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Field Investigations in Pomology

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Hood River Valley Nursery Company

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Department of Agriculture



Hood River, Oregon

NOTE — The illustration on the front cover is of a true type Spitzenberg apple.

HOOD RIVER VALLEY NURSERY COMPANY

The Hood River Apple

has secured a reputation practically wherever fruit is sold throughout the world. For certain varieties, it is not too much to say that in the opinion of experts the Hood River apple is unequalled by that grown in any other fruit district in America. In making this statement we realize that the same

Hood River Apples

claim is made by other fruit districts for apples which they produce, but if actual facts and figures are consulted, the records for Hood River apples, so far as selling qualities are concerned, will be shown not to have been equaled during the past ten years. We challenge any successful contradiction of this fact.

The success which Hood River apple growing has achieved has been due in large measure to two factors. In the first place, the varieties have been selected with the idea of suitable adaptation to the soil and climatic conditions of the Pacific Northwest. In the second place, the financial returns which might be expected from the variety selected have been fully considered. For example, the Spitzen-

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berg apple, which is easily the leader at Hood River, receives the highest rating (10 points) given to any apple by the American Pomological Society. The Yellow Newtown Pippin, which is also specialized at Hood River, receives the next highest rating to the Spitzenberg. There are, however, other apples rated the same as the Newtown Pippin, but the Spitzenberg literally stands in a class by itself.

In selecting the Hood River valley for our nursery, we did so with the conviction that we would be able to furnish the fruit grower

The Hood River Valley Nursery

unsurpassed, if not absolutely unequalled, stock for his orchard. All of our buds have been taken from the best bearing Hood River trees, the fruit of which has made Hood River famous. There is hardly any point more important to the success of the orchardist than this. Buds taken from inferior stock, or from stock which has not proven its bearing qualities, dooms the fruit grower to failure at the outset. The number of orchardists who have been disappointed along these lines is legion. The fruit grower must take the word of the nursery man. If he is going to have a successful orchard, he must know beyond question of a doubt that his trees are from sturdy stock that has proven its bearing qualities; from

Hood River Valley Nursery Company

stock, also, that has had the best of care in every respect, especially in spraying and cultivation; and he must know above all that his trees are true to name.

When you buy your trees from the Hood River Valley Nursery Co., you will know that your trees are guaranteed as to name and bearing qualities. The orchardist will know that his trees have come from, if not the best fruit growing district in America, certainly one that is not surpassed. In short, he will be getting the best that the market affords, and he will eliminate every chance that care and scientific management have been able to obviate.

Our nursery specializes upon the Spitzenberg, Yellow Newtown Pippin, Arkansas Black, Golden
Varieties Ortley, Gravenstein, Grimes' Golden, Jonathan, Northern Spy and Delicious. We sell strong one-year tops on three-year roots.

Spitzenberg—On account of its bright, attractive red color, the Spitzenberg apple is one of the most popular varieties. Its meat is rich, firm, spicy and delicious, and the apple almost invariably brings a good price when other varieties do not. It is noted for its splendid keeping and shipping qualities.

Yellow Newtown Pippin—Of the yellow apples, the Newtown is perhaps the most popular. It does not attain, as a rule, the size of the Hood River Spitzenberg, and is consequently preferred in

Hood River Valley Nursery Company

English markets. It is a favorite on account of its firmness, and juicy, delicious taste. It is planted extensively in the Pacific Northwest. An unexcelled keeper.

Arkansas Black—This is an unusually attractive apple on the fruit stands, and a fine seller. It is almost black with suggestions of red. The Hood River species is especially large and attractive. The meat is firm and juicy. Every well selected orchard should have some trees of this variety.

Golden Ortley—This is a golden yellow apple that is rapidly coming into favor. It is given a high rating by the American Pomological Society. It is an excellent keeper, even rivaling in this respect the king of all apples—the Spitzenberg. The Ortley is a good bearer and a good seller. It is highly recommended, but requires careful handling.

Gravenstein—The Gravenstein is undoubtedly the best of the early apples. It is yellow, with red stripes, and of large size. The tree is a heavy bearer and sturdy. An excellent, all-around apple.

Grimes' Golden—Transparent, golden-yellow apple. Good keeper. High quality. Generally brings a high price. Tree noted for its steady bearing qualities.

Jonathan—A favorite in many orchards. Brilliant red. A fine apple in every respect. Grows

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well in practically every fruit district. The Hood River variety is especially steady and dependable.

Northern Spy—A favorite on account of its large size and attractively striped pinkish-red color. Matures well in many districts and is highly recommended. Considered by many to be the best "eating apple."

Delicious—A comparatively new apple that is rapidly winning its way into favor. Tree is healthy, productive, and the fruit justifies the name; dark red.

In addition to apple trees, we carry a large stock of selected pear trees, which have been grown **Pears** under the same careful conditions, and are fully guaranteed by us. The varieties include the popular *Bartlett*, the celebrated *D'Anjou*, and the *Winter Nelis*.

The *Bartlett* is a heavy bearer and is a vigorous, healthy tree. It is possibly the most profitable of the pear family. The *D'Anjou* is later than the *Bartlett*. It is a prolific bearer, excellent in every way and a very profitable fruit. The *Winter Nelis* is a smaller pear, of the highest quality. A ready seller.

Our peach trees have also been graded and selected with the idea of producing the finest possible stock. Our nursery specializes **Peaches** upon the Early and Late *Crawfords*, the *Elbertas*, and other leading varieties.

Hood River Valley Nursery Company

We also have a carefully selected assortment of Quince, Apricot (*Blenheim* and *Tilton*) and Almond trees. They are especially adapted to this section.

Our stock is packed like Hood River fruit—that is to say, every possible care is exercised so that the **Shipment** trees will arrive in the best possible condition. In addition to this fact, every tree that is shipped from our nursery is inspected and approved by a state official before shipment. The official approval of the state is placed upon each package. This gives the purchaser an absolute guarantee as to the condition of the stock which he will receive from us. Contrary to the rule of many nurseries, we make no charge for packing or boxes.

We guarantee all our stock to be true to name; to be from buds taken from the best bearing Hood **Our Guarantee** River trees, and consequently we guarantee that the stock we sell will have first-class bearing qualities. This is, we believe, the most far-reaching guarantee put out by any nursery, and we can afford to make it because the character of the stock we sell justifies a strong statement. In addition to the stock itself, we exercise all the care in selection that human ingenuity can devise. If, in spite of these facts, trees should prove unsatisfactory, we will either replace the stock or refund the purchase price. Naturally we cannot assume any obligation greater than this.

Hood River Valley Nursery Company

We wish to express our appreciation of the numerous orders we have received for trees during past seasons. We shall also receive with thanks the names of any who are interested in dependable trees.

Prices and Terms

	<i>One year trees two to three feet in height</i>	<i>One year trees three to four feet in height</i>	<i>One year trees four to six feet in height</i>
Per 10	\$ 3.00	\$ 3.50	\$ 4.00
Per 25	6.25	7.50	8.75
Per 50	10.00	12.50	15.00
Per 100	15.00	18.00	20.00
Per 1000	125.00	160.00	180.00

We pay the freight to your nearest railroad station or boat landing, where orders are \$10.00 or over.

Terms, cash with order unless otherwise arranged.

We can furnish a limited number of two-year-old Yellow Newtowns and Spitzenbergs branched trees, well grown, healthy, vigorous stock, fully guaranteed, for the same price as our first class yearlings.

Hood River Valley Nursery Company

H. S. BUTTERFIELD, President

BOX 227, R. F. D. No. 3

HOOD RIVER, OREGON

Suggestions for the Orchardist

THE average man, in choosing an orchard, is apt to think that soil analysis is the panacea for all troubles, and that analysis will show what can be grown to advantage on his soil. In choosing an orchard there are many points to be considered, which will vary more or less in degree of importance according to locality. These points are air and soil drainage, exposure, elevation, depth of soil, general character of the soil. In the various Northwest fruit growing sections one must have the natural conditions which are conducive for fruit growing before one is concerned about the soil. Foolish comparisons are often made between irrigated and non-irrigated districts. Each district probably has its advantages as well as its disadvantages. East of the Cascades, in regions where it is impossible to irrigate, the soil must be of good depth if one is to grow fruit successfully. The silt loams and volcanic ash soils are much more retentive of the moisture than the sandy types. In such cases one needs to pay close attention to immunity from frosts. In the irrigated districts of Eastern Oregon extreme depth of soil may not be as necessary, although it is very desirable. Good drainage, on the other hand, becomes very essential; we must

Choosing an Orchard

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try to avoid seepage water and the accumulation of alkali; the orchards along the high line ditches are apt to suffer less from such drainage.

“In Western and Southern Oregon, where irrigation is not practiced, one should strive for good depth of soil. A good way to determine this is to get a carpenter’s auger of half-inch diameter and screw into this a section of small gas pipe. With this instrument borings four or five feet, or much deeper, may be made.

“While I have seen such fruit as apples grown on shallow soil underlaid by disintegrated rock, nevertheless I should avoid soils that are underlaid with hardpan, soapstone, loose gravel or cement gravel at a depth of four or five feet from the surface. Be sure of good soil and splendid air drainage. Exposure becomes important with some classes of fruit; the Spitzenberg, for example, does better on the warm, rich, but not too heavy soil, and in a sunny exposure. On some of the rolling lands and bottom lands one needs to be careful about seepage waters, which retard the trees’ growth unless proper drainage is given. In the irrigated sections of Southern and Western Oregon good depth is desirable and splendid drainage becomes very essential. One should choose locations that are provided with good air circulation.

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“In most cases it will pay to give thorough preparation to the land before planting. In the heavy clay soils this may also mean subsoiling. Where land has been devoted to grain growing for a number of years it is often desirable to subsoil in strips where trees are planted. In newly cleared lands the soil is well supplied with humus, although perhaps not well decayed, and good preparation in this case, while often seeming not as essential as in old wheat lands, is in most cases necessary, as these lands are often very uneven and loose. It is believed that in newly irrigated sections, on soils devoid of humus, it is better to grow crops a few years before attempting to grow fruit trees.

Preparation of the Soil

“The matter of buying trees needs very careful attention. Orders should be placed early for nursery stock, owing to the fact that for the last few years the supply has not been equal to the demand. One should in all cases insist on procuring what are known as one-year-old trees. It is true that in various irrigated sections they are able to grow a large tree from a piece root in one year, but there is a tendency to force the tree unwisely. It will probably make little difference whether the tree is grown with or without irrigation, provided the trees have not suffered

Buying the Trees

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from lack of proper handling and from excessive irrigation. We have been encouraging nurserymen to grow extra tall trees. We should encourage them to grow trees of larger caliber and good heavy base; the medium tree of large caliber is better than the high spindling tree. It is extremely desirable to have trees well supplied with buds; this assists materially in forming a good head. As soon as trees are received from the nurseries remove them from boxes and, the ground having been previously plowed out, heel them in as soon as possible. Delay

Immediate Attention

may be disastrous to the tree. It is desirable with such trees as peaches, prunes and cherries to have them heeled in with tops facing the south, as the buds will remain dormant for a longer time than if pointed toward the north. Cover roots firmly and well. If the roots are allowed to freeze in any way they will probably die. Never handle young trees when they are frozen. Never heel them in bundles and let them remain an extended period, as they will often die from scald, drying out, or even freezing if the earth is too loose around the roots. The bundles should be cut and the trees heeled in singly. Occasionally when trees arrive in a shriveled or dried condition they can be revived by burying the trees entirely in damp sod for a few days; this

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will often cause the bark to become plump again. In all the regions of the state subject to extreme low temperature in winter, such as zero or lower, and more especially where the ground is exposed to such extremes and dry freezing is experienced, spring planting is preferable, but in all other sections of the state fall planting is much to be preferred. Trees planted in late fall or early winter become established and make a quicker and better growth than those planted in the spring. I have noticed a smaller percentage of the trees die, and in many sections even less winter killing, with the fall planting of trees. In the latter case it may have been due to improper care of trees before planting.

“There are a number of systems that may be used in planting an orchard; each has its defects and its strong points. The most common system is the rectangular. According to this system the trees are planted in rectangles or squares. The main advantage of this system is that it allows one to cultivate both ways to the best advantage, especially when the trees become large. It does not, however, give equal distribution of the trees over the ground. The second system is the quincunx. This is not used to any great extent at the present time, but has many advantages and is desirable where fillers are to be used. It means

Planting Systems

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planting in fives. One can make permanent plantings in the rectangle or square and then plant another tree in the center of each rectangle or square. When the trees crowd the center one can easily be removed. In this way you can plant seventy-five per cent more trees to the acre than you can by the rectangle. The hexagonal system is based on the circle, but can be planted with an equilateral triangle. The trees are really planted in groups of seven, six trees in circle with one in the center. It has the advantage that all trees are equally distant and each receives an equal distribution of air and light. However, by this system cultivation is rendered more difficult than by the rectangular system, especially when the trees begin to crowd a little. The hexagonal gives fifteen per cent more trees to the acre than does the rectangular.

Throughout the Pacific Northwest a common practice for orchardists has been what is known as the clean culture system. By this practice we mean, generally, a thorough preparation of the ground in spring, followed by frequent cultivations during the summer time. Orchardists in general feel that experience has taught them that there is no way superior to thorough tillage of the ground to maintain trees in good thrift and heavy bearing. Some of the reasons for tillage in an orchard

**Clean
Culture**

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are: To maintain a sufficient supply of moisture and to make available the plant food there is in the soil, so that trees can obtain this food; by pulverizing the soil a much greater feeding area is presented for the rootlets of the trees; by pulverizing this soil deeply in the spring of the year we also get additional root holding area for the plants. Tillage also has considerable to do with the moisture content of the orchard soils. . . . Tillage produces nitrification; it places that available element in such condition that the trees can use it; it aids in hastening decomposition of all humus and organic matter there is in the soil and tends to set plant foods of all kinds free.”—*Prof. C. I. Lewis, Horticulturist, Oregon Agricultural College, in “Better Fruit.”*

There is a difference of opinion as to the best time to transplant nursery stock. An article in *Fruit Growing in the Arid Regions* says:

“In the arid fruit sections of the west, spring planting is really the only practice that can be recommended. . . . March and April are the favorable months for tree planting. As a rule **Planting** the trees may be planted as soon as the ground is in condition to work in the spring; we may almost say, the earlier the planting the better. The tree makes its start from stored-up plant-food, and any growth the tree makes before it is planted weakens it that much.

“On the other hand, the winters in the Pacific Northwest generally admit of planting from November to March, and early fall

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planting is strongly recommended by men of experience. It is, of course, generally admitted that trees must not be planted when there is frost in the ground or in the air. Early planting produces better results than late planting.

“When a tree is taken from the nursery, part of the root system is left in the ground, and consequently the balance between the roots and top is deranged. This must be restored by proper pruning. All bruised and torn roots should be carefully removed and cut back to sound wood, leaving smoothly-cut ends that will heal rapidly. If this is not done, decay is likely to set in.

“Long, straggling roots may be we well shortened, and any tangled mass of fine roots should be shortened and thinned. Cut the trunk back to 32 inches as soon as the tree is planted. During the first summer’s growth, do not remove a leaf or branch, unless vigorous branches are sent out close to the ground, and the upper branches, to be used for scaffold limbs, are weak; in which case, pinch the tips out of the lower branches when they are 8 to 10 inches long, which will throw the growth where it is wanted. Every leaf gives the tree added strength, and helps it to become firmly established in the ground. If limbs grow where they are not wanted, let them alone until pruning time the following winter.

Hood River Valley Nursery Company

“Practically all of the elements that nourish and build up a tree, except carbon, are taken from the soil, by the roots, in liquid form. This material is carried in the cell-sap, mostly through the outer sapwood, to the leaves. Here the crude food materials are changed by the influence of the sunlight, and the green substance of the leaves to a form that can be readily assimilated by the plant. Is it any wonder, then, that the failure to cut back the tops of newly-planted trees results in the death of many of them? This is especially true in the arid region, as the dry air and intense sunshine cause the young trees to dry out rapidly.”

“When properly pruned, the newly planted tree does not put out more leaves than nature can care for, while the tree is becoming established.

“The hole should be large enough to let the tree stand two or three inches deeper than it was in the nursery. The tree in position, fine topsoil is pushed back in the hole and worked in about the roots. with the roots well covered with fine soil and the topsoil slightly tramped, the water is turned into the furrow. After thorough watering, fresh soil is thrown about the crown of the tree, and the furrow is left open for a second watering ten days or two weeks later.”—*Fruit Growing in Arid Regions.*

HOOD RIVER VALLEY NURSERY CO.

R. F. D. ROUTE 3, BOX 227

HOOD RIVER, OREGON

**Hood River Valley
Nursery Company**

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