

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1996

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- ☐ Coloured covers / Couverture de couleur
- ☐ Covers damaged / Couverture endommagée
- ☐ Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- ☐ Cover title missing / Le titre de couverture manque
- ☐ Coloured maps / Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- ☐ Bound with other material / Relié avec d'autres documents
- ☐ Only edition available / Seule édition disponible
- ☐ Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.
- ☐ Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- ☐ Additional comments / Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured pages / Pages de couleur
- ☐ Pages damaged / Pages endommagées
- ☐ Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- ☒ Pages discoloured, stained or foxed / Pages décolorées, tachetées ou piquées
- ☐ Pages detached / Pages détachées
- ☒ Showthrough / Transparence
- ☐ Quality of print varies / Qualité inégale de l'impression
- ☐ Includes supplementary material / Comprend du matériel supplémentaire
- ☐ Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image / Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.
- ☐ Opposing pages with varying colouration or discolourations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des colorations variables ou des décolorations sont filmées deux fois afin d'obtenir la meilleure image possible.

**This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.**

A number line starting at $10x$ and ending at $32x$. The line is divided into 11 equal segments. The segments are labeled with their respective values: $10x$, $12x$, $14x$, $16x$, $18x$, $20x$, $22x$, $24x$, $26x$, $28x$, and $32x$. A checkmark is placed in the segment between $20x$ and $22x$.

The copy filmed here has been reproduced thanks to the generosity of:

National Library of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol $\longrightarrow$ (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:

1	2	3
---	---	---

1	2
4	5

L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque nationale du Canada

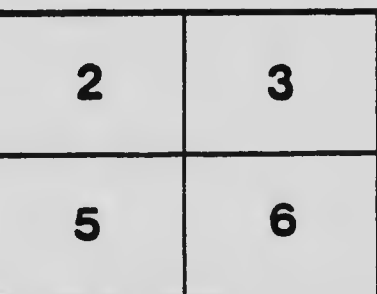
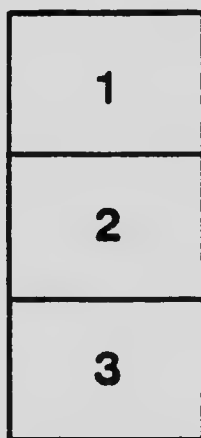
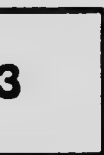
Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaît sur la dernière image de chaque microfiche, selon le cas: le symbole ➞ signifie "A SUIVRE", le symbole ▼ signifie "FIN".

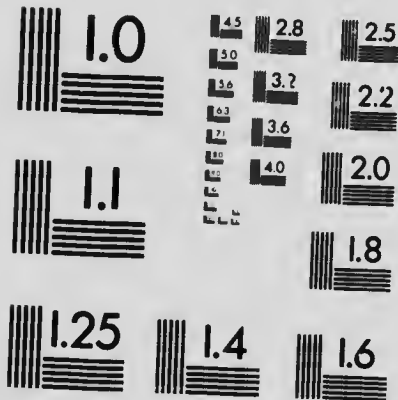
Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents.

Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 482 - 0300 - Phone
(716) 288 - 5989 - Fax

FRUIT-GROWING

On Vancouver Island, B. C., Canada



A Vancouver Island Apple Tree

INTRODUCTION

IT is well to impress upon persons desiring to engage in fruit-growing that it is a profession, not a pastime. Money, time, and experience are imperatively necessary to success. Given the most favorable conditions of land, markets, and means of transportation, and there must be either thorough knowledge of the growing of fruit, or years of experience, in order to make a commercial profit.

It is also in point to call attention to the fact that there is no cheap cleared land, suitable for horticulture, obtainable near the railways or the cities and towns on Vancouver Island. Land adapted to growing fruit, cleared, and near the railways or commercial centres, ranges as a rule from \$250 an acre at the lowest to \$500, or even more, per acre, when the land is adjacent to the waterfront, or near to the largest towns or cities on the Island.

Occasional opportunities are afforded to buy good cleared fruit land at lower figures than these, but in the old-settled Districts first-class fruit land, fully cleared, or with a growing orchard, brings a substantial price. With the present railway and tramway extensions now taking place, more land will be available, and personal investigation will determine the price, as well as the adaptability of the land offered.

Mixed farming is recommended, as a rule, instead of specializing. Fruit-growing, poultry-raising, berry-growing, dairying, or truck-gardening may eventually be taken up exclusively; but for the beginner, with small capital and little experience, fruit-growing, outside of the berries raised on Vancouver Island, is something to be very gradually worked into, and not invested in with all of one's capital.

FRUIT-GROWING ON VANCOUVER ISLAND

I.

IF I were choosing an orchard site, either large or small, I would look for land slightly elevated above the surrounding land, and sloping away from the prevailing winds during the time the fruit is on the trees. No attention need be paid about the east, west, north or south theory. A side hill with natural drainage is preferable, with good, deep soil, which should be either sandy or gravelly. A clay subsoil, or at least a fairly stiff subsoil, is necessary, and land which would yield a good crop of potatoes, or corn, will, with the other requirements noted above, make excellent orchard land. Practically all Island soils require tiling or other artificial drainage for tree fruits, because of the winter rains.

Wet land is fatal to fruit culture, or even land which is kept too moist with irrigation, or natural rainfall; although such wet land may be successfully cultivated for blackberries and loganberries, which are heavy feeders and require a ample moisture. Yet even these berries require good drainage.

In my judgment a man should have not less than ten acres of land on which to carry on fruit-growing, with two acres additional for house, outhouses, garden etc. Twenty acres would be better, but ten acres can be taken as the minimum.

2.

It is far better to have the land in good shape before planting than to try to prepare it afterwards. Newly cleared land is all right if well worked up, or clover sod plowed down a few months before planting. It pays to work the ground as deep as possible before setting out trees. After digging hole to place tree in, if a second hole, two or three feet away, is made with a steel bar, and a half stick of dynamite or stumping powder exploded, it will be of very great benefit in after years as leaving the ground in a condition to better hold the moisture.

3.

For Vancouver Island and the adjoining islands, the King of Tompkins is a very hard apple to beat for an all-round variety. The Wealthy is also a fine fall variety. The Winter Banana does splendidly in some districts. Also the Minnetonka, a comparatively new variety. Cox Orange is a grand dessert apple and does well in some districts, but some growers do not find it suited to certain kinds of Island soil. Grimes Golden does well also.

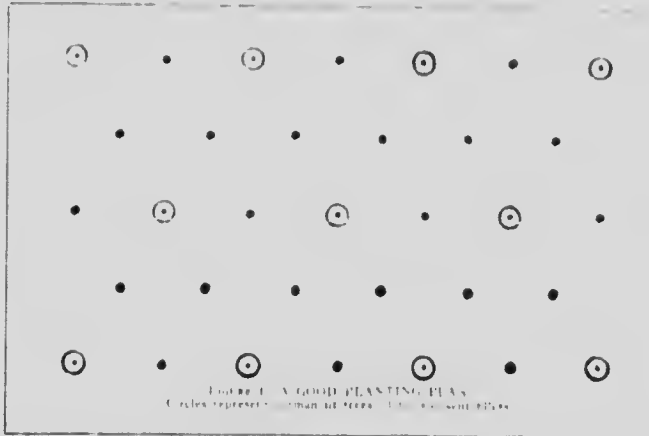
In pears, the old Bartlett for an early pear and the Beurre Clairgeau for a later variety, are excellent. There are also other good commercial varieties, especially Beurre d'Anjou, Bosc, and Louise Bonne.

For plums (blue variety), the Black Diamond, Englebert and Monarch are varieties I recommend. For the red variety, I prefer the Victoria and the Land's Seedling. The Maynard is a fine Japanese variety, improved by Burbank. Also to be recommended are the Gages. The Fellemborg, or Italian prune, is the best prune for commercial purposes and household use, in my judgment.

As to cherries, from a long list of good varieties, both sweet and sour, the Olivet stands first in my favor as a commercial variety and money maker. English Morello is rather better for home preserving. Royal Anne and Bing are high quality sweet cherries for home use. Sour cherries are favored by a number of growers.

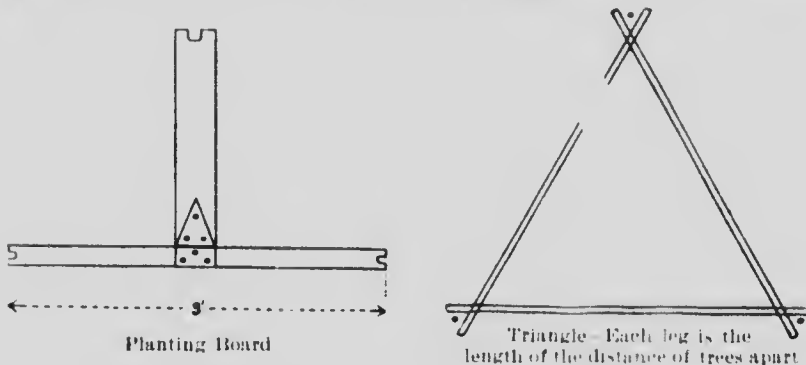
METHOD OF PLANTING

My favorite method of planting is the hexagon, or equilateral triangle. That is, one in the centre of 6 others. This method works out like a bee's honeycomb, as illustrated by the following drawing:



It is the simplest and best plan, especially for a novice.

Make your planting board and triangle out of battens as illustrated by the following drawings:



This plan gives 10 more trees to the acre at 25 feet apart, and 5 at 30 feet, and each tree has more room than they would have if planted on the square with the lesser number. Twenty-five feet is as far apart as I would plant

them on Vancouver Island. I would like to impress upon those about to plant, the very great importance of the care of trees from the nursery to the actual planting. You will often see trees carted around with roots and stems exposed to sunlight and air for hours and even days without a thought as to possible loss. This is all wrong. The moisture and tender bark should be kept from the air and light, which otherwise draw out the root strength. And I should advise cutting back to 2 feet (14 inches is better) as soon as the tree is planted, so that there will not be so many leaves opening out in the spring to draw the plant food from root and stem before the root hairs have grown to get food from the surrounding soil.

5.

PLANTING BETWEEN ROWS

I would never put in so-called "fillers," but if at all near a market would grow roots or small fruits. But be sure to keep far enough away from the trees to run a horse and cultivator each side of the tree at least four feet wide, increasing the width as the trees grow larger, or for the first four, or perhaps five years. **Never try to grow two crops off the same ground at the same time, as some growers try to do.**

6.

PRUNING

During the first three or four years do a little summer pruning; that is, take off some of the young shoots you know will have to come away, such as those which are growing inwards, or too much at right angles, etc., but be careful not to overdo this, as trees must have a good quantity of leaves to do well. The leaves are the workshop, elaborating the sap as it passes on.

One should watch the leaves of his trees to tell the state of their health. When pruning at any time, always cut close to butt or limb, making a smooth cut, not leaving ugly spurs which can hardly ever heal over. And when forming the head of your young trees, cut with bud left the way you wish to have the next growth grow. That is, if you wish the limb to grow outwards, cut with the

bud outwards, always leaving the bud on the side you would like to have the limb grow. Do not leave too many limbs. Think of them when they will be four to six inches in diameter and will need room.

Be careful to prune for sunlight and air. Both are essential to good crops and good color, as well as to keep the tree stocky, and able to stand up under a good weight of fruit without breaking. It also helps in spraying and every other department of orchard work.

7.

SPRAYING

As for spraying, if one uses the lime sulphur, Black leaf 40, and arsenate of lead in earnest as one should, there would be little to bother about with other sprays. Get a good outfit and find out what you are spraying for. Do it thoroughly, and the results will be sure and satisfactory. The Provincial Government Bulletins, Agricultural Department, Parliament Buildings, Victoria, B. C., will be furnished free by that Department and will give detailed information on sprays and spraying.

8.

PLOUGHING

In ploughing, run the plough shallow near the trees, especially if the good soil is not deep, and plough deeper as you leave the trees towards the centre of the row. The same with the cultivator. Plough once in the fall and cross-plough in the spring. Cultivate up to August 15th to kill weeds, and conserve moisture with dust mulch.

9.

GRAFTING OLD TREES

The old-fashioned cleft grafting is the simplest and probably the best for beginners, and when the stock is not too large. On very large trees one can put a scion in the thick bark in the shape of a one-sided wedge, putting it in something like a bud, only inserting the scion from top of stub or stock down like cleft grafting, but splitting the bark only. The essential thing is to see that the

cambium layer of stock and scion are joined at some point. Budding is so easy and simple that everyone interested in horticulture should learn at once how to do it. Grafting should be done in early spring as soon as the sap starts briskly, but have scions dormant, or cut before that time, and kept in a cool, dry place. In that way, the buds on scions will be plump, but not advanced beyond the normal dormant or winter stage. Do not have scion cut more than four buds long. Be careful to seal up well with wax, leaving no place for moisture to get in or out and putting a little wax on the tip of the scion to stop evaporation.

It is better not to cut off the whole head of a young tree at once, as if it is very thrifty the flow of sap may be so strong that the scion will be drowned out. Better take about half of the head at a time.

Budding gives you two chances of propagation the same season. That is, if your scion fails to grow you can put a bud in during July, or perhaps early in August. So long as there is growth enough left in the stock for bud to unite, say three or four weeks, it is sufficient. Of course, the scions are cut from one year old wood of previous season growth, and the buds are from the same season's wood as when put in.

10.

THINNING

The essential reasons for thinning are getting better understood each year. One of these reasons is its aid in getting a more even grade of fruit and obtaining all, or nearly all, No. 1 fruit. Few fruit-growers realize just how much a tree is injured for future usefulness by allowing it to overload year after year.

It is the ripening of the pips, or seed, in each apple, that is hardest on the tree. And when you consider that a small apple has practically as much seed as a large one, it is easy to see how useless, as well as unprofitable, it is to grow a lot of small apples which are more or less unmarketable.

II.

PACKING

A box of fruit that is packed as it should be is attractive, pleases the eye, and is already half sold at an advanced price as soon as it is placed on the market. Good packing also means increased power to stand the wear and tear of shipment, especially for long distances. Second and third grade fruit should be kept off of the open market and out of competition with the No. 1 grade as much as possible. The present waste of second and third grade fruit will doubtless be done away with in the near future by means of evaporating plants, jam factories, etc., of which there is a vital need on Vancouver Island.

12.

FROST

To avoid frost as much as may be, do not plant trees in hollow or low places, surrounded by higher ground, as the air drainage is bad in such localities. Plant on rising ground and slopes, and, whenever possible, near large bodies of water.

13.

CARE OF ORCHARDS

As to the care of orchards when matured. After thorough work in spraying and cultivation, the land needs keeping in a good state of fertility, as all bearing fruit trees are hard on the soil. Do not use artificial fertilizers indiscriminately, or without understanding what you are about. While some of these are helpful when used carefully, one can overdo it.

Keep humus (and thus moisture) in the soil by ploughing cover crops, especially the clovers. Do not cultivate too late in the autumn, or say August. Better let a crop of weeds grow than to encourage too late a growth.

Keep the trees stocky. Don't have bare poles, nor yet too many limbs. Encourage fruit spurs all along the limbs close in by shortening in the lateral branches. Watch the leaves of your trees for indications of trouble. Large, dark green leaves tell you of health and vigor. When the leaves

are small, pale, curled or discolored in spots, something is wrong. If the leaves curl towards the underneath side it is probably Aphis. If they curl outward towards the upper side it is probably want of moisture. If they are turning reddish it indicates too much moisture.

14.

FRUIT-GROWING ON VANCOUVER ISLAND

The possibilities for fruit-growing on Vancouver Island are good for the right varieties of apples, pears, cherries, plums, prunes, and the strawberry, loganberry, blackberry and raspberry. The summers are not warm enough for the growing of peaches and grapes excepting in some few localities.

For the other varieties of fruit named, Vancouver Island and the adjoining Gulf Islands present advantages, and the fruit raised has taken prizes for excellence both at home and in the exhibitions of fruit held in Great Britain.

MARKETS

Growers will do well to get into closer co-operative relations with one another, as this is essential to the maintenance of profitable prices, as well as enabling them to find better markets.

When the Panama Canal is opened and shipping in cold storage becomes feasible, Vancouver Island will be much more able to compete with Ontario, Nova Scotia and Tasmania for the markets across the sea.

GEORGE HEATHIERBELL,

Glen Lea Orchards, Colwood,

Vancouver Island, B. C., Canada.

Horticulturist and Lecturer on Horticulture for the Provincial Government of British Columbia.

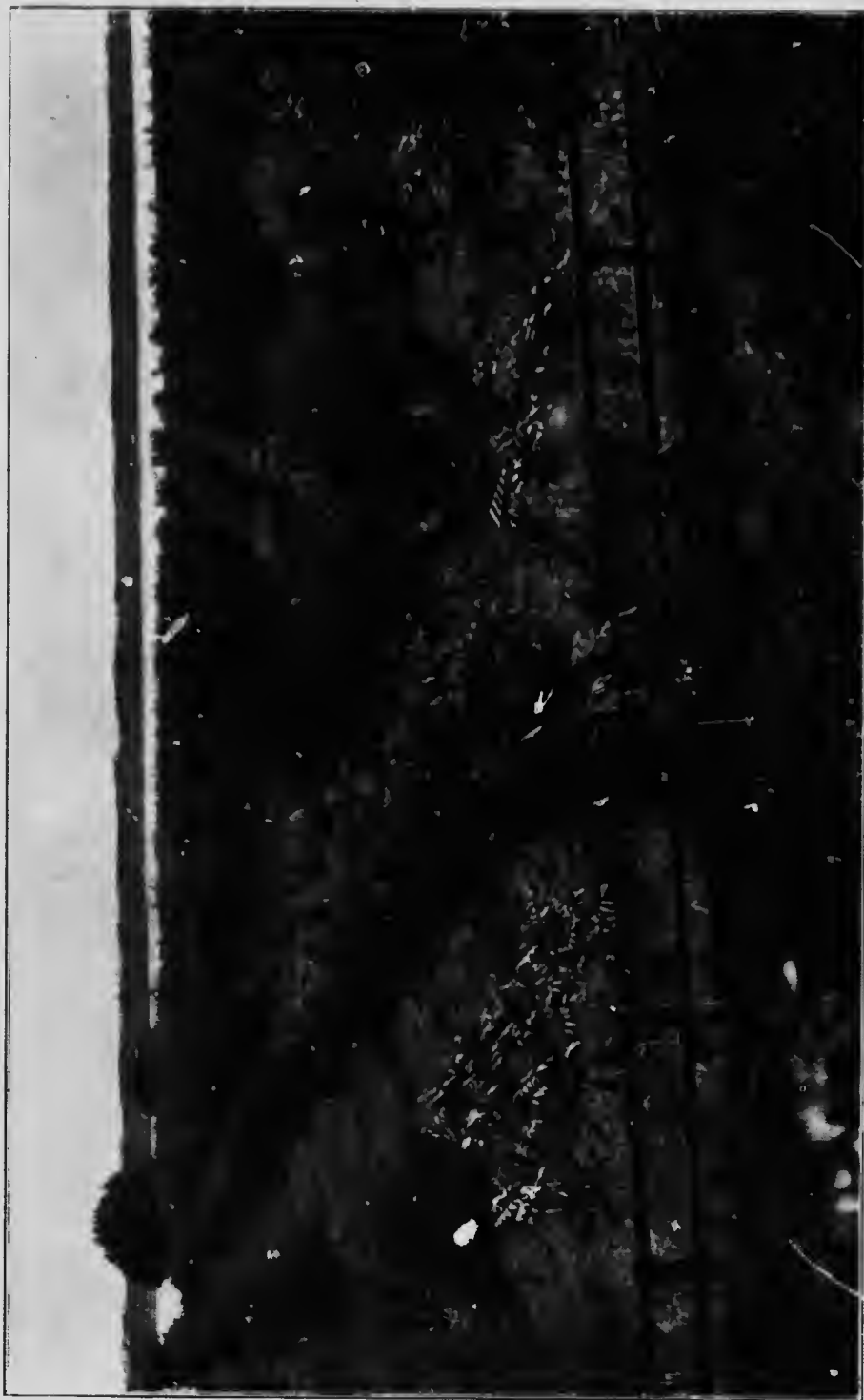
BRANCHES of the Vancouver Island Development League are situated at Alberni, Bamfield, Clayoquot, Colwood, Comox, Cumberland, Duncan, Fulford Harbor (Salt Spring Island), East Wellington, Holberg, Ladysmith, Nanaimo, Nitinat, Nootka, North Saanich, Oak Bay, Otter Point, Parksville, Port Alberni, Port Hardy, Port Renfrew, Quatsino, Ganges Harbor (Salt Spring Island), San Josef, Shawnigan, Shushartie, Sidney, Sooke, and Ucluelet, as well as the Home Branch at Victoria. All are in the Province of British Columbia.

Those wishing detailed information as to fruit-growing or farming conditions and possibilities in these parts of Vancouver Island are requested to write specially to the Secretaries of the Vancouver Island Development League there, naming the Branch of the League, as given above. All should have the letters "B. C." added to the address. Ask for prices of land, closeness to markets, rainfall, number of farmers or fruit-growers in the District, etc. Good roads and good schools are in practically all of the Districts.

Books of general information will be mailed free by the Vancouver Island Development League at Victoria. These include books on mixed farming and farming in all branches, and special books on poultry-raising, fruit-growing, shooting and fishing, maps of Vancouver Island, a book on the City of Victoria, and Victoria leaflet showing progress for past ten years.

Persons coming to Victoria to take up farming in the outside Districts will be furnished with letters of introduction to the Secretaries in the various Districts, who will show them over the Districts. There is no charge whatever for information, literature, letters of introduction, or any services to intending settlers at the Home Offices at Victoria.

The League has nothing to do with employment outside of skilled farm labor and white domestic help. Farm labor commands from \$25 to \$35 a month and board for skilled help, and from \$10 to \$15 for unskilled. Domestics get from \$20 to \$35 a month and board.



Glen Lea Orchard, Colwood, B. C., Canada. C. Vancouver Island Orchard



