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BULLETIN No. 40

# HOW TO PLAN YOUR FRUIT T

— BY ----

J.-H. LAVOIE, F. E. Chief of the Horticultural Service.



Staking out of the ground and setting in pla

ished by order the Hon. Jos.-Ed. Caron, Minister of Agriculture of

HE PROVINCE OF QUEBEC

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# LANT TREES

E. Service.



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culture of the Province of Quebec.



## How to Plant your Fruit Trees.

#### THE CLUE TO SUCCESS.

The plantation of a tree is a very easy matter; but yet we must know how to do it. For what would it serve to procure vigorous trees, hardy, of first choice quality and variety if they were to be planted in a midst or under unfavourable conditions? It would be better not to buy any rather than risk their plantation. How many hundreds of trees are lost every year because the care and the necessary operations required to make a success of their plantation are ignored? Even frequently, after repeated failures, the cause of which is at first attributed to the nurseryman, and afterwards to the climate, we get discouraged and we abandon the culture of fruit trees, when the failure is due solely to the unskilfulness of the planter.

So as to prevent these losses, it is of importance that all those who buy trees be aware of the attentic , to give them on receipt and when, where and how to plant them.

#### Receipt of the trees.

Before they are accepted, it is in the first place necessary to ascertain if they are in good condition, and if the quantities, species and varieties received are well in accordance with those ordered.

We will judge of the quality and of the condition of a tree by the roots, the top and by the appearance of the wood, of the buds and of the bark. If its rooting system is flexible, well developped, if it has a dumpy collar, a straight stem, free from knots, a smooth bark not covered with black moss, well disposed main branches, vigorous buds, the tree will be of first quality.

You will distinguish, to the contrary, that a tree must be refused or put aside, when the roots are dry brittle, when the bark is shrivelled, wrinkled, or again when in cutting the end of the branches you will notice that the heart of the wood is black. The plantation of such a tree is useless.

It sometimes happens that trees however well packed suffer from overheating owing to a slow delivery in the spring. In this case, the buds are generally opened. Also, will it be necessary to heel them in without delay and prune them severely at the time of their plantation.

#### Heeling in.

As soon as they will have been unpacked, the trees will be heeled in, that is to say that we will place them one along side the other in one or many trenches wherein they will be buried to a variable depth and in a dry or wet ground, according as we will receive them in the autumn or in the spring. When we receive them in the *autumn*, we dig, in a hillock of sand or of well drained earth, trenches 18 to 24 inches deep, across which, the trees half laid down, are buried from the root to the branches. If they are received only in the *spring*, they are buried in the same way, though not so deeply, under shelter of the sun and wind, in a wet ground where they will remain 24 to 72 hours, according to the state of their vegetation. Even in supposing that they would have dried out, we should guard against letting them stay in the water. In this case, it is better to keep them heeled in for a longer time.

#### When to plant ?

In the spring, as soon as the earth is well warm again and drained. If we were forced by circumstances to delay the plantation, it would be necessary to cover with straw the branches of the trees heeled in, so as to delay the opening of the buds. But we shall not wait, however, until the leaves are opened to plant, because the success of the plantation would then be compromised.

#### Where to plant ?

In the spot which affords the best shelter against the prevailing winds and where the ground, by its nature, its depth, its degree of dampness and its exposure will better comply with the exigencies of the various species of trees.

The apple tree thrives in los my and sandy loam soils, rather dry than damp, without requiring that they be very deep.

The pear tree requires a deep loam or clay lime soil, with a permeable and well drained subsoil.

The *plum tree* prefers damp sandy loams or clay grounds, whereas the *cherry tree* will need that the same grounds be rather dry. Their rooting being superficial, it is therefore not necessary that the ground be very deep.

The ground intended to the establishment of an orchard of small or large area should always receive an appropriate preparation in the very year preceding that of the plantation. The best preparation of the soil consists in a culture of vegetables or of leguminous plants, followed by a good fall plowing.

It occurs frequently, however, that we are obliged to plant in a waste or fallow land. In this case, a fall plowing after a liberal spreading of barn manure or of basic slag (1) is imperative. It would even be desirable that the ground be dug up as deeply as possible, especially if the subsoil was compact, unless, however, the shale would be near to the surface, because we would then have to take care not to dig it up or exhaust it.

(1) For want of basic slag, an application of superphosphate of lime is made in the spring when hoeing.

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An success ful of mixing hillock The grounds manured and plowed in the autumn must be plowed again and harrowed in the spring, and then leveled by raking or rolling.

Finally, if owing to uncontrollable eircumstances, we must plant in a fallow land which could not be plowed in the autumn, it is absolutely necessary to dig it up very deep in the spring, either in drawing 5 or 6 furrows with a subsoil plow in  $\cdot$  place which will be occupied by the rows of trees or in digging the holes with dynamite. Let it be noted, however, that this method is not as recommendable as the former ones.

Next, we proceed to the staking out of the ground, that is, to the putting in line of the rows, and to the marking, with pickets, of the place of the trees.

The space to be left between the rows and the distance between each of the trees is different according to species, varieties, to the elimate and the area of the orchard. As a general rule, the apple trees are planted 25 to 35 ft in all directions; the pear, plum and cherry trees 15, ft in all directions, an exception being made for dwarf trees which are planted at 8 ft distance.

If various kinds of fruit trees are to be planted, each of them will have to be planted separately and marked.

#### How to plant?

When the time has come to plant the trees, it will be necessary to dig out the holes destined to receive them. Seeing that we could not dig without removing the stake, and as it is important, in order to keep the straight line, that the trunk of the tree occupies exactly the spot of the stake, we will use an *indicating board*, as represented in the picture on the front page.

It is a board measuring 4 to 6 ft long by 6 to 8 inehes wide, perforated at its two extrememities and having in the n. ddle on one side a notch in the shape of a V. (See picture). Before taking out the stake to dig the hole, it is fixed in the notch of the board which is set in place with two pegs driven into the ground through the holes which have been bored at the ends of the board. As these pegs will serve as guiding-marks when the stake and the board have been removed, care must be exercised not to pull them out before the tree has interplanted.

The diameter of the hole must correspond to the length of the roots and varies between 2 and 3 ft. When digging, we remove the mould or improved earth which is thrown aside (a) as it is the richest and as same must be used to cover the roots. The layer of earth which is afterwards removed to a depth of 18 inches is laid down as represented by (b).

An excellent method to take advantage of in sandy grounds, to make a success of the plantation, consists in depositing in the bottom of the hole a shoveful of well rotten manure or yet of rich compost which is pulverised by mixing with three times its volume of earth, so as to form a knoll or hillock (in picture c). Before the tree is set in place, we generally cut off the twofifths and sometimes as much as one half of the length of its branches but always in letting the whole keep a proper symetrical shape.

We afterwards severe in a horizontal plan until we reach the sound wood, the mutilated roots, dry or gained by the rot; and after they have been soaked in a bucket containing clay or loam mixed with liquid manure, someone sets the tree down in the hole, until the collar of the root is 1 inch above the level of the ground. While he is holding it well upright in the position represented by the pieture, another person replaces the indicating board in the pegs (dd) and allows he body of the tree to slide in the notch, so that it occupies exactly the spot of the stake.

Then one of the operators stretches out the roots to their length all around the hillock, so that they will not interweave, and covers same with the mould heaped up in (a) during which time the helper slightly shakes the tree upwards so as to permit of the earth penetrating everywhere, *leaving no empty space around the roots*. And it is precisely to insure a perfect contact of the roots with the earth that it must be pressed down with the feet until the hole is filled in

up to the three-quarters. From this height the earth shall not be trodden, as the level of the ground must always be loose to hinder the evaporation being too excessive.

Water afterwards, if the earth was dry and place a layer of straw (bed of litter) around the foot of each tree so as to retain the dampness. If the tree was exposed to the winds, the use of a stake would be necessary.

We are not favourable to the use of a single stake; it is better to use two stakes set down across one another.

# 家

Stakes

#### Important point.

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When receiving, heeling in or planting the trees, keep the roots exposed to the air and sun for the least possible time, taking care to cover them with moss. straw or wet linen (bags).



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#### HINTS.

When buying your apple, pear, plum and cherry trees, tell your nurseryman to send you only low stem trees having not been more than two or three years in the nursery.

#### \*\*\*

Never allow any fresh manure, or that has not been thoroughly decomposed, to come in contact with the roots of your trees; this would occasion the decay or the white rot of the roots.

#### \*\*\*\*

Keep the earth loose at the foot of your trees from the spring until the middle of July. If your trees are in bearing, a thin layer of ashes will be spread about the middle of June, so as to obtain bigger and more juicy fruits.

#### \*\*\*

In sandy grounds, always keep around the foot of the trees a bed of straw 4 or 5 inches thick so as to retain the dampness which they require.

We cannot expect to obtain fruits free from spots or insects' bitings unless poisoned sprays are made on the trees in bearing. Four sprays or pulverizations may prove effective: the first one before the leaves open; the second before the opening of the flowers; the third one immediately after the flowers are closed but before their cup is entirely welded to their upper part and then the fourth spray in the 14 or 18 days following the third one.

#### \*\*\*\*

So as to obtain bigger fruits and of a more uniform size, at the same time in order not to exhaust the tree and allow it to bear fruits every year, we must not hesitate to thin the fruits as soon as they have reached one fourth of their size.

#### \*\*\*\*

In the fall, surround the foot of your trees with a band of wire netting about 14 inches high and then earth them up with manure, so as to prevent damages from field-mice and to protect them against the frost.

### For further information, kindly ask for bulletin :

No. 37 or The Enemies of our Orchards and Gardens.

#### LIST OF THE DIFFEREN WHOSE PLANTAT IN THE

APPLE.

Summe

Fall

Winter

PEAR :	Flemish
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PLUM:	EUROPE
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#### FFERENT VARIETIES OF FRUIT TREES AND SHRUBS ANTATION WE PARTICULARLY RECOMMEND N THE PROVINCE OF QUEBEC.

Summer	varieties:	Duchess, Yellow Transparent, Lowland Raspberry.
Fall	66	Wealthy, Fameuse, McIntosh Red, St. Lawrence, Scarlet Pippin, Mil- waukee.
Winter		<ul> <li>Canada Baldwin, N. W. Greening, Canada Red, Gano, Salome, Golden Russet, Bethel.</li> <li>N.B.—We underline the best varieties. In Quebec district, the Wealthy may be considered as a winter variety.</li> </ul>
Flemish 1	Beauty, Cla	pp's Favorite, Louise Bonne de Jersey,

Beurré d'Anjou. EUROPEAN VARIETIES.— Blue Damson, Mirabelle, Reine Claude, Lombard, Imperial Gage, Gueii, Victoria, Grand

Duke, Bradshaw, Coe's, Golden Drop, Yellow Egg, Washington, Pond's Seedling.

AMERICAN VARIETIES.— For the Eastern Townships and Beauce district. Hawkeye, Wolfe, Carstesen, Stoddard.

Montmorency, Early Purple Guigne, Morello, Richmond. Bederwood, Williams, Pocomoke, Wilson's Albany, Victoria, Bendall, Americus, Progressive.

N.B.—The flowers of these varieties are perfect. The Bendall is delicious as a dessert strawberry.

black: Cumberland.

red: Herbert, Cuthbert, Marlboro.

yellow: Golden Queen.

Industry, Pearl, Downing.

red: Victoria, Wilder.

white: White Grape, White Imperial.

black : Black Victoria, Saunders red: Victoria, Wilde white: White Grape, White Imperial.

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