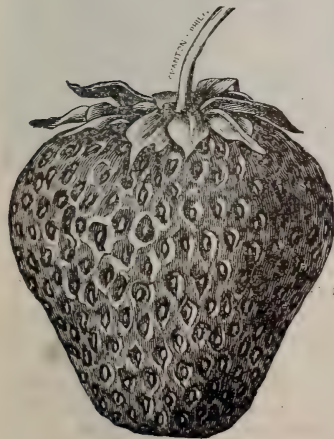


CRESCENT.

delicious; ripens about a week later than most varieties; fruit firm; a fine market sort. Plant hardy and very productive; valuable for the late market.

Jessie—S. A stout luxuriant grower; foliage light green, large and clean; the berry is very large, continuing large to the last picking; is of a beautiful color, firm quality, good form, having been shipped 600 miles in good condition.

Parker Earle—Produced in Texas in 1886; is very robust, with strong penetrating roots; a model in makeup; endures well the long, hot, dry summers of Texas and in Michigan and New York stands the winter cold equal to any other variety; enormously productive, flowers perfect, protected from late frosts by abundance of leaves; trusses strong, long and large; berries regular, conical with short neck, glossy, scarlet crimson, firm, no hollow



Warfield.

Glendale—Fruit large, very firm; quality best for canning. Plant strong grower, and as productive as Charles Downing.

Greenville—P. Resembles Bubach, but is firmer and a better shipper; uniform in size, regular outline, excellent quality. Plant a strong grower, free from rust and one of the most productive.

Haverland—P. Profitable by reason of its productiveness and earliness, but is hardly firm enough for distant shipment; requires deep, heavy soil; plant exceedingly vigorous and healthy; fruit large, handsome and good, though not of the best quality; rather long in shape, and of a bright, glossy crimson; early.

Kentucky—Very large, bright scarlet, sweet and



CAPTAIN JACK.

core, seeds golden; it shows well several days after picking, carries finely in long shipments, presents an attractive appearance in the crate and brings the highest price in the market; season early to medium.

Miner's Prolific—One of the handsomest strawberries, rich in quality, and when the season is favorable very productive.

Robinson—Fruit is large and perfect, firm and, a good shipper. The plant is a good grower and fertilizer; prolific.

Sharpless—Large; of delicious flavor; good bearer; bright color. Specimens exhibited weighed $1\frac{1}{2}$ ounces, and measured $1\frac{1}{2}$ inches in circumference.

Warfield—Possesses beauty, firmness, earliness, good flavor, productiveness. Is not immensely large, but quite satisfactory.

Plant strawberries in the spring.



ONE of the choicest of small fruits, coming into use as the Strawberry season comes to an end. Nothing can be more refreshing than a dish of Raspberries. Should be planted four by six feet apart in a deep soil; one that will retain moisture well in a drouth. In training, allow only a few canes to grow from each plant, cutting away all suckers, to throw the strength into the stock for bearing. All old canes should be removed when the bearing season is over. Tender varieties should be protected during the winter in the northern states.

Red Raspberries.

Cardinal—This is certainly the most remarkable plant in cane growth ever introduced. It is a strikingly beautiful bush to look at and this remarkable cane growth is extremely hardy. The thermometer registered 26 degrees below zero the winter of 1898-'99, and it withstood this severe test without apparent injury. Its productiveness is all that could be desired. It will produce twice the amount of fruit of any other purple sort. Color of berry is a little darker than Columbian; a little more acid in flavor; berry rounder, of the same size or larger. It is doubtless the best of its kind ever introduced.

Cuthbert, or Queen of the Market—A remarkably strong, hardy variety, stands the Northern winters and Southern summers equal to any; berries very large, measuring three inches around; conical; rich crimson; very handsome, and so firm they can be shipped hundreds of miles by rail in good condition; flavor is sweet, rich and luscious.



LODON.

Lodon—Canes strong and hardy, and berries large size, good color, and excellent quality. Its wonderful vigor and hardiness, together with productiveness and fine quality, make it very desirable for either home use or a market fruit.

Strawberry-Raspberry. *Rubus Sorbifolius*.—One of the remarkable recent introductions from Japan. A beautiful dwarf raspberry, seeming from its character to be a hybrid between the raspberry and the strawberry. Bush dies to the ground in the fall, makes a handsome low spreading plant, with dark green

foliage. Fruit is early, stands well out from the foliage; size and shape of a strawberry; color brilliant crimson.

Japanese Raspberry. *Syn. Wineberry.*—Berry round, deep red, glossy, handsome and fairly firm. Born in large clusters, and each berry at first tightly enveloped by large calyx, forming a sort of burr, which is covered with purplish red hairs. These gradually open and turn back, exposing wine-colored fruit of medium size, brisk sub acid, retaining flavor when cooked.

Black Caps.

Cumberland—This is a new and especially large Black Raspberry, has been well tested in nearly all sections, giving thorough satisfaction. In hardiness and productiveness it is unexcelled by any other variety. In size the fruit is simply enormous, far surpassing any other sort. The quality is very similar and fully equal to Gregg. The fruit is firm and will stand long shipments. It is a mid season variety. The bush is exceedingly healthy and vigorous, and well adapted for supporting their loads of large fruit.

Gregg—This is decidedly the largest and most prolific Black Cap that we have ever seen, surpassing in size the famous Mammoth Cluster, averaging when grown side by side with the same treatment, larger. The Gregg is the most popular Raspberry (today) we have in cultivation.

Hopkins—Resembles somewhat, in fruit and cane, the old Mammoth Cluster, but an improvement upon it; canes very vigorous, healthy and productive; one of the best early Black Caps and worthy of a place in all collections. It is grown more extensively for the market in Western and Southern Missouri and Eastern Kansas than any other variety.

Kansas—Originated at Lawrence, Kansas. It is healthy, vigorous and not subject to leaf blights; produces strong, healthy tips; fruit large, as fine a berry as Gregg and equally as good a shipper; ripens just after the Souhegan; very prolific.



Blackberries.

THESE require the same kind of soil and treatment as Raspberries, except that they should be planted in rows 8 feet wide and 4 feet apart in the row. For self sustaining bushes, clip off the points of the growing canes as soon as the plants are about 4 feet high, and repeat the operation several times, until they assume the form of a bush. Mulching is of great advantage to both Raspberries and Blackberries.



EARLY HARVEST.

Ancient Briton—Upright grower; berry large. An old and reliable variety of Wales, which should be sufficient guarantee of its hardiness; fruit large, sweet, little to no core. Ripens about midseason.

Early Harvest—This is the earliest of blackberries, ripening with Mammoth Cluster raspberry. The fruit is of medium size, glossy black and firmer than any other Blackberry known.

Erie—Cane strong; berry large, almost round, of rich quality, handsome and firm. Plant hardy, vigorous and productive, bending its canes with fruit.

Kittatiny—Begins to ripen soon after Wilson's Early, and continues longer in bearing; is ripe as soon as black,

and is much earlier, sweeter and better in all respects than Lawton, which it resembles in plant and fruit. The great fault of Kittatinny is the rust, which sometimes destroys a whole plantation. When it escapes rust the best blackberry known.

Rathburn—Fresh, juicy and high flavored; soft throughout and no hard core; sweet and delicious; carries well to market; propagates from tips.

Snyder—Extremely hardy, enormously productive; fruit of medium size, with no hard sour core; half as many thorns as Lawton or Kittatinny, and they are straight and short; most prolific Blackberry grown; comparatively free from rust; a safe and profitable berry to plant. Has been a standard market berry over a wide range of country for years. Succeeds and yields well everywhere; is a great favorite north for its hardiness.



TAYLOR.

Taylor, or Taylor's Prolific—Strong, upright grower; berry large, late; should be planted with an early for a succession of fruit. The strong point with Taylor is endurance and heavy crops. Very successful in bleak New Hampshire and Canada. The berry is very sweet and rich in flavor. Can furnish fine Taylor plants grown from cuttings. These have more roots, are stronger, and bring fruit quickly.



LUCRETIA DEWBERRY.

Lucretia Dewberry.

Fruit very large, luscious and handsome; perfectly hardy, a strong grower and enormously productive; a superb and very profitable market fruit. The vines should be allowed to remain on the ground during winter, and be staked up early in the spring.

MARCH 23, 1903. I got the stock Saturday the 21st. They checked out all right, and I am well pleased. The stock is fine. C. M. MOSER.

Currants.

CURRENTS should be planted in the garden four feet apart. Sawdust or tan-bark should be used as mulch. The currant flourishes in almost every kind of soil, but to have the fruit in perfection, plant in rich, deep soil, and give good annual pruning and cultivation. When plants are grown as stools or bushes, the older and feebler suckers should be cut out, such as crowd and overbear the plant. When grown in the form of a tree, with single stem, the bearing wood should be thinned out, and the stem and root kept free of suckers.

Red Dutch—An old, highly esteemed sort, hardy, and reliable; fruit medium size, bright red and of best quality. It is well to plant some high priced, new kind if you want a pet, but if you want Currants plant Red Dutch.

Cherry—The largest of all the red Currants. Berries sometimes more than half an inch in diameter; bunches short; plant very vigorous and productive when grown on good soils and well cultivated.

Crandall—A native black seedling of the Western Wild Currant, and much superior to any of the named varieties yet introduced; distinct from the European black varieties and without their strong odor; wonderfully productive, a strong, vigorous grower, usually producing a crop next year after planting, large size, $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter; easily picked; can be shipped farther and kept longer than any other small fruit, free from all attacks of insect enemies.

Fay's Prolific—Color deep red; a great bearer; stems longer than Cherry and berries hold their size to the end of the stem better; quality first-class, not quite so acid as the Cherry; claimed to be the most prolific and best of all red currants.

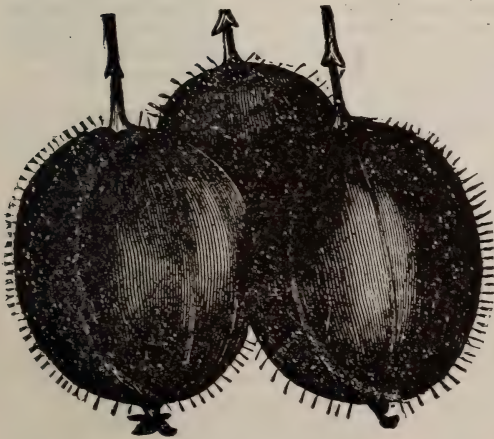
North Star—The average length of the bunches is four inches; the berries from a single bunch, thirty in number, placed side by side, touching, covered a line twelve inches in length; the fruit is superior, very sweet and rich in quality, firm, a good market berry, desirable as a dessert fruit in the natural state and unequaled for jelly.

Pomona—This currant, while not the largest, yet is of good size and always attracts the buyer on market. It is a beautiful, clear, bright, almost transparent-red, has but few and small seeds, is much less acid, or sweeter than any of the common sorts. It is easily picked, hangs a long time after ripe; and is one of the best to hold up in shipping or on the market. It also retains its foliage long after all other sorts have shed most of theirs, thus shading the fruit and protecting it from scalding by the hot sun.

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.



Gooseberries.



INDUSTRY GOOSEBERRIES.

In order to produce large abundant crops of Gooseberries it is necessary to manure heavily and prune closely. The English varieties do not require much pruning. Mildew is prevented by close planting and heavy mulching. Plant 3 to 4 feet apart each way.

Downing—Fruit larger than Houghton; roundish, light green, with distinct veins, skin smooth, flesh rather soft, juicy and very good; very valuable.

Houghton—A medium sized American variety, which bears abundant and regular crops, and never mildews; fruit smooth, red, tender and very good; very valuable.

Industry—The best English Gooseberry yet introduced, of vigor-

ous, upright growth, and a greater cropper than any known variety, and much less subject to mildew than other English sorts; berries of the largest size, one and one-half inches in diameter, and of most excellent flavor, both pleasant and rich; color when fully ripe, dark red.

Pearl—Native American seedling. It has a vigorous, healthy bush, free from mildew and enormously productive. Berries one-half larger than the superb Downing; rich and sweet. Promises to be the greatest of all American Gooseberries.

Red Jacket—A purely American variety rivaling the foreign sorts in size. A strong thrifty grower, entirely free from mildew, very hardy and exceedingly productive. Berries large, smooth, of a beautiful ruby red, and of fine flavor.

Smith's Improved—Large, oval, light green, with bloom; flesh moderately firm, sweet and good; vigorous grower.

Dwarf Service or Juneberry.



DWARF JUNE BERRY.

of the soil, over which the roots should be evenly spread, so that the crown, when covered, should be three inches below the surface of the ground. If planted in fall, the whole should be covered before winter sets in with two or three inches of course stable manure, which may be lightly forked in between the rows as soon as the ground is softened in the spring.

Conover's Colossal—A mammoth variety of vigorous growth, sending up from 15 to 20 sprouts, from 1 to 2 inches in diameter, each year; color, deep green; crown close.

Rhubarb or Pie Plant.

This deserves to be ranked among the best vegetables in the garden. It affords the earliest material for pies and tarts, continues long in use, and is valuable for canning. Make the border very rich and deep for this plant.

Linnaeus—Large, early, tender and fine. The very best of all.

Coins and Buds.

Can be supplied of most varities of fruits, etc. Prices given on application.

MARCH 18, 1903. Father was pleased with the stock and their condition.
I. O. SEWELL.

ORNAMENTAL DEPARTMENT.



IT IS now nearly fifty years since the white man began to cultivate, and improve, and make homes, and farms, and cities in Kansas and Nebraska; and it is a still longer time since such improvements began in Missouri and Iowa, and a less time since such beginnings have been made in Colorado, and Oklahoma and the Indian Territory. At the first it was a struggle for life and a place in which to plant modern civilization, but as time has gone on, the industry and thrift of the people have brought comfort, and taste, and beauty of landscape, and farm and city home that at first was not possible. This taste for beauty and comfort has found expression in the planting of trees and shrubs in park, and home, and school, and along the public highway until what used to be an endless sea of open prairie has become a variegated landscape. Orchards, and hedges, and parks, and timber lands,

and lawns planted to trees and shrubs are everywhere found, and as the love of the beautiful and the means to gratify the taste are each year being realized, these plantings of trees and shrubs will be largely increased. In the past the work of planting orchards has largely predominated, but the work of ornamental planting has been increasing rapidly and may be expected in time to come to be given larger attention year by year as time goes on. In view of this the Willis Nursery has in the last few years greatly increased its plantings of ornamentals in all lines, both in quantity and variety, and we are now prepared to supply a much larger trade than we have ever been before.

We recommend to the general planter only the hardiest varieties, as the severity of the winter and sometimes of drouth in summer will often cause failure with many varieties that are especially desirable in other places. Those who have time and will give proper care and protection to such as need care and protection, will be abundantly repaid for their trouble.

No pains are spared to produce the finest specimens of the best varieties of ornamental trees and shrubs. When you plant ornamental trees and shrubs always cultivate the ground thoroughly till they have become well established and in a thrifty, strong, growing condition. Most deciduous trees and shrubs may be planted either in spring or fall as desired, but evergreens will be planted to a better advantage in the spring only.

Ornamental trees only require such pruning as will prevent a straggling growth of head and keep the head at a desired height. Shrubs should be pruned so as to bring out the most beautiful natural shape and induce, in flowering varieties, the greatest amount of bloom. With flowering shrubs these principles may be observed: Varieties flowering in the spring should be pruned and pinched, and old wood cut out after flowering from time to time through the growing season, in order to induce growth of flowering wood, and not in the spring before blooming, which would run over the blossom buds. Those like hydrangeas, which bloom late in the season, should be pruned in the spring before they start to grow, since their flowering wood is about to be produced. There is no advantage in trimming all specimens to one form or shearing. The natural beauty of each specimen is to be developed. Hedges should be sheared into regular form.

Ornamental Trees.

WIND-BREAKS of trees, more especially if they are evergreen, make the dwelling house warmer, give comfort to its inmates, and diminish to no inconsiderable extent the consumption of fuel; they make the outbuildings warmer for stock by night, and the yard by day, not only making the dumb animals comfortable, but thereby saving a large amount of food.

Ash, White—A rapid-growing native tree of fine symmetrical outline; a valuable street or park tree, and should be extensively planted for timber, as the demand for this timber is very great for the manufacture of implements, railway cars, furniture, etc.

Birch, European White. *Betula alba*.—A well known tree, with graceful, airy foliage, and silvery white bark; very desirable for the lawn, either as a single specimen or in contrast with other trees in a group.



BECHTEL'S CRAB, ONE-FOURTH SIZE.

Bechtel's Double-Flowered American Crab—One of the most beautiful of the many fine varieties of flowering Crab Apples. Tree of medium size, covered in early spring with large, beautiful, double, fragrant flowers of a delicate pink color. From a distance the flowers have the appearance of roses. A great acquisition. Blooms when quite young.

Catalpa, Bungei.—This, on its own root, is a dwarf Catalpa, a close, compact shrub, absolutely healthy, hardy; its branches are numerous and short, the broad leaves lay as shingles on a roof, making a dense shade, and when worked eight or more feet high, makes the umbrella-shaped top tree equal, if not even more symmetrical, than the famous Chinese Umbrella tree of the south; being thus worked it has grown five and one-half feet in diameter in two years.

Catalpa, Speciosa.—A variety originating in the west, more upright and symmetrical in its growth than the common Catalpa, and blossoms two or three weeks earlier. Very valuable for timber, fence posts, railroad ties, etc., possessing wonderful durability; a very ornamental and valuable tree.

common Catalpa, and blossoms two or three weeks earlier. Very valuable for timber, fence posts, railroad ties, etc., possessing wonderful durability; a very ornamental and valuable tree.

Cherry, Flore Alba Pleno.—(Large, Double Flowering Cherry). At the period of flowering, a remarkably beautiful and attractive tree; the flowers are so numerous as to conceal the branches and to present to the eye nothing but a mass of bloom, each flower resembling a miniature white rose; a valuable variety deserving wide dissemination. May.

Dogwood, Cornus Florida.—An American species of fine form, growing from 16 to 25 feet high; the flowers are produced in the spring before the leaves appear, are from three to three and one-half inches in diameter, white and very showy, resembling the Clematis flower somewhat; the foliage in autumn is of a deep red color, rendering the tree one of the most beautiful objects at that season.

Elm, American White.—The noble drooping, spreading tree of our own woods; one of the grandest of park or street trees.

Horse Chestnut, Double White.—A superb variety, with large spikes of handsome double flowers.

Horse Chestnut, Common or White Flowering.—A very beautiful, well-known tree, with round, dense head, dark green foliage, and an abundance of showy flowers in early spring. As a single lawn tree or for street it has no superior.

- Judas Tree, or Red Bud.**—A very ornamental small tree, native of the western states, which, in the early spring before the leaves appear, is covered with delicate pink flowers. "Nothing can be more beautiful in April or May than a large, round-headed Red Bud, covered with its beautiful flowers, before the bursting of a single leaf."
- Locust, Black, or Yellow Locust.**—A native tree of large size, rapid growth, and valuable for shade as well as quite ornamental. The flowers are disposed in long, pendulous racemes, white or yellowish; very fragrant, and appear in June.
- Honey Locust. Three-Thorned Acacia. *Gleditschia Triacanthus.***—A rapid-growing tree; delicate foliage, of a beautiful, fresh, lively green, and strong thorns; makes an exceedingly handsome, impenetrable and valuable hedge.
- Rose, or Moss Locust.**—A native species of spreading, irregular growth, with long, elegant clusters of rose-colored flowers in June, and at intervals all the season.
- Linden. American Basswood. *Tili Americana.***—A fine native tree, with large leaves and fragrant flowers.
- Maple, Ash Leaved (Box-Elder).**—A fine, rapid-growing variety, with handsome, light green permeated foliage and spreading head; very hardy, excellent for avenues.
- Maple, Wier's Cut-Leaved.**—A Silver Maple, with remarkable and beautiful dissected foliage. Of rapid growth; shoots slender and drooping, giving it a very graceful appearance; should be in every collection.
- Norway Maple.**—A foreign variety, with large, broad leaves of a deep rich green; probably the best Maple in cultivation.

April 26, 1903. I may take up the work as agent again. You have the name of sending good stock. S. F. WALTER.

April 3, 1903. Your nursery stock gave good satisfaction. C. T. ZIMMERMAN.

April 27, 1901. Trees received all right. Thanking you for quality, care in packing, and promptness in filling order, I am PAUL MORTON.

- Silver-Leaved Maple. *A. dasycarpum.***—Of rapid growth; of great value where a rapid-growing tree is desired; very hardy and easily transplanted; a favorite street or park tree.
- Sugar or Rock Maple. *A. Saccharinum.***—A very popular American tree, and for its stately form and fine foliage, justly ranked among the very best, both for lawn and avenue.
- Mountain Ash, European. *Sorbus aucuparia.***—A very beautiful tree of medium size, with an erect stem, smooth bark and round head; covered during the fall and winter with bright scarlet berries; universally admired.
- Mountain Ash, Oak-Leaved. *S. quercifolia.***—A handsome tree of erect habit and rich green foliage, deeply lobed; very hardy and desirable.
- Mulberry, White. *Morus alba.***—A small-sized tree of slender but very rapid growth; produces fruit of pinkish white color.
- Mulberry, Russian.**—Similar to the white; very hardy.
- Olive, Russian.**—An ornamental tree of special value; attains a height of thirty feet or more; bark and leaves light green when young, bark becoming darker as the tree grows older, and the leaves more silvery white; blooms profusely in June in small racemes three inches long, and their fragrance is decidedly sweet and spicy; an excellent lawn tree.
- Plum, Purple-Leaved. *Prunus Pissardii.***—Very remarkable and beautiful, with black bark and dark purple leaves; remaining very constant until late in the fall; the new growth is especially bright; the fruit is also red and said to be very good; a great acquisition.

- Persimmon Tree.** *Diospyros Virginica*.—A small native tree, with pleasing, shining foliage, and well-known fruit.
- Balsam.** *P. Balsamifera*.—Balm of Gilead. Of very rapid growth; large, glossy leaves.
- Carolina Poplar**—Of good form and robust growth, and desirable where a very large tree is required.
- Sycamore.** *American Plane or Buttonwood*.—A well-known tree and one that is well adapted for streets in cities where the gas and smoke are injurious to foliage.
- Tulip Tree.** *Liriodendron Tulipifera*.—A native tree of the Magnolia order; remarkable for its symmetry, its rich, glossy foliage, regularly distributed branches and large, tulip-like flowers; difficult to transplant unless of small size.

Weeping Deciduous Trees.



CUT-LEAVED WEEPING BIRCH.

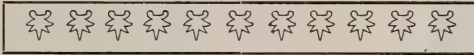
- Ash, European Weeping.** *Excelsior Pendula*.—The common, well known sort; one of the finest lawn and arbor trees, covering a great space and growing rapidly.
- Birch, Cut-Leaved Weeping**—An elegant, erect tree, with slender, drooping branches, and fine, cut leaves. A magnificent variety, and worthy of a place on every lawn. We know of no more beautiful tree than the Cut-Leaved Weeping Birch.
- Elm, Pendula.** *Camperdown*.—Its vigorous, irregular branches, which have a uniform weeping habit, overlap so regularly that a compact, roof-like head is formed; the finest Weeping Elm.



TEA'S WEEPING MULBERRY.

Mulberry, Tea's Weeping Russian. *M. Siberica pendula*.—A graceful and beautiful, hardy tree, forming a perfect umbrella-shaped head, with long, slender, willow branches, drooping to the ground and gracefully swaying in the wind. Foliage small, lobed, and of a delightful, fresh, glossy green. The tree is exceedingly hardy, and of rapid growth and abundant foliage; admirably adapted to cemetery planting and susceptible of being trained into almost any shape.

- Mountain Ash, Weeping.** *Aucuparia pendula*.—A beautiful tree, with straggling, weeping branches; makes a fine tree for the lawn; suitable for covering arbors.
- Kilmarnock Weeping Willow.** *Caprera pendula*.—An exceedingly graceful tree, with large, glossy leaves; one of the finest of this class of trees; very hardy.
- Wisconsin Weeping Willow.**—Of drooping habit, and said to be perfectly hardy in the southwest.



EVERGREENS are beautiful all the year, and form grand specimens in time. We strongly recommend our customers to plant more largely of hardy sorts. In the windy west they are of special value for screens, hedges and wind-breaks. We offer the best sorts at good rates.

Arbor Vitæ, American or White Cedar. *Occiden-*

talis.—This is one of the fine medium-sized evergreen trees; one of the best and most available of the evergreens for screens. It is a native of the coldest part of the country, and there are few places where it will not thrive. Used more than any other variety for ornamental hedging. By the proper use of the knife and shears it can be made to grow into almost any desirable form.

- Arbor Vitæ, Pyramidalis.** The most beautiful of all Arbor Vitæs, having dark green compact foliage and remarkably erect form; perfectly hardy.
- Arbor Vitæ, Siberian.**—Grows slower and more compact than the American, of which it is a variety; foliage thicker, more luxuriant, and keeps its color well in winter; perfectly hardy; one of the most desirable and useful evergreen trees in this climate.
- Juniper.** *Irish Juniper*—A distinct and beautiful variety of erect, dense, conical outline, resembling a pillar of green; very desirable.
- Savin.** *Sabina*.—A low spreading tree with handsome dark green foliage; very hardy and suitable for rock work.
- Austrian or Black Pine.** *Pinus Austriaca*.—A native of the mountains of Syria; a rapid growing species with long stiff dark green leaves; very hardy.
- Scotch Pine.** *P. Sylvestris*.—A native of British Islands; very rapid in its growth. A dark, tall evergreen, with bluish foliage and rugged shoots; hardy, and grows well even on the poorest soils.
- White Pine.** *Strobus*.—The most ornamental of all our native pines; foliage light, delicate or silvery green; flourishes in the poorest soils.
- Red Cedar.**—A well known American Evergreen with deep green foliage; makes a fine ornamental hedge plant. One of the



IRISH JUNIPER.

hardiest and most reliable. About the only evergreen we know of that is indigenous to Kansas.



NORWAY SPRUCE.

Norway Spruce. *Abies Excelsa*. A lofty, elegant tree, of perfect pyramidal habit, remarkably elegant and rich, and as it gets age has fine, graceful pendulous branches; it is exceedingly picturesque and beautiful; very popular, and deservedly so, and should be largely planted; one of the best evergreens for hedges.

American White Spruce. *Alba*. A tall tree, with compact branches and light green foliage.

Colorado Blue Spruce. *Picea pungens*.—This species has been tested at various points on the prairies of the west and northwest with perfect success, enduring a temperature of thirty degrees below zero, in exposed situations, entirely uninjured. This is not only one of the hardiest, but the most beautiful in color and outline; foliage of a rich blue or sage color; it is a valuable acquisition.

Hemlock Spruce. *Canadensis*.—A remarkably graceful and beautiful native tree; with drooping branches and delicate, dark foliage, like that of the Yew; distinct from all other trees; it is a beautiful lawn tree and makes a highly ornamental hedge.

Deciduous Shrubs.

PRUNING, ETC. Straggling growers, like the Forsythia and Pyrus Japonica, should be repeatedly pinched back or clipped during the growing season, to produce a close, compact form. Weigelas and Deutzias should be pruned like currants, leaving the strong young wood to flower. Althæas, and some of the Spiræas, which bloom on the new shoots, may be pruned back each year to the old wood. A very beautiful hedge can be made by intermingling different flowering shrubs, and clipping, or allowing them to grow naturally.

Althæa, or Rose of Sharon. *Hibiscus*.—These are especially valuable because of their flowering in the fall, when nearly all other shrubs are out of bloom; entirely hardy and easy of cultivation.

Althæa, Double Purple. *H. purpurea*.—Double; reddish purple; fine.

Althæa, Totus albus—Double white, with pink center.

Althæa, Variegated-Leaved Double Purple—A very showy, distinct kind; leaves variegated with light yellow, flowers double purple.

Almond, Dwarf Double Rose-Flowering. *Amygdalus*.—A beautiful shrub, with small, double, rosy blossoms, closely set upon the twigs before the leaves appear,

Almond Dwarf Double White-Flowering. *A. pumila alba*. An abundant bloomer.

Calycanthus, Sweet-scented Shrub or Allspice—An interesting shrub, having a rare and peculiar fragrance of wood and flowers; its blossoms are abundant, and of peculiar chocolate color.

Deutzia, Slender-Branched. *D. gracilis*.—A charming species, introduced from Japan by Dr. Siebold; flowers pure white. Fine for pot culture, as it flowers freely at a low temperature in winter.

Euonymus, Burning Brush. Syn. Strawberry Tree. A very ornamental and showy shrub. The chief beauty consists in its brilliant, dark red berries, which hang in clusters from the branches until mid-winter; planted with a background of evergreens, the effect of contrast is very fine; leaves scarlet in autumn.

Forsythia—Leaves dark green; flowers bright yellow, opening very early in spring. A fine, hardy shrub.

Honeysuckle, Upright Red Tartarian. *Lonicera*.—A well-known shrub; flowers bright pink, which appear in May.

Honeysuckle, White Tartarian—Like the preceding, but has dull, white flowers.



HYDRANGEA.

and bunches of black berries; in warmer climates it is an evergreen; the leaves hang on very late. A valuable hedge plant.

Privet, California. *Ovalifolium*.—A desirable shrub, nearly evergreen, that produces delicate, white flowers in great profusion; the flowers possess a pleasant heliotrope fragrance.

Purple Fringe, or Smoke Tree.—A conspicuous small tree, of spreading habit, covered in midsummer with a profusion of dusky, fringe-like flowers.

Japan Quince.—Bright scarlet flowers in early spring. Makes a beautiful and useful hedge.

Spiræa. *Meadow Sweet*—The Spiræas are all elegant shrubs of the easiest culture, and their blooming extends over a period of five months.

Spiræa, Billardi.—*Billard's Spiræa*. Rose colored, blooms nearly all summer.



SPIRÆA VAN HOUTTI.

Hydrangea, Large-Clustered—A fine, large shrub, bearing showy panicles of pink and white flowers in the greatest profusion. It is quite hardy, and is altogether a most admirable shrub for planting singly, or on the lawn in masses.

Lilac, Common Purple—One of the hardiest, best shrubs; very well known and popular.

Lilac, Large-Flowering White. *S. alba grandiflora*.—Has very large, pure white panicles of flowers; considered the best.

Plum, Pink-Flowering. *Prunus trilobata*.—Flowers semi-double, delicate pink, closely set along slender branches, and appearing early in spring.

Privet, Common. *Ligustrum vulgare*.—Has delicate foliage, pretty, white flowers



FLOWERS OF JAPAN QUINCE.

Spiræa, Van Houtti. One of the most charming and beautiful of the Spiræas, having pure white flowers in clusters or panicles an inch in diameter; astonishingly profuse in bloom, and plants remarkably vigorous and hardy. But recently introduced from France, and there is no more desirable flowering shrub in cultivation.



WIEGELAS.

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

Snow Ball, *Viburnum Sterilis*.—A well-known favorite shrub, of large size, with globular clusters of white flowers in June.

Wiegela, *Desboisi*.—A beautiful variety, with deep, rose-colored flowers, resembling rosea, but flowers much darker; one of the darkest and best.

White Fringe—One of the best large shrubs or small trees, with superb foliage, and delicate, fringe-like white flowers.

Deciduous Hedge.

Honey Locust—Very hardy, and desirable for the north.

Osage Orange—Highly esteemed in the west and south; not hardy enough for the northern states.

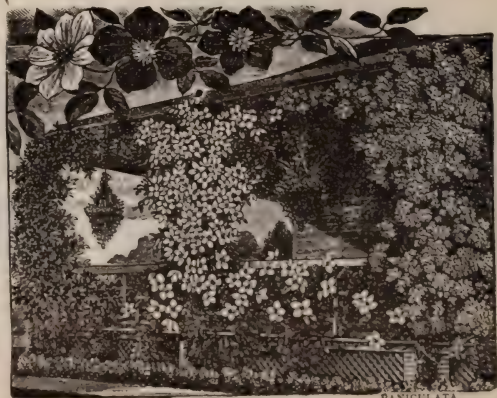
Japan Quince—Unquestionably a fine plant for an ornamental hedge. Grows very compactly; will submit to any amount of pruning, while the brilliant and showy scarlet flowers make it exceedingly attractive.

Privet—Plant four inches apart and keep cut back well after the first year. When well trimmed is one of the most ornamental hedges for lawns and cemeteries. Its only fault is, that the hot sun and winds burn it out after a few years so as to spoil its beauty.

Hardy Climbing and Trailing Shrubs.

Ampelopsis, *Veitchii*.—Syn. Boston Ivy. Foliage smaller than those of the American and more dense, forming a sheet of green. The plant is a little tender while young, and should be protected the first winter. When once established it grows rapidly and clings to a wall or fence with the tenacity of ivy. The foliage, while handsome in summer, changes to a crimson scarlet in autumn and is very beautiful for covering walls, stumps of trees, rockeries, etc., and for ornamentation of brick and stone structures it has no equal.

Ampelopsis, *Quinquefolia*. Syn. Virginia Creeper.—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 suc-



CLEMATIS.

ceeded by handsome, dark blue berries. The vine is best calculated to take the place in this country of the celebrated English Ivy, and is really in summer not inferior to it.

Bignonia, or Trumpet Flower. Scarlet. *Radicans*.—A splendid climber, vigorous and hardy, with clusters of large, trumpet-shaped, scarlet flowers in August.



CLEMATIS, JACKMANNI.

Clematis, or Virgin's Bower—The different varieties and species of Clematis now in cultivation are of the highest beauty and utility. They vary greatly in their foliage and flowers, and are adapted to various uses; some of them, such as our common native sort (*C. Virginiana*), and the European Virgin's Bower (*C. Flammula*), are quite fragrant, and are particularly attractive on this account. The large-flowered varieties, like the well-known (*C. Jackmanni*), are extremely showy. These plants, when trained on trellises, and over porches, pillars and rockwork, produce great masses of bloom, which make a grand appearance, especially when contrasting colors are in proximity. Good, rich, deep, sandy loam, mulched in winter with well-rotted manure, where it has partial shade and a liberal supply of water at the roots, will produce the best results both in vigor of plant and richest sheets of bloom.

Clematis, Coccinea—Distinct from other varieties; bright, coral, scarlet flowers; July to October.

Clematis, Henryi—Fine, large, pure white; one of the best long bloomers.

Clematis, Jackmanni—A very profuse blooming variety, with flowers from four to six inches in diameter, of an intense violet purple color, borne successionally in continuous masses on the summer shoots.

Clematis, Madam Edouard Andre—A new, French variety, entirely distinct and most novel. The nearest approach to a bright red yet produced. This Clematis was exhibited at the World's Fair, Chicago, in the French department, and attracted great attention, owing to the brilliancy of its flowers. The plant is a strong, vigorous grower, being a hybrid of the popular Jackmanni variety, which it resembles in freedom of bloom, strong, vigorous growth, shape and size of flowers.

Clematis, 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 bloom.

Clematis, Romona—A strong, rampant grower, and very hardy. Free and perpetual bloomer; flowers large; color, a deep, sky blue.



HALL'S JAPAN HONEYSUCKLE.

- Honeysuckle.** *Lonicera Belgica*. (Monthly Fragrant, or Dutch)—Blooms all summer; very sweet, red and yellow flowers.
- Honeysuckle, Halliana.** (Hall's New).—Nearly evergreen; flowers pure white, changing to yellow, producing abundantly; fragrant like a Jassemine; the best bloomer of all.
- Honeysuckle, Yellow Trumpet.** *Aurea*.—A well-known variety, with yellow and trumpet flowers.
- Honeysuckle, Scarlet Trumpet.** *Sempervirens*.—This and its varieties are the handsomest in cultivation; it is a strong, rapid grower, and produces scarlet, inodorous flowers all summer.
- Wistaria, Chinese.** *Sinensis*.—A most beautiful climber of rapid growth, and producing long, pendulous clusters of pale blue flowers; when well established makes an enormous growth, is very hardy, and is one of the most superb vines ever introduced.
- Wistaria, Chinese White**—Introduced by Mr. Fortune, from China, and regarded as one of his greatest acquisitions.

ROSES.

THE plantation of roses at the Willis Nurseries is this year the largest it has ever been, and as the demand is largely increasing from year to year, it is our purpose to make a much larger plantation next year than we have this year. No plant is more beautiful than a nicely-cared-for rosebush, and no plant cultivated offers so large a return in brightness and beauty as the rose. Our plants are mostly grown on their own roots, as we have found more satisfaction with these than with budded roses. We do not offer tender roses. We can, however, if a considerable quantity is needed, secure them, and shall be glad to do so on as favorable terms as the number and kinds needed will permit. All roses will keep better through the winter if late in the fall they are laid down and lightly covered with earth or wrapped so as to save them from especially severe weather. To secure the best results, plant in rich, garden soil and cultivate well, and when you have done all this implies, then go over the ground again carefully. There is no plant that will respond more fully to kind treatment than the rose. It is a strong feeder, and when neglected or poorly cared for will suffer very quickly.

Hybrid Perpetuals, or Remontants.

THIS group comprises, for the most part, the roses for the multitude. They are mostly hardy, vigorous, easy of culture. As a general rule, they thrive best in well-prepared loam. Close pruning is generally required, but should be regulated to some extent by the rate of growth of each variety, those of vigorous habit requiring to be cut back more than those of slower growth. The flowers range from purest white to deepest crimson, with intermediate shades of pink, blush, cherry, carmine and peach. The term "Perpetual" may lead some to think that they are as constant bloomers as the Everblooming Roses. This is not the case. They flower freely in the spring and at short intervals during the summer and fall.

REMEDY FOR MILDEW.—Mildew is perhaps the most injurious rose disease. It is generally caused by extremes of heat and cold, and by long-continued damp, cloudy weather. The best remedies are sulphur and soot. One of these should be applied at once if this disease makes its appearance. It is a good plan to sprinkle the plants with water so that the substance will adhere.

American Beauty—An everblooming Hybrid Perpetual. The flowers are very large, of beautiful form and very double; color, a deep, rich rose. The fragrance is delightful, resembling La France.

Anne de Diesbach—Carmine, beautiful shade; moderately full and very large.

Black Prince.—Dark, velvety crimson, almost black; a good grower and a most magnificent rose.

Baron de Bonstetten.—Rich, velvety maroon; large, full; a splendid sort.

Baronne de Maynard—Pure white, medium-sized flowers; good form; very double and one of the most persistent of bloomers.

Coquette des Blanches—Pure white, flowering in clusters; a very free bloomer.

Coquette des Alps—White, lightly shaded with carmine; of medium size; a free bloomer.

Dinsmore—A true perpetual, flowering very freely the whole season; flowers large and very double; color, deep crimson. The plant is of a dwarf, bushy habit, every shoot producing a bud.

Duchess of Edinburg—Brilliant scarlet crimson, maroon shade; very fine.

Earl 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.

Glorie de Margottin—Rich, dazzling crimson; makes beautiful, long-pointed buds; flowers, when open, large and of good shape; a vigorous grower and remarkably free flowering.



GEN. JACQUEMINOT.

and double; color deep rosy crimson, sometimes brilliant scarlet, with maroon shading; it blooms soon after planting out and continues to bloom all summer.

Marshal P. Wilder.—A fine new rose raised by Ellwanger & Barry; resembles Alfred Colomb in color; said to be more vigorous and hardy.

Margaret Dickson.—White with pale flesh center petals; very large flowers of magnificent form, both in bud and when fully open; plant perfectly hardy. A vigorous grower; very fragrant.

Gen. Jacqueminot.—Brilliant crimson-scarlet; very showy and effective; good grower, free bloomer; one of the most popular roses. Especially valued for its very large and elegant buds.

Gen. Washington.—Brilliant rosy carmine, large and double; a vigorous grower and generous bloomer.

Hermosa.—An excellent rose; blooms in fine clusters; very double and fragrant; color beautiful clear rose, a constant bloomer; hardy; one of the best.

John Hopper.—Deep rose, with crimson; one of the best.

La France.—Beautiful pale peach, more highly flushed at center; equal in delicacy to the Teas, and greatly surpasses the Tea Rose in hardiness. Very large and full, highly perfumed; none are more profuse in blooming.

Madame Chas. Wood.—One of the most beautiful Hybrid Perpetual Roses ever introduced. The flower is extra large, full

☞ Of the select and Standard Roses we offer a full list, and all who order from us cannot fail to be pleased with the fine stock sent out. Write for prices on large lots of Roses.

Mrs. J. H. Laing.—One of the finest roses of its class. It is very free flowering, commencing to bloom early and continues to bloom till autumn; color a soft delicate pink with a satin tinge; very fragrant.

Mary Washington—A wonderfully profuse bloomer; flowers medium size, white or light pink; continues in profuse bloom the entire season.



PAUL NEYRON.

great substance; plant vigorous and hardy; one of the best varieties for forcing and open air culture.

Victor Verdier—Clear rose; globular, of fine form, and a free bloomer; superb.

Vick's Caprice—Beautiful pink flowers of fine size, striped and dashed with white and carmine; especially pretty in bud form. A very vigorous and free-blooming rose.

Paul Neyron—Deep rose; very large, very full; somewhat fragrant; free-blooming; the largest variety known.

Pierre Notting—Large, very full, globular; dark red, or crimson, shaded violet; fragrant; vigorous; one of the very best dark roses.

Prince Camille de Rohan—Very dark, rich, velvety crimson, passing to intense, maroon-shaded black; large, full flowers, looking, at a little distance, as if nearly black; one of the darkest roses; very handsome.

Ulrich Bruner—Raised from Paul Neyron; brilliant, cherry-red flowers of fine form and finish, petals of

Moss Roses.

Well-known, extremely hardy. Some of them blossom in the autumn, and are so-called "Perpetual Moss."

Blanche Moreau—Pure white, large, full and perfect form.

Crested Moss—Deep pink buds, surrounded with a mossy fringe and crest; fragrant; one of the best.

Countess of Murinais—White, slightly tinged with flesh; the best white moss.

Glory of Mosses—Pale rose, very large, full and beautiful.

Perpetual White—Pure white; blooms in large clusters.

Red Moss—Fine, red flowers, and elegant mossy buds.

Salet—Clear, rose color, very double; of vigorous growth and abundant bloom; perpetual.

APRIL 8, 1903.—We have never had the pleasure of handling better strawberry plants than these.

GAREE & GAREE.

Climbing Roses.

THese are admirably adapted for covering walls, trellises, old trees, unsightly buildings, etc. Their rapid growth, perfect hardiness, luxuriant foliage, immense clusters of beautiful flowers commend them at once to everyone.



Baltimore Belle—Pale blush, almost white; double; very beautiful; fragrant.

Crimson Rambler—This remarkable rose was originally received from Japan. The plant is of vigorous growth, making shoots of from eight to ten feet high in a season, and is therefore a most desirable climbing variety, though it also may be grown in bush form. The flowers hold their beautiful crimson color a long time without fading, and give a most magnificent effect in contrast to the bright, glossy foliage. Is entirely hardy, and the greatest acquisition among roses for the past ten years.

Dorothy Perkins—This is a splendid, new, shell pink, climbing rose. The flowers are formed in clusters of thirty to forty flowers; large and double; fragrant and hardy.

Empress of China—Light red, changing to pink when fully expanded; a free and continuous bloomer; flowers medium size.

Greville, or Seven Sisters.—Large clusters of bloom, shaded to dark red.

Queen of the Prairie—Bright rose color; large, compact and globular; a very profuse bloomer. One of the best.

White Rambler. Thalia—In habit of growth, foliage, manner of blooming, and shape, flower is identical with Crimson Rambler, differing only in color, which, in Thalia, is pure clear white.

Yellow Rambler—A new, hardy, yellow, climbing rose, blooming after the same manner as the Crimson Rambler, in large clusters; flowers of medium size, in immense clusters, often thirty-five to forty flowers in a single cluster; very sweet-scented. Color, a clear, decided yellow; has successfully withstood, unprotected, a continued temperature of from zero to two degrees below, proving it to be the hardiest of all yellow climbing roses. It is a rampant grower, a strong plant; in full bloom makes one of the finest pillar or porch plants imaginable.

Summer Roses.

Harrison's Yellow—Double, bright yellow; very showy and fine.

Madame Plantier—One of the finest pure white roses, blooming in clusters.

Persian Yellow—Deep, golden yellow, double and very fine.

May 7, 1901. Thanks for good stock.

R. W. CRANDALL.

Standard and Half Standard, or Tree Roses.

THESE are the roses of any of the previous sorts that are budded or grafted on the free or cultivated stock of the Dog or Briar Rose, from eighteen inches to five feet from the ground, and form fine dwarf trees; and when properly cultivated and cared for make a very fine novelty, and should be in every well regulated lawn. Should be removed to the cellar, pit, or greenhouse during the winter.

Herbaceous, Pæonias.



HERBACEOUS PÆONIES.

THESE are all showy, beautiful flowers, perfectly hardy, easy to cultivate; flowering early in the season, before the rose. They deserve a place in every garden.

There are numerous varieties, and of many colors. We are pleased to offer the following as being among the best:

Rose Colored.—Blossoms large, rosy red, changing to crimson.

White.—Full, round and large, beautiful and fragrant; one of the best.

Dark Red.—Large blossoms; rich dark red; very fine.

A large assortment can be supplied if desired.



YUCCA FILAMENTOSA.

Yucca, Spanish Bayonet.

THESE have a grand appearance. The stem is three feet above the ground, covered with large, bell-shaped flowers on laterals, forming a perfect pyramid.

Filamentosa. (Adam's Needle.)—Thread-leaved, creamy white, three to four feet; July.

Directions

For Preparing and Using Bordeaux Mixture, and the Principal Insecticides.

The **Bordeaux Mixture** is the principal fungicide. Its use will prevent scab, rot, mildew, and other diseases to which plants are liable. Its regular application will insure a healthy, vigorous plant growth and will produce both more and better fruit. See the spray calendar for time of application.

Formula for Making: Copper Sulphate, 6 pounds; Fresh Lime, 4 pounds; water to make 50 gallons.

Fill a barrel about one-half full of water. Place the copper sulphate in a coarse cheese-cloth bag and suspend in the water near the surface, where it will dissolve in a very short time. In another barrel place the fresh lime (not air-slaked), and add a small amount of water to it. As the lime becomes slaked, add more water from time to time and stir well during the slaking. Then add the lime water to the copper sulphate solution, and the mixture is ready for use. In adding the lime water, it is best to pass it through a sieve. Never add the lime water while hot. When spraying on a large scale, it is best to slake a large quantity of lime at one time, as it will keep indefinitely if covered with water. Dissolve the copper sulphate as directed above, and add sufficient of the lime water for each barrel of mixture as it is prepared. This is much better than stock solutions. To determine when enough lime water has been added, use a few drops of Ferrocyanide Test. If it quickly changes color, add more lime water. When enough lime water has been used the test will not change color.

To Prepare Ferrocyanide Test, dissolve one ounce of ferrocyanide of potassium (yellow prussiate of potash) in five ounces of water. Bottle for use.

Paris Green is an excellent insecticide for the destruction of insects that eat foliage. Its use for the destruction of the potato beetle is familiar to all. It should be used in the proportion of one pound of the green to two hundred gallons of water, or a teaspoonful of the green to a bucket of water. The green should be first made into a thick paste with a little water, before being added to the full amount of water. Lime water added to the solution will prevent any damage to the foliage and also make the mixture adhere better.

Arsenite of Lime as an insecticide has been proven better and cheaper than Paris Green. It will not injure tender foliage if applied as directed.

Formula; White arsenic, half pound; sal soda, two pounds; water two quarts.

Boil together until arsenic dissolves. Add two pounds of slacked lime to each pint of the above solution for one barrel (50 gallons) of water, and it is ready for use.

Green Arsenoid and Paragreen are cheaper than Paris Green, and better, as they do not settle so quickly, and are fully as destructive to insect pests.

Much time will be saved by combining the Bordeaux Mixture and the insecticides, in spraying fruit trees for the destruction of insect pests and prevention of fungous diseases in one application. Use same quantity of each, as though spraying independently with each.

Poisonous liquids do not readily adhere to cabbage and other plants having glossy foliage. It is sometimes desirable to use arsenites instead of kerosene, and the use of the following preparation will facilitate their use:

Water, 2 gallons; fish oil, 1 quart; concentrated lye, 2 pounds; pulverized resin, 10 pounds.

Heat the resin and oil with the water until the resin is dissolved. Add the lye and 8 gallons of water, and boil until the mixture will unite with cold water. It may take two hours. Add water to make 10 gallons. When ready to spray, use one gallon of above to 20 gallons of water, and two or three gallons of lime water, with the usual amount of insecticide.

The Lime, Sulphur and Salt Solution is the invariable remedy for the San Jose scale in California and much of the Pacific Coast, and wherever the weather conditions happen to be favorable, duplicating, in a measure, the conditions on the Pacific Coast, this wash is effective in the East also. It has the advantage of leaving a limy coating on the trees, which acts as a deterrent to the young scale lice, and where it is not washed by rains, retains its value as an insecticide coating for some time, remaining in evidence on the trees for several months.

Formula.	{	Unslacked Lime.....	40 pounds
		Flour of Sulphur.....	20 pounds
		Common Salt.....	15 pounds
		Water to make.....	60 gallons

Take 10 pounds of lime and 20 pounds of sulphur and boil thoroughly in 20 gallons of water for an hour and a half. When the solution assumes an amber color it is an indication that the sulphur is all dissolved. The remainder of the lime, 30 pounds, should be slacked thoroughly by pouring hot water over it, adding 15 pounds of salt while it is still boiling, and stirring until the salt is all dissolved. The lime and salt material should then be added to the lime and sulphur material, and thoroughly stirred together a half hour longer. Enough water should then be added to make the full 60 gallons.

Experiment Stations publish bulletins concerning the crops grown in their respective states. The Department of Agriculture also issues bulletins regarding various orchard and field crops. Methods for spraying such crops can be learned from these bulletins.



SPRAYING CALENDAR.

We take pleasure in presenting a brief calendar and directions for spraying. We believe these directions will be an assistance to many customers, and recommend them to be used where needed. For those who desire to make extensive use of insecticides and fungicides, we recommend they consult larger books, making a specialty of this work.

VARIOUS APPLICATIONS OF SPRAYING SOLUTIONS.

NAME OF PLANT.	First Spraying.	Second Spraying.	Third Spraying.	Fourth Spraying.	INSECTS AND FUNGI.
Apple.	When buds are swelling, apply Bordeaux.	Before blossoms open, Bordeaux. Add Paris Green or Arsenite of Lime for Chanker Worm or Red Alder.	When blossoms have fallen, Bordeaux and Paris Green, or Arsenite of Lime.	Twelve days later, Bordeaux and Paris Green, or Arsenite of Lime.	Codling Moth, Canker Worm, Bud Moth, Apple Scab.
Pear.	Before buds swell, Bordeaux.	Before blossoms open, Bordeaux. Karosene if Paylla is present.	After blossoms fall, Bordeaux and Paris Green, or Arsenite of Lime.	Fourteen days later, Bordeaux and Paris Green, or Arsenite of Lime.	Codling Moth, Leaf Blight, Scab and Paylla.
Plum.	Just before buds open, Bordeaux and Paris Green, or Arsenite of Lime.	After blossoms fall, Bordeaux and Paris Green, or Arsenite of Lime.	Twelve days later, Bordeaux and Paris Green, or Arsenite of Lime.	Karosene, when Aphid or Scale is present.	Curculio, Box, Aphid and Scale.
Cherry.	Just before buds open, Bordeaux. Karosene, whenver Aphid is present.	When fruit has set, Bordeaux.	Twelve days later, Bordeaux. If signs of Bor are present.	Karosene, if Aphid is present.	Rot and Aphid.
Peach.	As buds are swelling, Bordeaux.	Before blossoms open, Bordeaux and Paris Green, or Arsenite of Lime.	After blossoms have fallen, Bordeaux and Paris Green, or Arsenite of Lime.	Two weeks later, Bordeaux and Paris Green.	Rot, Mildew and Curculio.
Grape.	When buds begin to swell, Bordeaux, Paris Green, or Arsenite of Lime. If Steady Bugs or Flea Beetle appear.	As buds are opening, Bordeaux.	Two weeks later, Bordeaux.	Two weeks later, Bordeaux.	Rot and other Fungous Diseases, Steady Bug, Flea Beetle and Turbula.
Potato.	When plants are well up, Bordeaux, Paris Green, or Arsenite of Lime, if Beetles appear.	Two weeks later, repeat first application.	Two weeks later, repeat.	Two weeks later, repeat.	Leaf Blight and Colorado Beetle.
Cabbage.	When worms appear, Karosene, Paris Green, or Arsenite of Lime. See Resin Mixture formula.	Two weeks later, repeat, if worms are present.	Two weeks later, repeat, if worms are present.	Two weeks later, repeat, if worms are present.	Cabbage worms.



*Buy Trees at Willis' Nurseries,
Plant Them Carefully,
Cultivate Them Faithfully,
And You Will Gather
Fruit in Abundance.*