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Agricultural.

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The Management and Improvement of Orchards in New Brunswick.

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(Concluded.)

Budding,—Consists (as far as regards the apple,) in taking an eye or bud from the bark of one tree and transporting it to a different tree. Budded trees are generally longer in attaining the fruit bearing state than grafted ones. Its advantages are, that it can be performed at a season of more leasure than that proper for grafting, and when grafting has failed on young trees in the Spring, they can be budded afterwards the same season.

The proper time to bud in this climate is from the twentieth of August to the middle of September, and may be known by the bark readily parting from the stock. The best stocks to be budded on are those from two to four years old from the seed. It is indispensable to successful budding, that the stock be thrifty, and not over three or four years old. If the stock be aged or diseased, the mucilaginous substance between the bark and wood, which hardens into new wood, and which cements the bud to the stock, will not be found in sufficient quantity. The common way of performing the operation is to select a smooth part of the stock on the north or west side, then make a horizontal cut through the bark to the wood, then from the middle of the horizontal cut make a perpendicular cut downwards about one and a half inches long—the cuts will then resemble the letter T—then immediately cut the bud from the limb with the thinnest possible portion of wood with it, raise the bark of the stock with the handle of the budding knife, and insert the bud under the bark of the stock in close contact with the wood. The bud must be smoothly cut and smoothly and evenly applied; a ligature of soft bass mat should be bound round the bud above and below, but not to cover the eye of the bud.

In about four weeks the ligature should be loosened to prevent its cutting into the wood. In April or the beginning of May in the spring following, the stock must be cut off to within about two inches of the inserted bud, and all the branches and the buds below the inserted one removed, so that all the nourishment may be thrown into it. When the bud has grown five or six inches, it should be tied to the stump of the stock left above it, to prevent injury from the wind, and in the next following spring the stump of the stock above the bud should be cut off smoothly, slanting to the bud, and covered with grafting wax.

The methods I have thus recommended and described, will be found sufficient for the purposes of propagation, and to continue varieties now known. Propagation from the seed is too well understood to require remark. Ingrafting and budding will be found very simple, for although the written description may appear tedious, one half-hour's oral instruction, with illustration of the manual process, and an hour's practice, will enable any person to perform these operations sufficiently well for private purposes.

General Remarks, &c.—The best size of tree to set out in an orchard, is one of three years' growth from the graft, and the spring is the only sure time to set them. But trees intended to be set out in the spring should be taken up in the Fall, a trench dug, and the roots put in and covered with earth. When trees are imported, this fall removal is of great importance, for it frequently happens that when ordered in the spring, they are so late in arriving, and so far advanced in growth, as to be seriously injured, and sometimes rendered useless; but when taken up in the fall, the spring growth is retarded and the operation of transplanting may be safely delayed until the ground is sufficiently dry.

In importing trees, I prefer the Boston and Portland nurseries, and have certainly been more successful with those obtained from them than with any others, although I have at different times imported from England, Scotland and New York.

The Boston or Portland trees are sooner and more easily acclimated, and the passage is shorter. Still what dependence can be placed in the variety, trees that have been ingrafted in the Province, and are already innured to the climate, are decidedly to be preferred.

In the selection of trees for an orchard, the object should not so much be the greatest variety as a bountiful supply of good fruit. In more favored countries it is no uncommon thing for those who grow apples for market to have fifty, or even a hundred trees of one sort in their orchards.

It has always surprised me that our agricultural community evince so little interest in the cultivation of the apple. The product is so marketable and profitable—the fruit so generally esteemed—the capital required to be invested so trifling—that one might reasonably expect a very different feeling to prevail. I repeat what I have already said—there is no difficulty in growing the apple in New Brunswick, in fact it would be difficult to find a farm consisting of a hundred acres or more, which, in some parts of it, is not well adapted to this culture. If the same amount of money which is now expended on imported fruit could be made available in the wise selection of trees and their proper cultivation, we should shortly be possessed of choice fruit in great abundance and of our own growth.

It is true there are many tender and valuable kinds of apple that could scarcely be expected to survive the sudden and violent changes of our climate, and it is not necessrary that they should, for if we can grow twenty or thirty choice varieties, (and this we can *at least* do,) every really important purpose is fulfilled; nor should any be discouraged by occasional failures in introducing new varieties—such occurrences are as common in other countries as our own.

It is a common opinion that it is the extreme cold of our winters which destroy so many of our fruit trees; from close and continued observations, I have been led to another conclusion, and believe the fatality to be attributable to the sudden change of temperature in the months of May and June.

I am convinced that no degree of cold felt in New Brunswick will destroy an apple tree in the winter months when the sap is dormant; it is when the sap begins to circulate, the buds to swell, and from thence until the young fruit is set, that I find injuries, and fatal ones, to many kinds, in the sudden transition from a cold and frosty night to a warm sunny morning. After these sudden changes I have frequently found the fruit buds injured and sometimes killed.—To avoid, as far as possible, the liability to injury from this cause, I have recommended a north and west exposure for the orchard as that least subject to sudden changes of temperature. It is well known to all gardeners that if the sky be overcast in the morning, after a night of heavy frost, and the weather continues cold, little injury is done, but when the sun comes up suddenly and warm after such a night, great danger is to be apprehended, and the greatest where the trees are most immediately exposed to its direct rays. When the ground declines to the north or west, the air is tempered before the sun's rays strike at all, and when they do strike it is less directly; I therefore recommend this aspect. I have often observed that apple trees, and other fruit trees and vegetables in such situations have escaped with impunity when others in other situations have suffered severely.

No care or precaution will enable us to grow *all* the varieties recommdnded in the catalogues, but this is the less to be regretted as the differences are frequently rather in name than quality, and more curions than useful. Again many kinds of apples which obiain a high reputation in one locality, lose all that is valuable in their peculiarity by emigration, even from one to another part of the same State. An interesting instance of the kind referred to is afforded in the history of the removal of some fruit trees from the United States to England a few years since. Fifty peach trees of the choicest kinds selected from different States, were sent to England and tested at the great Cheswick Gardens, and two only were found worthy of cultivation. It will require time and patience, and close observation, to ascertain the kinds best suited to our country, and with these there is every reason to believe that many fine varieties may be introduced and acclimated, and become valuable additions to our Provincial orchards.

Great carelessness prevails through the Province as respects the names of fruit and fruit trees; frequently the proper name is wholly lost, and some fancy one, as that of the grower substituted. In this way we find "Brown's Fancy," "Steven's Superb," "Murrays Best," and a host of others whose names afford little useful information. There is no reason to doubt that some of these kinds have been grown from seed in the Province, and are worthy of extensive cultivation, but the larger portion are unquestionably imported, though their history and name are now forgotten.

It is very desirous that some means should be devised to recover the true names of imported trees, and a suitable name and record preserved of those grown from seed which are considered valuable. To this end I would respectfully suggest to this Society that the growers of apples throughout the Province should be invited to send specimens of their fruit to the proposed Exhibition in October next; that each exhibitor should furnish, with each sample of fruit, information as to name; whether raised from seed or grafted; whether Provincial or imported; if imported, from whence; whether the tree bears much fruit; whether it bears every year, or only in odd or alternate years; whether the fruit keeps well; if scions can be obtained; and such other information as the grower may think interesting and useful.

With such information, a Committee of this Society could safely report upon the respective merits of the fruit exhibited, and select such for commendation as should be deemed worthy of cultivation. It would also be enabled either to recover the old and true name, or fix a new one, and afford such information of the character of the tree and fruit, and the place where scions could be obtained, as would be very serviceable.

Something like system and certainty would thus grow up where all is now confusion and risk.

I believe the names of the subjoined may be depended on, and I confidently recommend the trees and fruit as deserving of extensive propagation:—"Alsop's Spitzbergen," "Rhode Island Greening," "Gravenstan, Early Bough," "Rambois and Lake Baldwin." These are imported fruits, and I might enumerate a great many collected in different parts of the Province, but I should be compelled to employ the fancy names referred to, and might unintentionally mislead those who desire and require correct information.

I now proceed to answer the questions proposed by the Society:—

First—I have an apple orchard of 150 trees; nearly all are grafted; they are of many varieties, but the larger portion of the kinds named and recommended in the Essay. I have a great number of young grafted trees intended for removal and sale, and seedlings innumerable.

Second—I have of plums—the Orleans, Magnum Bonum, Green Gage, Damson, Frost Plum, and the Red Canadian. I cannot as yet (from the result of actual experiment,) determine which of these will best suit this Province; so far the Damson has been most profitable. All that I have enumerated will stand the climate in favorable circumstances, and are deserving of cultivation. I have also cherries, pears, gooseberries, currants, strawberries, &c., &c.

Third—None but the caterpillar; I pick them off before they leave their web, and so save the tree. The curculis (which is destructive in the United States,) has never troubled me; and I have only heard of one instance of injury from it in the Province. The most effectual way to destroy them is by shaking the tree, catching them in a cloth, and destroying them by hand.

Fourth—My mode of general and particular management has been already fully stated.—The treatment of pears, plums, and cherries, are so similar to that recommended for the apple, as to save the necessity for remark. I would, however, prefer budding to ingrafting for plums; for cherries either will do. Pears are entitled to much greater attention than they have yet raceived from us, and very few are grown. I have three varieties uow under cultivation, which so far promise well; but I cannot yet determine their suitability to the climate.

Fifth—I have been making experiments in matters more or less intimately connected with "farm operations" all my life; all of these have been interesting to me, and some, I trust, of service to my country, but the detail would be out of place at the close of a paper already, as I fear, too lengthy.

So far as my experience and observation enable me to speak, the best wash for fruit trees is a strong ash ley, (strong enough to float an egg,) or soft soap. The trunks and large limbs should be well washed with the ley or soap about the first of May in each year. Lime is frequently recommended, but I am decidedly opposed to it, and have known two instances in which fine trees were destroyed by its use.

In conclusion, I beg to draw particular attention to these points in the preceeding Essay:—

The adaptability of New Brunswick to the cultivation of the apple.

The necessity to increase the quantity and improve the quality of Provincial fruit;

The care to be observed in taking up, setting out, and in the after treatment of trees in new orchards.

The renovation of old orchards.

The necessity for a correct nomenclature for our fruit trees.

The best soils and sites for orchards.

Grafting and budding—the modes and advantages.

Above all, I invoke the determination in every man to excel in a pursuit which is not only in