

# FILBERT CULTURE AND THE HIGH SPOTS IN COMMERCIAL PRODUCTION

By BEN F. MORRIS

Springfield, Oregon

The great interest in filberts that has been shown throughout the Willamette valley during the past year has resulted in an insistent demand for literature on the subject. Among others, the writer, who is associated with his uncle, George A. Dorris, of Springfield, has been subjected to a barrage during the summer and fall, and particularly since the state fair, which has almost caused his collapse from writer's cramp.

The impression seems to prevail that the filbert requires a culture peculiarly its own. On the one hand, it is credited with being a very difficult and hazardous crop to raise when, as a matter of fact, quite the reverse is true; on the other hand, that it requires practically no cultivation whatever, which is likewise erroneous. The fact is that only certain traits which are more noticeable in the filbert than in most orchard trees and which require rather different methods of handling, it does not differ fundamentally from the other nuts and fruits grown in Oregon, and any other type of orchard should make a success of filberts.

### Know Your Crop

As I regard it, the key to any orchard success is to know the peculiarities of the crop you grow and adapt your orchard practices to them rather than buck them—in other words, get nature on your side rather than try to fight her. And I also believe that in no other case will nature aid you in the Willamette valley as she will with the filbert, the first cousin of the wild hazel, which is the only nut indigenous to Oregon.

There are two periods in the life of an orchard when mistakes can be made, namely, before it is planted and afterwards. Mistakes of the first class may be expensive but they can be rectified. Those made after the planting are very often impossible to correct and almost always exceedingly expensive. And nowhere is this more the case than with the filbert. In fact, outside of disregarding common sense altogether, it is practically impossible to make a serious mistake with a filbert orchard after it is one year old. If this were not the case, there would be no filbert growers in the state today, for every conceivable kind of mistake has been made during the period of experimentation, both before and after the orchards were planted.

This was inevitable at the beginning because no one knew anything about the filbert, even the size it attained. This situation no longer exists. There is yet a great deal to be learned about filbert culture, but enough knowledge has been gained by those who pioneered the way to bring out the peculiarities of the crop and to lay out a simple rational culture of the same. To give the writer's impression of this culture is the purpose of this article.

### Peculiarities of the Filbert

Bear in mind that the filbert is a cultivated relative of the wild hazel, one of the varieties of which grows profusely in western Oregon, and possesses many of its traits.

Its disposition is to throw suckers and to grow in a bush form, with luxuriant wood growth at the expense of the crop. In this one item, we must combat nature and by the removal of the suckers force the filbert to assume a tree form which it will readily do.

It has a distaste for wet feet and should never be planted in wet land.

It requires cross pollination for commercial crops. This may seem at variance with the hazel but remember that most wild hazel seedlings, and it will be seen that this is not the case.

It is divided into three general classes which may be designated as self-husking, partially self-husking and non self-husking. As the nuts must be husked before marketing, other things being equal, a filbert which husks itself is to be desired, thus eliminating the cost of husking which runs at the very least calculation two cents a pound.

Advantages Are Many

It also possesses certain other characteristics which are a decided advantage to us in Oregon, namely, an immunity to insect and fungous pests and to weather conditions which is enjoyed by no other crop raised here; an ability to yield heavy

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and regular crops; of a compact non-perishable product; easily and cheaply harvested, transported and stored, for which there is a wide demand; and the area where they can be grown is limited to that part of the Pacific northwest similar in climate to the Willamette valley, of itself an insurance against over-production.

Thus, the problems to be solved by the prospective planter are simple, but they are exceedingly important and failure in filbert culture should be laid to ignorance or carelessness rather than to any difficulty inherent in the industry. A common sense observance of the following rules is a guarantee of success; soil must be suitable, proper varieties used for the main crop, pollination provided, suckers removed promptly, and adequate cultivation given.

The remainder of this article will be devoted to a more complete exposition of these rules.

### Location and Soil

The filbert is not particular as to exposure, slope or elevation within reasonable limits, but it does demand good drainage and should never be planted in wet land. Any good, well-drained soil will do, but a heavy clay, or an extremely sandy soil to a heavy clay, has been demonstrated in the groves of George A. Dorris, of Springfield. The soil is but an incident, the future cultivation and care of that soil is everything.

The filbert will do well at as great an elevation as the hazel will mature nuts, possibly a great deal higher than a commercial orchard will ever be planted. Nature, in making the filbert, surely had our misty climate with its occasional spring frosts in mind. In the 18 years of the Dorris experiments, during which time every other crop has had complete failures, the filbert has always produced a paying crop. The writer would never either above or below or elevation if the soil were reasonably rich and the drainage good. But do not plant in ground where the water level rises close to the surface and stands all winter.

### Varieties

There are probably as many varieties of filberts as there are of apples, but only a very few have been tried out in a commercial way in Oregon. It is probably the case outside of the Barcelona, Du Chilly, Daviana, White Aveline and Red Aveline, there are no varieties available in sufficient quantities to plant two acres however desirable they might be, so this heading will be confined to a discussion of the above varieties and devoted to the main crop and not to the pollinizers which follow.

The Barcelona is the only representative of the self-husking type, the Du Chilly and Daviana are of the partially self-husking type, while the two Avelines represent the non-huskers.

The Barcelona is a vigorous tree, and a regular and heavy bearer of large, good quality nut; shell of medium thickness and well filled. It is admitted by practically every filbert authority as the only filbert worthy of consideration at present as the main crop variety.

The Du Chilly is a very fine nut but is not as vigorous a grower nor as heavy a bearer as the Barcelona. The Daviana is a very light bearer.

Neither is self-husking and neither is as profitable as the Barcelona.

The White Aveline is an exceptionally fine, paper shell nut, one of the best. The tree is small but a prolific bearer. But it is not self-husking and is no more a main crop variety. The Red Aveline is similar to the White in most respects, but it is not a vigorous tree, and has absolutely no place in the commercial grove.

The Barcelona should therefore comprise 85 to 90 per cent of the planting, the exact percentage being governed by the number of pollinizers it is desired to use, there being different opinions on this subject.

### Pollination is Necessary

Horticulturists generally, particularly cherry men, have recognized of late years that cross pollination is necessary for best results. It is so necessary in filberts that without it a commercial crop is an impossibility. There are isolated cases, usually of one or two trees, where fairly good yields have been obtained, seemingly without cross pollination. But the writer has yet to see a solid Barcelona planting or any other for that matter, which has produced 10 per cent of what it normally should, and all experiments on hand pollination have failed to yield even a single nut as the result of self-pollination. The writer feels he is standing on firm ground with the best of scientific support, in making this statement, and can not urge too strongly upon prospective planters the necessity of cross pollination. It should be borne in mind, however, that not every variety of filbert will pollinize every other variety. There are a number of varieties

which will pollinize the Barcelona to a greater or lesser extent, consequently the selection should be made with an eye to the adequate cross pollination of the grove, under all conditions, and with the greatest possible yield from the pollinizers themselves, which must also be cross pollinated.

### Plant Sufficient Pollinizers

Recent experiments in hand pollination by Prof. C. E. Schuster of the horticultural department of the Oregon Agricultural college, have brought to light a number of good pollinizers for the Barcelona. However, it is useless to dwell upon those varieties which are not available in commercial quantities, and only the Du Chilly, Daviana, White Aveline, Champion and Clackamas will be considered.

Because of the difference in appearance of pollen, and in order to cross pollinize the pollinizers themselves and thus secure a yield from them, it is preferred to use more than one variety for this purpose. Our experience, both in the field and in an experimental way, has confirmed my previous belief in the Du Chilly, Daviana and White Aveline, and it is recommended that about 10 per cent of the planting be devoted to pollinizers, in the proportion of 6 per cent Du Chilly and 2 per cent each of Daviana and White Aveline. The balance of the planting being Barcelona. Practically any of the above varieties used alone would produce fair results but for the reasons stated above the combination is preferred.

The writer is not familiar with either the Champion or Clackamas except in an experimental way, and hesitates to recommend them for the Barcelona, although both, particularly the Clackamas, seem very effective on the Du Chilly. Where the Daviana is not available they might be substituted therefor.

The varieties recommended, however, will do the work in the commercial grove. The writer has seen a number of small groves during the past year in different parts of the valley which should be of the varieties indicated for main planting and pollinizer, but which actually range from seedlings to the Turkish tree filbert, slightly larger than a pine nut. The planter must be sure that he gets what he orders. Don't look for bargain trees.

### Suckering

The filbert has a tendency to throw suckers and these suckers rob the main tree. They should therefore, be removed as they appear each spring. If this work is properly done the tree will not grow the habit, but if not done the tree will become a bush, to the detriment of the yield. There is an impression that these suckers are very numerous. Such is not the case, and in the work of removing the suckers so much stress has been laid upon it that this idea has arisen. The sucker should be removed from the point it originates and no stub left. If this necessitates removing a little earth, do so, and do a good job, because it will pay you large returns, while neglect will cost you money in the shape of planting will fall behind.

### Cultivation and General Practice

The tree should be headed from two to three feet high, and held to one trunk, to facilitate machine cutting. More than one trunk is not particularly objectionable, but has no advantage, and the higher headed, single trunk tree is cheaper to take care of.

Planting should be at not less than 20 feet, and on rich soil a slightly larger distance may be preferable. Remember the filbert is a long lived tree, therefore do not crowd. It is true the yield during the first few years of the orchard's bearing life will be greater from a close planting, but as time goes on, the crowded planting will fall behind.

A filbert is like any other tree, in demanding food and drink, and it is up to the grower to supply these. If you figure that cultivation and good cultivation is not necessary or is foolishness, do not plant an orchard but go back to the ribbon counter and save money. There is nothing that pays so well as intelligent cultivation and no period so important as in the first years.

There is no tree that responds to a pat on the head and a well lined bone, only instead of affection the filbert gives you a bountiful harvest of fine nut which are readily convertible into coin of the realm, at about the same value per pound as a Ford.

### FARM REMINDERS

Spring seeding for pasture may be done at this time. A good mixture for well drained lands of western Oregon is English rye grass 6 pounds, Kentucky blue grass 3 pounds, meadow fescue 3 pounds, timothy 2 pounds, red clover 3 pounds, and white clover 1 pound.—O. A. C. Experiment Station.

Letters come to the plant pathology department each year from farmers who have lost their peach crop because of peach leaf curl. This disease can easily be controlled with one thorough spraying with Bordeaux 4-6-50 applied before the buds swell. It is best to choose a bright day in January for this work.—O. A. C. Experiment Station.

Eastern Oregon farmers reseeded fields of partially frozen out wheat

should use spring varieties as nearly similar to the partial stand as possible. Federation, hard federation, and Baart are good to sow with forty-fold. Marquis and even Hybrid 123 may be used in reseeded Turkey red. Hybrid 143 is a good variety to use in reseeded white clover of the winter habit.—O. A. C. Experiment Station.

Fruit trees that are allowed to grow thick and bushy from lack of proper pruning cannot well be thoroughly sprayed. See that the spring pruning leaves the trees thinned out enough to admit an abundance of air and sunlight as this practice will tend to prevent the development of diseases and will make the regular spraying more effective.—O. A. C. Experiment Station.

### SPRAY CONTROLS WOOLY APHIS

Woolly aphis on fruit trees can best be controlled by spraying with a combination of lime-sulfur and miscible oil applied in late winter. Regular dormant strength lime-sulfur, 12 to 100, is used to which is added 2 gallons of heavy miscible oil to each 100 gallons of dilute spray. The oil should be diluted with an equal quantity of water, well agitated vigorously. The oil emulsion is then added slowly to the spray mixture when the tank is nearly full and while the water is well agitated. Choose a period of clear settled weather for the application of the spray.

### FRUIT CANNERS HELPED

Northwest fruit canners and packers have a chance to attend the first canners' school ever offered in the north Pacific district, beginning January 30 and ending February 24. This is a service course designed to take the college horticultural products section, the first and oldest in the United States, to the canner. How to control organisms in fruit and vegetable products, their relation to ripening and preserving, bacteria in food preservation, and other problems fundamental to the canning industry, will be explained in the light of recent investigation by the college experiment station. Adjunct and repair of sewing machines will be in charge of a representative of the American Can Company.

### O. A. C. JERSEYS FRONT

Eight cows, half-sisters sired by Maple Park Chief, an O. A. C. station registered Jersey, have completed their first calf records with an average yield of 3278 pounds milk and 441.4 pounds butterfat per year at 2 1/2 years of age. The dams of these cows were sired by Golden Glow Chief and averaged 3534.4 pounds of fat at 2 1/2 years. These yields are equivalent on a mature basis to

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They are the famous L'Aiglon Dresses advertised in the Ladies' Home Journal for January.

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## EUGENE WINS FROM ALBANY BY 31 TO 16

The Eugene high school basketball team romped away with its game with Albany last night by the score of 38 to 16. The locals took the lead early in the game and completely outclassed the visitors in every department. A large delegation of Albany rooters accompanied the team here.

The game last night showed that Coach Grinn's men are in good shape and should bring home a few victories on their trip next week to southern Oregon. While away they will meet the fast Ashland team which won the Southern Oregon championship last year.

Following is the lineup: Eugene: Teetoway (2), F. (12) Steinmetz, Kuehland (16), F. (12) Brandenberg, Smith (14), C. Leoney, Taylor (14), G. Rowley, Steinmetz, G. Gray. Substitutes: Eugene—Johnson, Cole (2), and Jackels, Albany—Steinmacker (2) and Blue.

### Stanford Starts North Tonight to Play Oregon

Stanford University, Cal., Jan. 21.—Stanford's basketball squad immediately after the game with St. Ignace tonight, will leave on its first invasion of foreign territory. The cardinals will go direct to Eugene, Ore., where they play the University of Oregon Jan. 24 and 25, and thence to Corvallis, meeting the Oregon Aggies Jan. 27 and 28. Ten men will make the trip.

### Unemployed Single Men to Be Given Work on Streets

Seattle, Jan. 21.—For the purpose of providing employment of the unemployed single men an appropriation of \$50,000 for street work was approved by the council finance committee last yesterday. A fund of \$4000 for clearing and grubbing streets is now being used to furnish work for jobless married men.

### NOTICE OF SALE OF BANKRUPT STOCK, FIXTURES AND LEASE.

The undersigned trustee of Alton Hampton, bankrupt, will receive sealed bids at the law office of L. M. Travis in rooms 7-8-9 of the United States National Bank Bldg., at Eugene, Oregon, on Tuesday, the 24th day of January, 1922, at 11 o'clock in the forenoon, for the following described property:

The Alton Hampton stock of dry goods, ladies and mens furnishings inventoried at \$15,204.23, and the fixtures connected with the same, inventoried at \$3,011.00, and the lease of the premises occupied by the Alton Hampton store, which lease is to run four years at \$130 a month, being at 30 E. 9th St., Eugene, Oregon. Bids will be made separately for the stock, the fixtures and the lease.

Certified check for 10 per cent of the amount bid must accompany each bid. Bids are all subject to the confirmation of the Honorable A. M. Cannon, Referee in Bankruptcy and the trustee reserves the right to reject any and all bids.

Inventory may be examined by calling upon the trustee at 871 11th Ave. W., Eugene, Oregon. Tel. No. 935-J or the Adjustment Bureau of the Portland Assn. of Credit Men, Portland, Oregon. GILBERT H. TYSON, Trustee, Eugene, Oregon No. 1222-dy-323

### NOTICE OF GUARDIAN'S SALE OF REAL ESTATE

In the County Court of Douglas County, State of Oregon.

In the Matter of the Guardianship of Allen Perry Loveloy, John Thomas Loveloy and Robert Carl Loveloy, Minors.

Notice is hereby given that pursuant to an order of the above entitled court the undersigned guardian will from and after the 11th day of February, 1922, proceed to sell at private sale to the highest and best bidder for cash in hand the real property of the said minors described as Lots Three (3), Six (6), Eleven (11) and Fourteen (14) of Section Eight (8), and the Northwest quarter (NW 1/4) of Section Thirty-four (34) Township Twenty-nine (29) South, Range Three (3) West of the Willamette Meridian in Douglas county, Oregon; and an undivided one-fourth interest in the South half of Southeast quarter 48, 1/2 of SW 1/4 of Section Ten (10), the Northwest quarter (NW 1/4), the West half of Northwest quarter (W 1/2 of NE 1/4) and the North half of Southeast quarter (N 1/2 of SW 1/4), of Section Fourteen (14), and the Northeast quarter of the North-

west quarter (NE 1/4 of NE 1/4) and Northeast quarter of the Southeast quarter (NE 1/4 of SE 1/4) of Section Fifteen (15) Township Seventeen (17) South, Range Three (3) East of the Willamette Meridian in Lane County, Oregon, subject to the dower right of Isabel Loveloy, herein described, and also to the claims of O. P. Coshow in Roseburg, Oregon. Said subject to confirmation of the Court.

O. P. COSHOW, Guardian and Adm'r No. 1213-Sat-45-21

NOTICE is hereby given that the Land Board of the State of Oregon will receive sealed bids at its office in the Capitol Building at Salem, Oregon, on 11:00 o'clock a. m., April 11, 1922, all the State's interest in the certain lands hereinafter described, giving preference to the owner or owners of lands abutting or fronting thereon, preference right to purchase shall be allowed, or river bed land at the price offered, provided the same is made in good faith, and also preference to the land will not be sold for less than the land will not be sold for less than \$20.00 per acre, and that the Board serves the right to reject any and all bids.

Said lands are situated in Lane County, Oregon, and are described as follows: Beginning at a point 6-10 chains east and 19-38 chains east of SW corner of Sec. 20, T. 17 S. R. 3 W. of W. M. and running thence: N. 57deg-43min. W. 6-71 chains N. 57deg-43min. W. 1.10 chains N. 81deg-45min. E. 2.00 chains N. 57deg-43min. E. 1.18 chains N. 69deg-45min. E. 7.00 chains N. 48deg. E. 16.75 chains N. 35deg-42. E. 2.46 chains East 6-00 chains to a concrete monument.

S. 3deg-30min. E. 2.50 chains S. 53deg-37min. W. 7.74 chains S. 69deg-37min. W. 2.04 chains S. 67 deg. W. 6.24 chains S. 51deg-31min. W. 16.53 chains to a point of beginning, containing 11.553 acres of river bed lands in SW 1/4 of Section 20, T. 17 S. R. 3 W. of W. M.

Applications and bids will be received to 12. O. Brown, Clerk of State Land Board, Salem, Oregon, or to the undersigned and bid to be marked "Amputation and bid to be received" and filed in the office of the State Land Board.

Filed at Salem, Oregon, Jan. 19, 1922. O. P. Coshow, Clerk State Land Board No. 1228-Sat-48-215

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CHINESE "MARY PICKFORDS." There is now being filmed at Los Angeles a new production. Its subject is Chinese and all the actors as well. Here are some feminine members of the cast who will look well on the screen.