CIHM
Microfiche
Series
(Monographs)

ICMH
Collection de
microfiches
(monographies)

Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

Technical and Bibliographic Notes / Notes techniques et bibliographiques

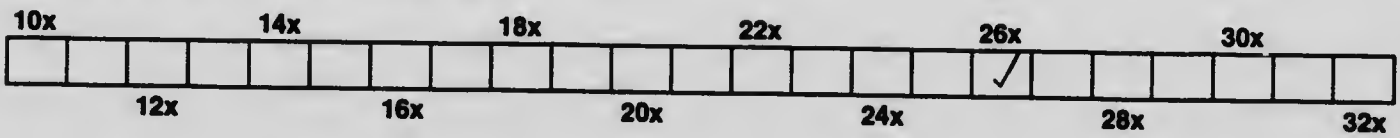
The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- ☐ 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.



thenks

lity
bility
e

filmed
on
mpres-
All
n the
se-
nted

ON-
"),

o be
to
he

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

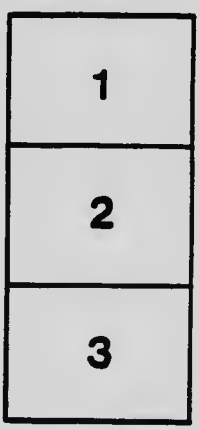
Bibliothèque
Agriculture Canada

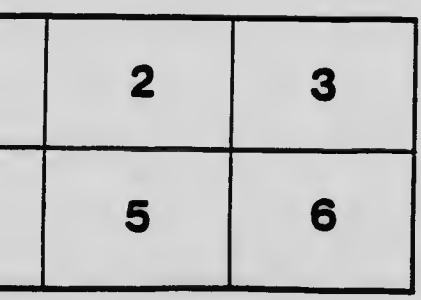
Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

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 apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole ⟶ signifie "A SUIVRE", le symbole ▽ signifie "FIN".

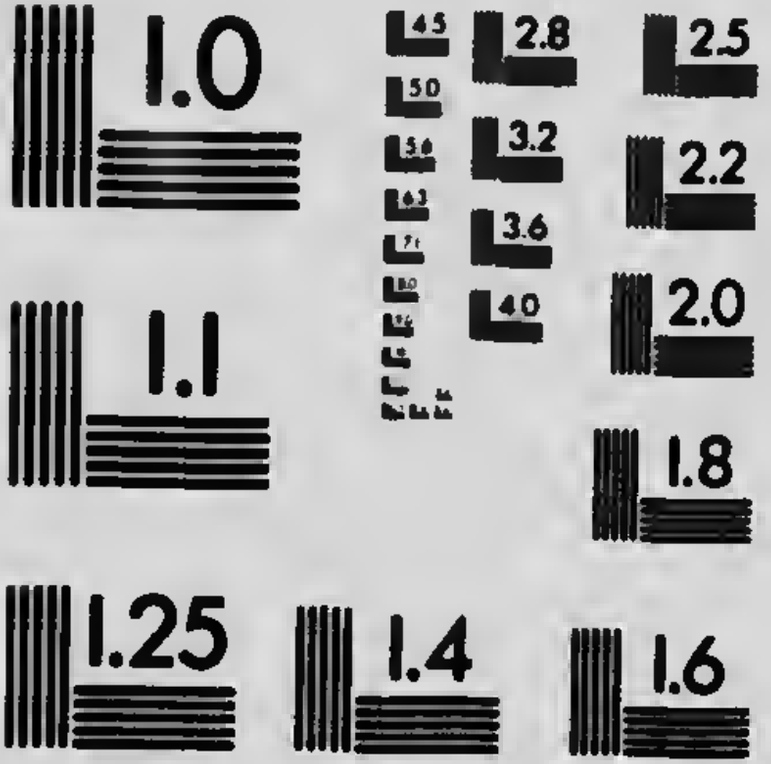
Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les 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

CIRCULAR No. 22.

PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE (HORTICULTURAL BRANCH).

THINNING TREE-FRUITS.

By R. M. Winslow, B.S.A., Provincial Horticulturist.

THE very favourable weather which has occurred throughout the blooming season in all the fruit districts of the Province has favoured the setting of a very large percentage of the blossoms. There are very few trees which will not have all the fruit they can carry, and probably the majority of them will have more than they can carry with profit. This brings up the question of the thinning of fruit, a practice well recognized in the States to the south of us, but not yet generally understood throughout British Columbia. A discussion of the methods and results of thinning is at the present time very much in order, because the work must be undertaken in the very near future.

HOW MUCH FRUIT SHOULD A TREE BEAR?

In discussing the question of thinning, we admit that a tree may set more fruit than it can possibly bring to perfection, as the fruit-grower understands perfection. Nature cares nothing for the fruit except as an aid to produce seed; the orchardist cares nothing for seeds except as they are necessary to the production of fruit. We wish each tree to carry all the fruit it can bring to commercial perfection, and no more.

At the same time, the tree must make new vegetative growth consistent with ... age and the variety.

The third requisite is that it should also form enough fruit-spurs for a similar crop in the following year. This ideal is the foundation of our orchard practice.

When a tree is fulfilling these three requirements it is performing its maximum duty to the owner. If it falls short in any one of them, he is not getting his maximum of profit, either immediate or prospective, from it.

HOW DOES THINNING HELP?

The removal of some of the fruit at an early stage in its growth helps materially towards securing the maximum duty of the tree in certain definite ways:—.

(1.) The average size of the fruit left on the trees is increased; this is the most obvious result of thinning. Trees overburdened with fruit produce a greater percentage of No. 2 apples. The increase in size of the remainder, after the first or second pickings of Bartlett pears is made, is a striking instance of the increase in size when the number of fruits is reduced.

(2.) The fruit borne is more uniform in size and shape. On the overloaded tree there is much variation in size, and, especially where two or more fruits remain on a spur, they are variable in shape as well. The fruits from the side blossoms of the cluster are in many varieties much different from those from the centre blossom, usually being flatter in shape and having a considerably longer stem. Uniformity in size and shape is an important essential of commercial perfection.

(3.) The colour is materially bettered, more uniform, and comes earlier. The remarkable increase in colour which occurs when a first picking is made from heavily bearing trees of even the winter varieties, such as Jonathan and Wagener, furnishes striking confirmation of this point. While colour seems largely related to sunshine, it is a well-known fact that on a heavily loaded tree the fruit has less colour, which is less evenly distributed and more slowly acquired.

(4.) Thinning improves the quality. This is especially the case where the soil is deficient in moisture or plant-food.

(5.) The fruit is freer of diseases and insect pests, because wormy apples, hail-bruised or diseased fruit of any kind, can be removed at thinning-time. On plums and peaches in moist regions, fruits thinned so that no two touch when fully grown are much freer of brown-rot.

(6.) The removal of misshapen fruit lowers the percentage of low-grade fruit.

(7.) Thinning prevents premature dropping. A familiar instance is that of the McIntosh Red, which is especially liable to drop where two fruits are left on one spur. Premature dropping is quite largely due to the inability of the tree to supply moisture to an excessive crop.

(8.) The load of fruit is more evenly distributed, and this is a very important feature [illegible]ting the breaking-down of trees.

(9.) The cost [illegible] reduced considerably, and the labour of packing is divided more ev[illegible]e season. This is an important advantage where the supply of labo[illegible] in picking-time. Costs of grading and packing are also much les[illegible].

(10.) Less fert[illegible] removed from the soil. A ton of apples takes out approximately 1.2 lb. of nitrogen, 1.6 lb. of potash, and 0.6 lb. of phosphoric acid. A ton of pears removes the same amount of nitrogen and about twice as much of the other elements. The seeds take the great bulk of these amounts, the pulp of the fruit taking but a small portion. As the number of seeds is roughly in proportion to the number of apples, and not to their size, the removal of fruits leaves a much greater supply of plant-food for the balance of the crop, for the growth of the trees, and in the soil.

(11.) The tree is less liable to winter injury. The ripening of the heavy crop drains the vitality of the tree, so leaving it in poor shape to withstand the winter. Trees bearing moderate crops for which there is an adequate supply of plant-food and an adequate supply of moisture have sufficient vitality to ripen the crop, and to ripen the fruit-buds and new shoots as well.

(12.) One of the most important results of thinning is that the trees will bear a larger and more uniform crop the following year. The tendency

towards biennial bearing is materially reduced, much depending in this, however, on the variety.

For various reasons, then, thinning helps materially to secure the maximum duty from the tree.

WHEN TO THIN.

As soon as the crop can be determined and the supply of labour permits, thinning should be commenced. Start with those varieties which are most advanced. Generally, apples, pears, and peaches are thinned when about the size of a hickory-nut, and the thinning should be completed before they are more than double that size. On the various plums the work should be commenced as soon as possible after the dropping, familiarly known as "the June drop," is over.

Apricots, cherries, and crab-apples are not usually thinned by hand, because the crop which they are to bear is a reasonably certain quantity, and can be controlled to a greater extent than in the larger fruits by proper pruning. The Italian prune and the peach plum are not usually thinned, because normally the set of fruit of these varieties is not great enough to warrant the expenditure.

HOW TO THIN.

To set rules for thinning is even more difficult than to set rules for pruning. The fruit-grower must determine for himself just how much crop the tree will be able to carry. Much depends on the variety, the age of the tree, its vitality, the soil, cultivation, climate, and district. Under equal conditions the Winesap may be thinned to, say, 5 inches, where the Jonathan would be thinned to 6 or 7, and the Northern Spy to 8. In climates such as that of Vancouver Island, where no irrigation is available, and the rainfall averages about half an inch per month during the summer season, or one-fifth that of the average Ontario district, all varieties are thinned to a greater distance than in districts of greater rainfall or where irrigation is available. In this district it is advisable to thin many crops, the whole of which could be carried to advantage under other conditions. Unhealthy or diseased trees should not be expected to grow as great a load as those in perfect health, while trees making extensive growth may very well be allowed to carry much more than average trees under the same conditions.

By one rule which is practised to some extent the grower sizes up all the conditions and determines how many boxes of fruit the tree should carry. It is a small matter then to determine how many fruits there should be left on the tree.

Another rule which might be taken in connection with the previous one is to thin plums to about 2, 2½, or 3 inches; peaches, 4 to 8, depending on the earliness of the variety; pears and apples, 5 to 7 inches apart. In thinning pears and apples, it is only with early varieties that more than one should be left on any fruit-spur, and with these early varieties part of the crop may be removed in one picking and the balance later. With winter varieties of apples it is a good rule to leave fruit only on each alternate spur, to encourage annual bearing. On slender twigs and on wood of the past season's growth (where many varieties bear heavily in British Columbia) it is well to thin to a greater distance than on strong fruit-spurs in the body of the tree. On the outside twigs and shoots the fruit will average smaller than on the stouter branches; they are unable to grow a close crop of fruit to perfection.

A very important point, well illustrated by the Yellow Newtown apple, is that the centre apple of the cluster, and not one of the side apples, should remain. The centre blossom of the cluster comes out first; its stem is usually shorter and stockier than those of the outside blossoms, and at the time of thinning the apple is usually much larger than the others and on a shorter stem. The centre apple usually hangs better to the tree, is the typical apple of the variety, is less liable to variation in shape, and having a shorter stem is better for packing and for appearance' sake.

Fruit-spurs vary greatly in size and vitality; the best spurs bear the best fruit; the weaker spurs should be given a chance to develop into strong ones before next year's crop.

In the production of fancy fruit, thinning pays, and pays well. It means much in the assurance of crops of only high-class fruit. It is not likely to be of value unless the orchard is right in the matters of variety, fertility, cultivation, pruning, and spraying; it is not likely to give good returns unless the high-class article produced is properly packed and marketed by business-like methods. Thinning is an essential feature of the new orchard-culture.

Present indications are that this year will see the largest crop of tree-fruits British Columbia has yet had. Throughout the Province from Vancouver Island to the Kootenays the apple, prune, peach, pear, and plum trees have been full of blossom, and there has been no loss from frost or unfavourable weather. Most of the trees are certain to have a heavy load of fruit, of which very much will be undersized unless thinning is practised. It is hoped that fruit-growers will grasp the situation rightly. The prices for undersized fruit are never very remunerative. It is always the good, large, perfect fruits that bring paying returns. This year the difference in price between fancy and low-grade fruit will be emphasized. Large yields of fruit are promised in Ontario, in the Middle States, Colorado, California, Montana, Idaho, Oregon, and Washington, as well as in British Columbia. The North-western States, in fact, have the bumper crop of their history; and they look to the Canadian prairies to buy a great deal of it, as times are good in Canada, while money is scarce in the United States. This means that there will be plenty of poor fruit for sale in our markets without any from British Columbia, and the returns for this class of fruit are bound to be low. Neither do the canneries want small fruit; there is no money in pie-peaches for any one. Every grower should resolve that he will not grow any peaches smaller than "[illegible]." Any shipper knows that there will be no market for the small stuff, and that even in the earliest varieties we can grow, returns will be unsatisfactory for the small grades. Fortunately there is no good reason why any grower should have any percentage of the small sizes to market.

It is unlikely that any fruit-grower will thin too much; it is quite certain that most growers will not thin enough. While the average man may know about thinning, he is short the nerve necessary to carry it out. Most of the growers in British Columbia have not yet had enough experience to realize the difference in profits on large and small sizes. Those men who see the situation clearly and who recognize the fundamental necessity for adequate thinning should use their influence by getting their neighbours to take it up.

Victoria, B.C., December, 1912.

VICTORIA, B.C.:
Printed by WILLIAM H. CULLIN, Printer to the King's Most Excellent Majesty.
1912.