

# HER HEALTH FROM THE HISTORY AND SCIENCE OF HORTICULTURE IN OREGON.

## THE EARLY BEGINNINGS OF THE PIONEERS

How the Various Kinds of Fruit Are Grown, Cured and Marketed—Possibilities of Small Tracts Well Cultivated—Facts and Figures.

**R**OAD indeed is the term which the horticulturist, including as it does the cultivation of the products of the soil, has long used as an object of utility or beauty. It is difficult to define the line between horticulture and landscape architecture upon the one side and the horticulture which is applied to gardening, or the cultivation of gardens filled with roses, violets and other sweet-scented flowers. Horticulture declined with the fall of Rome, and upon its revival, which was not until the reign of Charlemagne, it is spoken of as relating to gardens of plants or flowers, so it is seen that in the earlier ages the term was used almost wholly as applying to the cultivation of ornamental plants and flowers.

It is interesting to note that about 1875 the growing of fruit for market was carried on quite extensively, and in a truly scientific manner. From an old English book, published in 1644, now in the possession of a Portland gentleman, we find many of the scientific principles that are employed in successful fruit cultivation at the present day were understood and illustrated by Italian, German and French writers long before that time.

The fruitgrowers of that day understood the necessity of selecting soil which contained the right chemical properties to produce excellent fruit. They fully appreciated the danger of planting their trees on too rich soil, thereby producing an over-luxuriant wood growth and but few fruit spurs. The general principles of horticulture, as they do not differ so widely as one would suppose from those understood and carried into effect at that time. Many of their instruments for work, such as the scythe and the hand saw, were not improved until the present day.

### THE RAILROADS CAME.

And With Them a Revival of Oregon's Fruit Industries.

**R**AILROADS proved as important a factor in the development of horticulture in this state as they did in California. They provided an outlet which permitted the placing of the produce of the orchards in the hands of some young orchardists, which were producing fine fruit, on the markets to the north and east. The horticulturist in this state are indebted to the railroad for the introduction of the quince and triangular being seldom used. Through cultivation of the orchard is begun in the spring, after the rains have ceased, and continued through the summer until the middle of August or first of September, according to the season and the nature of the soil. In some instances crops of potatoes are grown between the trees for the first year or two.

calling more ennobling, more interesting, or which offers so many different and varied fields of research and cultivates to a high degree the finer senses of man. Aside from all this, a wide field is open to the business man who is interested only from a commercial point of view. For those who love a scientific out-door occupation, which at the same time affords good returns for the money and time spent, there is no other science more attractive.

Following is a brief description of the methods practiced in the growing, curing and marketing of fruit in Oregon: After deciding upon the variety of fruit to be planted, a site is chosen for the orchard where the soil is rich and deep, containing the necessary chemical resources to produce fruit of the highest excellence, and which is well protected from the late frosts in the spring. Before planting, the ground is thoroughly prepared for the trees, by first plowing as deeply as possible with a two-horse turning plow, followed by a sub-soil plow, loosening the soil to a depth of 18 or 20 inches. The surface is then leveled and made mellow by the use of the harrow and cold smasher. Planting is done in the early fall or in the spring after the rainy season is over and the ground can be prepared. The trees usually selected for planting are healthy 1-year-old trees (if near the bud or graft), although some still prefer 2-year-old trees. The system of forming

blackberries. The last season was a severe one on the Hood River growers, who were unable to get their berries to market on account of the frost. They estimate their loss from the berry crop alone at \$80,000. What is being done here at the present time in this line was illustrated at Milton, Eastern Oregon, this last summer, when the growers received from 31 acres in blackberries and 167 acres in strawberries between \$18,000 and \$20,000 for their crop. Douglas county received \$22,000 this year for its prune crop, out of which \$18,000 was paid for wages and but a small per cent of the orchards planted have come into bearing. Thirty thousand dollars is not a high estimate of the money expended in picking and curing the prune crop the past season. Only a small per cent of the young orchards bore last year, and in some sections there was a very light crop of Italian prunes. A low estimate would place the output of evaporated prunes in this state at 12,000,000 pounds for next year. The statistics gathered show that there are within the borders of the state over 400 acres of prune orchards that will be 6 years old and over 200 acres which will be 5 years old, and about 3000 acres 4 years old. It is estimated that the orchards which are 6 years old and over will yield 200 pounds of cured prunes per acre, which would mean less than 75 pounds of green fruit to the tree. The orchards 5 years old should produce 1000 pounds to the acre,

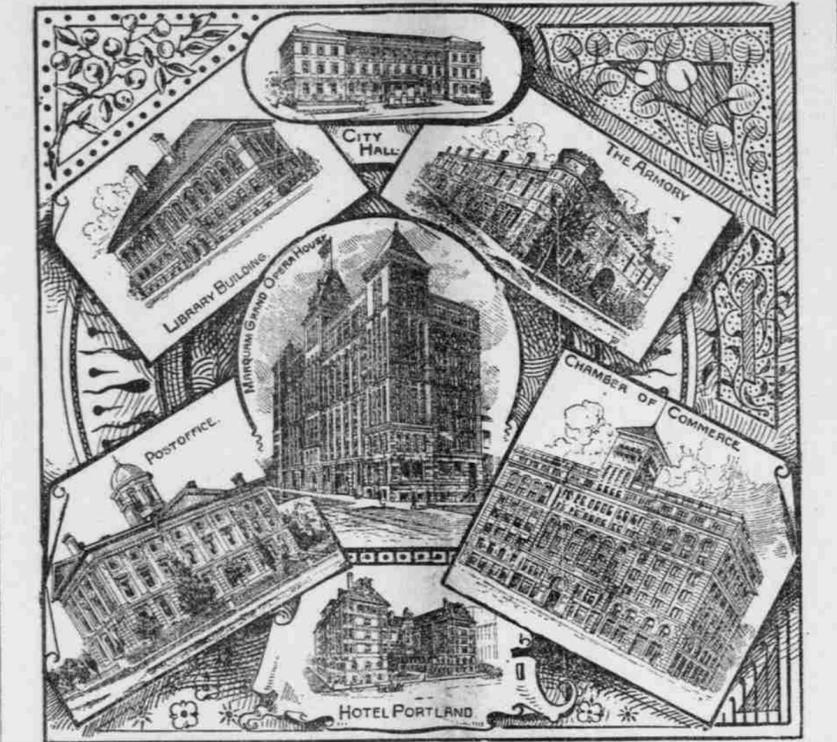
well in some localities. The Umpqua valley has become famous for its fine prunes. The soils of the Willamette valley do not differ materially one section from another, hence a general description will suffice. There are three kinds of soil, each of which varies somewhat in different sections. First is the white soil, of which there are two kinds—the bleached soil, which are caused by water standing on them, dissolving and washing away all soluble salts, all soluble carbonates, results of vegetable growth and decay, all soluble protides of iron, all soluble coloring matter, and the ashy soils of which a fine gritty ash seems the base. Second, the soil is simply decomposed iron ore, due to the presence of iron in some form, directly or remotely shown. There are two kinds of red soil; the red lava where the soil is simply decomposed lava, and the iron soil where the iron in the soil is changed as we see such change of color in the burning of bricks, simply by increased oxidation of the iron contents. Third; the black soil, of which there are two varieties, a black shaly soil which is often the direct result of the decomposition of carbonaceous shales and black vegetable mold.

There is but very little difference in the temperature at Eugene at the head of the valley and at Portland, but the humidity is much greater at the latter place. Apples, pears, cherries, prunes, plums, nut trees, and all small fruits are at home in this valley.

### THE BAGGING INDUSTRY.

The W. C. Noon Bagging Company, Largest House in the Northwest.

The unusual shipment of three carloads of cotton recently received in this city attests the demand which exists in Portland for material in this line. The importance of Portland as a manufacturing center is further strengthened in the minds of the public when they are informed that this entire shipment, aggregating 5000 bales of 2000 yards of brown cotton bagging, was to be used in the manufacture of flour sacks by that well-known concern, W. C. Noon Bag Co., who conduct in this city the most complete bag, tent and awning factory on the coast, their business reaching to all parts of the Pacific Northwest. A visit to their industrial establishment is a revelation regarding the importance of the manufacture of flour sacks, grain bags, tents, and kindred lines in Portland. The officers of the company are Mr. C. Noon, president, T. J. Armstrong, vice-president and treasurer, and D. S. Freeman, secretary. The building occupied by this company is a modern four-story brick structure, well arranged for the expeditious handling of their large business. The entire factory forms one of the most complete plants in the city, and has been built before, and its location here is a most important factor in Portland's industrial trade.



REPRESENTATIVE BUILDINGS OF PORTLAND.

low heads and training the trees in what is known as the goblet or vase form prevail. The crowns are started from 18 to 24 inches above the ground. The square system of planting is generally followed here, the quince and triangular being seldom used. Thorough cultivation of the orchard is begun in the spring, after the rains have ceased, and continued through the summer until the middle of August or first of September, according to the season and the nature of the soil. In some instances crops of potatoes are grown between the trees for the first year or two.

Such of the fruit raised in the state is shipped in the green state, and it has won an enviable reputation in the Eastern markets. Our cherries and strawberries have created surprise and admiration for their fine flavor, beautiful color, and remarkable firmness and size, and are in good demand in the Eastern markets. Oregon strawberries drove the Illinois berries out of the St. Paul market two years ago, excelling the latter in many ways. Our cherries, certain varieties of plums, and prunes, especially the Italian, are fine shippers. The peaches carry well and command good prices in the markets to the north and east. The strawberries and raspberries are shipped in crates, containing 15 one-pound boxes. The peaches are neatly wrapped in white paper, and packed in 25-pound boxes. Pears are also wrapped in white paper, and packed in 25-pound boxes. Apples are selected and packed in layers in 50-pound boxes. Apricots and plums are shipped most successfully in crates containing four five-pound baskets. The

and the orchards 4 years old 300 pounds to the acre. From the above it may be seen that there will be at least \$20,000 paid out for picking and curing prunes alone in Oregon in 1895.

### SOIL AND CLIMATE.

**P**eculiar Features of Various Sections of the State. The soil and climatic conditions of Oregon differ greatly even in the same general locality, but there is a vast amount of land favorably situated for the growing of fine fruits. It would require too much space in an article of this kind to describe the soil of the different localities, but a brief description is given of some of the largest fruitgrowing districts in the state, showing the natural conditions and naming some of the varieties of fruit that are successfully grown.

### EARLY BEGINNINGS.

Orchards of the Pioneers—The Subsequent Decline.

**T**HE first page in the history of horticulture in Oregon was written in 1847, when the stock for the first nursery ever planted in the state was shipped to Milwaukie. During the many long tedious days spent in caring for this stock, which consisted of pear, peach, plum and cherry, also a few hickory nuts and black walnuts which sprouted on the way. About seven months were consumed in making the journey. So highly were the trees valued that he could have sold the entire lot for \$1 apiece. Soon after his arrival at Milwaukie, he formed a partnership in the nursery business with Mr. Steek. Many obstacles beset the path of the firm, chief among which was the difficulty in obtaining stock to graft upon. The wild crab-apples and thorn bush seed fruits, were tried with but poor success. Few trees were sold until the fall of 1853, when they had a large stock in 1851 they had some 15,000 fine healthy trees, which sold readily at \$1.00 apiece for apple trees, and \$1.50 for plum, cherry and peach trees. In 1852 the nursery business assumed a commercial aspect, when Mr. Steek, now living at Milwaukie, went into partnership with his brother and Mr. Meek, and established branch nurseries in different parts of the state. It was about 1851 that the first fruit was produced, and the following year a little more. In 1853 Oregon became known as a fruit-producing state, by the sale of California on the San Francisco market at \$1.00 a pound. This was the era of high prices, for in 1854 a number of small orchards came into bearing and the fruit was sold for \$1.00 a pound, peaches and plums being sold for \$1.50 a pound. Times were good in California, and that state produced a little if any fruit of the kind mentioned, consequently there was a good demand for fruit at high prices. This encouraged many to plant orchards here, thinking that the same success would be attained. A few of the early planters recognized the necessity of carefully selecting a site for their orchards where the soil was supplied with the right chemical properties to produce excellent fruit, and where it was thoroughly underdrained. They took good care of their trees, and expected to continue in the business permanently, while many others were lured into it by the fancy prices and with the sole idea that in the fruit business there was an easy fortune, and that the little they had given the fundamental principles governing successful orcharding. When the demand for Oregon fruit ceased, these were the first orchards to be neglected and to go into disrepair.

### MONEY IN FRUIT.

Subdivided Farms Yield Handsome Returns Everywhere.

**F**ORTUNE favored California when the large tracts of land on the coast were divided into small orchards, each with its neat little cottage and out-buildings, showing thrift and prosperity on all sides. Fortunate, we say, for instead of a few men, giving employment to but few people, and bringing but small returns for the money invested, certain sections of the coast were divided into five-acre plots, and thousands of men, women and children find employment in the orchards, vineyards, drying grounds, canneries and packing sheds, and the country has been benefited. Where before but a few thousand dollars were spent in a neighborhood, hundreds of thousands are now expended each year. A good illustration of this is the case of the division of large bodies of land, that brought but small returns to the owners and gave employment to but few people. In the San Joaquin and Southern Oregon, the average holding being 10 conditions exist in Oregon as in the former. The best varieties of apples grow to perfection and are of excellent flavor and beautiful color. Prunes of all kinds do well here. Favored as it is with the right climate and soil conditions, Jackson county produces some varieties of fruit which are second to none in the Northwest. The soil, rainfall and temperature of Josephine county do not differ materially from Jackson county, and most of the same varieties of fruit do well. The same varieties of fruit do well in the former counties, with the exception that the summers are not quite so warm and the precipitation is somewhat greater. Apples, pears, cherries, plums and nut trees do remarkably well. Peaches do

### EVAPORATING FRUITS.

Some Interesting Particulars of This New and Thriving Work.

**E**VAPORATORS play a very important part in preserving in a dried state a large amount of our fruits. Especially is this true in regard to our prunes. Oregon, unlike California, is not favored with solar heat sufficient to cure its fruit, and as there were nearly 10,000,000 pounds of prunes to care for here the past season, a large number of evaporating plants are required. There are about 200 evaporators of different sizes and styles in the state, valued at about \$125,000. The Italian and French prunes are allowed to remain on the trees until thoroughly ripe, and are then removed by gently shaking the tree. If the season is

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favorable, they are left to drop. If the days are pleasant and warm, they are left as long as possible, as they gain in saccharine matter. The silver prunes are hand-picked. It is sometimes necessary, owing to a short season, to handle the fruit very rapidly. It would require too much space to attempt to describe the many different kinds of evaporators in use here, but the main principle of evaporation, i. e., "the removal of a portion of the moisture of the fruit by swiftly moving currents of hot air" is applied in all. The mechanical contrivances differ in many ways. The fruit is gathered in boxes and taken to the building or shed wherein is the evaporator, and run through the grader, and sorted into three or four sizes, and then spread out on wire trays, each grade by itself, then placed in the evaporator. Many of the evaporators used here are simply oblong boxes with flat tops, of different capacities, made of matched lumber and built upon four brick walls. They are provided with hollow walls, vents, etc., to carry off the surplus moisture. Some are divided into sections and have the trays arranged in a slanting position, so the fruit of each tray is not subjected to the moisture from the fruit below, the heat passing over and under each tray. In other evaporators the trays are arranged in a horizontal position, one above the other. Between the brick walls, underneath and distant from the lower trays four or five feet, is an arched brick

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### OREGON'S FUTURE.

A Few Reasons for Encouragement for the Industry.

**O**REGON'S future in horticulture cannot be accurately forecasted at the present time, but there are many important things in favor of its rapid advancement. Chief among these are the facts that it has proven to the world that certain varieties of fruit can be produced here that are superior to any produced elsewhere, and that the area of country suitable for the growing of these fruits is practically unlimited. It has been clearly demonstrated that a family can make a good living from a comparatively few acres, and this fact ought to encourage a large number of people to engage in this business. Another important fact is that many Eastern and foreign people are turning their attention to fruitgrowing in this state as a profitable investment. Confidence in this as a paying business is shown by the fact that many who have found wheat raising unprofitable are gradually turning to the orchard business. The fruitgrowers here only attempt to grow the varieties of fruit that are especially adapted to their particular locality. No attempt is made in this article to show the net profits derived from an acre of orchard. That varies according to circumstances, but pays a larger per cent on the money invested than almost any other industry. A great advantage that Oregon has over California is that its chief city is the terminus of five great railroads instead of one, and the fact that we are much nearer a great section of country that produces no fruit and must look elsewhere for its supply.

### HONEYMAN, DE HART & CO.

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There is no better evidence of the solid and steady growth of the Northwest than the fact that Portland holds within her precincts a hardware importing house, which leads older San Francisco, and a hard race in supplying the states surrounding Oregon with the commodities in which it deals. Reference is made to the progressive firm of Honeyman, De Hart & Co., whose immense establishment is located at First and Ash streets. Able management in the firm's affairs from the time it started, in the early '80s,



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These hill lands produce apples of high color and fine flavor. Some of the best-known varieties of freestone and clingstone peaches grow to perfection here. Grapes of both the foreign and native varieties do remarkably well. All of the best varieties of apples grow to perfection and are of excellent flavor and beautiful color. Prunes of all kinds do well here. Favored as it is with the right climate and soil conditions, Jackson county produces some varieties of fruit which are second to none in the Northwest. The soil, rainfall and temperature of Josephine county do not differ materially from Jackson county, and most of the same varieties of fruit do well. The same varieties of fruit do well in the former counties, with the exception that the summers are not quite so warm and the precipitation is somewhat greater. Apples, pears, cherries, plums and nut trees do remarkably well. Peaches do

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