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Agricultural.

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The Management and Improvement of Orchards in New Brunswick.

BY WILLIAM WATTS, SENR.

(Continued.)

THE RENOVATION OF OLD, NEGLECTED OR UNPROFITABLE ORCHARDS.—It is a lamentable fact that, with very rare exceptions, the old orchards of the Province are rapidly degenerating. I have examined many of them in different parts of the Province, and observed them with some attention for several years past, and I am convinced that the owners of many of them would admit their condition to be less satisfactory than it was years ago. This state of things is the more to be reprehended because it is neither produced by the age of the tree nor the nature of the climate, but the result of sheer neglect or mismanagement. There are orchards in the country which, to my certain knowledge, have been in grass for forty years, and during that time have not received one shovel full of manure or other stimulents, except what fell from the clouds.

As a general thing, no attention is given to the orchard, the trees are set out, (or stuck out in such a hole as would be dug for a post,) are suffered to run wild and take care of themselves, without manure, pruning, or washing, until the trunk becomes rough-barked and covered with moss, the limbs broken and hanging down, dead branches in every direction, suckers so abundant that the old trees almost forget where they stood—the places of those that were so fortunate as to die never supplied, while those still alive drag out a miserable existence and seem wishing for death as a relief. These are not exaggerations but facts, and must so continue until the owners of orchards awake to their real interests.

In the process of renovation, I shall recommend in the first place, the removal of all dead and dying trees. This should be done in the Fall. The soil of the orchard should then be deeply ploughed, and as near as possible to the trees without injury to the large roots; the soil should be spaded and turned close to the trees, and all weeds and grass destroyed.

In the Spring, holes should be prepared and young trees set out in the vacant places, in rows, as recommended for the new orchard.—All useless and decaying limbs should be pruned out on the remaining trees, and these should be ingrafted with choice fruits.

It is not generally understood that old trees can be ingrafted with success, yet such is the case; the age of the tree if it be healthy constituting no objection. The operation should be performed by cleft-grafting and the better plan is to ingraft the lower tier of limbs the first year, the next tier the second, and the remainder in the third year. Thus in the course of a few years, by pruning and ingrafting, a tree worse than useless may be made valuable.—The soil of the old orchard should be manured for three or four years, and occupied with a hoed crop, as recommended for the new one.—If this method is carried out, a profitable and interesting orchard will take the place of an unproductive and unsightly one, and the owner will have reason to rejoice over the results of a little capital and labor judiciously expended.

THE PROPAGATION OF FRUIT TREES BY INGRAFTING AND BUDDING.—Ingrafting consists in inserting the cutting of one tree into the growing stock of another tree, the stock supplies sap for the nourishment of the scion inserted in it, and the cutting or graft, instead of making roots for itself, extends its forming wood downwards through the inner bark into the stock itself. Hence there are two great requisites to successful grafting: first, that the graft be so set on the stock that the sap may flow upwards without interruption; secondly, that the forming wood may flow downwards freely through the inner bark. To effect these objects it is necessary, first, that the operation should be performed with a sharp knife, that the vessels and pores be cut smoothly, and the two parts be brought into immediate and even contact; secondly, that a considerable and permanent pressure be applied to keep all parts of the cut faces close together; thirdly, that the line of division between the inner bark and the wood should exactly correspond, for if the inner bark of the one sets wholly on the wood of the other the upward current of the sap through the wood and back through the bark is broken, and the graft must consequently fail for want of nourishment; and fourthly, that the wounded parts be excluded from the air, to retain moisture to the graft and exclude the wet until the union is complete. This union will be indicated by the growth of the graft, which usually takes place in four or five weeks.

In grafting, two knives will be required—a keen flat-bladed one, and a stronger knife to cut the stock and for other purposes. It should be remembered that in cleft grafting the jaws of the stock should press with some force against the wedge-shaped side of the graft; a stock one inch in diameter will do this sufficiently.

After having practised many methods of grafting, I prefer, and for the last ten years have confined myself to whip grafting, cleft grafting and saddle grafting. These, with budding, will be found sufficient and best for all purposes for the apple.

WHIP GRAFTING,—Or, as it is often called, tongue grafting, is best adapted to stocks ranging from one-fourth of an inch to an inch in diameter. The stock to be operated upon should be headed down to about one foot from the ground, and care must be taken that the stock be not broken or split in the operation. The stock is to be sloped off, commencing about two inches from the top, and sloping it at least half way through the stock, and thus procuring a wedge-shape on one side. This requires a smooth, clean cut. The scion (which should be of the last year's growth,) is to be then shortened to six inches in length, and sloped at its lower end to suit the slope of the stock. Then a slit or tongue is to be made in the middle of the sloped stock, downwards, about half an inch and a similar tongue in the scion, upwards.—The tongue or wedge-like process, forming the upper face of the scion, is then to be inserted downwards into the cleft of the stock. In this operation great care must be taken that the inner barks of both stock and scion are brought to unite closely on one side, and that this union is not displaced in the tying. The tying should be done immediately with a string of soft bass mat or cotton, and the graft covered over with grafting wax or clay, which I shall again refer to.

CLEFT GRAFTING,—Is best suited to strong stocks—from an inch upwards—or the re-grafting of old trees, and is performed by cutting or sawing off the old stock to be operated upon; a cleft is then made with a knife or chisel, downwards, nearly in the centre of the stock, (carefully avoiding injury to the pith,) about two inches long. The scion is then prepared at its extremity, for about one and a half inches, in the shape of a wedge, leaving it about the eighth of an inch thick on one side, and pared to an edge on the other. The slit in the end of the stock is then to be opened and the scion inserted in the cleft, with the inner bark of both corresponding. The wedge holding the slit open will then be withdrawn, and the stock close firmly on the scion.

By this method two or more scions can be inserted into one stock, one on either side; and if the stock be large, two or more parallel clefts can be made and a greater number of scions inserted.

SADDLE GRAFTING,—Is performed by cutting off the stock in a completely wedge-like form, then splitting the scion up the end, thinning the extremeties of both its inner sides to a tongue shape, placing it over the wedged end of the stock, and embracing the stock on both sides. The inner barks must be carefully joined. This is an excellent method for small trees.

Trees thus operated upon should be covered immediately with wax or clay, and I decidedly prefer the former as best adapted to this climate. The wax I use is composed of one half pound of bees' wax, one pound of tallow, and two pounds of rosin, melted together, strained and well worked by the hand. When used, it should be warmed, strips of strong cotton eighteen inches long, and half an inch in width, soaked in the wax, are to be wound round the graft, then, with a painters brush, give a coat of wax over all sufficient to exclude air and water. By this means the ligatures will not prevent the expansion of the tree, and the wax will fall of itself in the course of the season, without any necessity of loosening the bandage, and without that injury to the tree which is apt to follow from the use of bass mat.

When clay is preferred, it is easily prepared thus:—take equal parts of common clay (free from gravel,) and horse drippings, (free from straw and litter,) softening them with water and incorporating well together. If too tough, add more manure. When the graft is set, press a piece of clay the size of a turkey's egg, well round the grafted part, closing it in on all sides so as to exclude air and water, and leaving it when finished in the shape of an egg. Care must be taken that the clay is not displaced by heavy rains; in such case it must be immediately replaced and preserved until the scion has united with the stock. In about four weeks after the setting, the scion will begin to grow rapidly the clay must then be taken off and the bandage loosened—not entirely removed, but tied gently round, sufficiently to prevent the wind breaking off the scion, and to protect it until firmly united.

The proper season for setting grafts in this Province, is from the first to the fifteenth of May, and the true indication is when the leaf buds are so swollen that they begin to break and show the end of the leaf. The best time to take off scions is from the first of March to the middle of April, but they can be taken any time in the winter months. Each parcel should be carefully marked with the name, covered with saw-dust or moss, and laid in some moist (not wet,) place until wanted for use.

(Conclusion in our next.)

A FRENCH VIEW OF IRELAND.

The *Debats* says, "If ever Ireland should become English, it will be when it shall be occupied and colonized by the English; but so long as it shall be inhabited by the natives, it is probable that a fusion will be impossible. This antagonism between the two races is nowhere shown in such a striking manner as in the administration of justice. There is no country in which assassinations are so frequent as in Ireland; but in the eyes of the Irish to kill a landlord is not a crime, because in general he is either a Saxon or a Protestant. We lately read that in the space of twenty years nearly 13,000 persons had been brought to trial in Ireland on charges of murder, and that out of this number only 260 could be convicted. This was not owing to the facts not being clear to every one, but because juries could not be found to return a verdict of guilty. Either the jurymen, therefore, morally and tacitly absolve murder, and only regard it as an act of legitimate revenge, or they fear, by condemning the murders, to expose themselves to reprisals from secret societies. It is, moreover, known that, according to the English laws, juries must deliver their verdicts unanimously, so that it is only necessary for the prisoner to have one friendly voice for the ends of justice to be defeated. Murder is, therefore, in the eyes of Irishmen, deprived of its character of moral crime; it is no longer anything but a political act, which is to be judged in a political point of view. This feeling is so inherent in them that they carry it with them into every country in the world. We have an example of this in a trial which is now before the Supreme Court of the United States. An Irishman, who had fired a pistol at a landlord, escaped to America. The English Government, by virtue of treaties, has claimed his extradition, and it is probable it will be granted. But what has up to the present time delayed it is that the guilty man is an Irishman, and there are seven millions of his countrymen in America who make common cause with him. These Irishmen have been already naturalized, consequently have a right of voting, and as the Presidential election is near, the candidates seek for Irish votes at any price. There has been thus formed in the United States a party of "sympathisers" in favor of the murderer claimed by England. The fact of the crime is not disputed; only it wished to be considered as a political act, or, according to the expressions made use of in America, "as an isolated act of a long drama, which had its origin in the conquest of Ireland and in the confiscation of its soil by the conquerers." It is this unextinguishable hostility of races which in Ireland justifies all the acts of violence which are called agrarian crimes, and all the insurrections against the laws. During the last elections there was a disturbance in which the soldiers, being pelted with stones were obliged to fire in self-defence.—An inquest was held, and although it was clearly proved that the soldiers did not fire until driven to the last extremity, and only in self-defence, a number of witnesses came forward and swore that they had fired without any provocation, and a justice of the peace and six or eight of the soldiers have just been committed by the coroner to take their trials for voluntary homicide. The witnesses knew that if they had given any other evidence they would have subjected themselves to the danger of being shot. A curious example was lately given of that freemasonry which covers Ireland with an invisible and invincible network. A murder was committed in the open day on a Sunday during the celebration of mass. The murderers, being pursued by the police, took refuge in the church. The chief of the police thought himself sure of being able to recognize them, as they were in their shirt sleeves, but when he entered the church he soon found himself compelled to abandon his search, as all the men were in their shirt sleeves and jeered at the police. Ordinary justice is impossible in such countries and under such conditions."