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REPORT

of the Northumberland Agricultural Society for 1856-7.

In submitting their Report for the year just closed, the retiring Board of Directors begin by reminding the Northumberland Agricultural Society, that treatises on the practice and science of Agriculture are so numerous now-a-days, as to be literally pressed upon the acceptance of all who will read them, and this too at little or no cost.

The cause of the prevailing ignorance, therefore, which stamps the character of too many of our New Brunswick farmers, cannot be traced to any difficulty existing in the way of their obtaining information, but is rather to be found either in a long cherished aversion to what is vulgarly termed "Book-farming," or the lack of all relish for the acquisition of such knowledge.

This being the case, your Committee conceive, they will best perform the task of reporting, by confining their remarks to a narrative of the Society's proceeding during the past year, some suggestions on local subjects, and some remedies for prevailing evils.

The duties which at its earliest meeting claim the attention of the Board of Directors, are, 1st.—To discover the amount of funds that are, or may, be at their disposal. 2nd.—The appropriation of these funds to such objects, as are deemed best calculated to advance the Agricultural interests of the County. 3rd.—The appointment of Committees to carry out during the year, the schemes of improvement just adopted; and 4th.—the revision of prizes, prices, &c., &c.

No subject has so deeply engrossed the attention of the Society for years past, as that of procuring Lime for farming purposes, at reasonable or remunerative prices. The impoverished state of a large portion of our arable or cropped lands, and the absolute necessity there is, that lands less impoverished by injudicious cropping, should be enriched, or raised to a productive condition, render it an imperative duty on the part of your Society, to put forth its most strenuous exertions to place lime within the reach of every farmer who belongs to it. Impressed with the truth and importance of these remarks, the Board at their first meeting, having attended to the preliminary matters just named, appointed, 1st—A Committee to ascertain, whether a supply of lime for spring use, could be purchased in this Market—at what price per barrel: and in what quantities, it could be reasonably supplied. 2nd—They appointed a Committee to ascertain correctly, as to whether lime deposits, are to be found on the North West, or South-West branch of this river, and if so, the distance these are from any water transit—their probable depth and quality, and the facilities to be found near such deposits for burning the stone, &c., and 3rd—A Committee to visit the settlement of Petit Roche, and report as early as possible, the price at which the Society could be furnished annually, with a given quantity of roach or slacked lime, deliverable there, at a stated price per barrel, or at this place; the latter being deemed the most desirable arrangement.

At the second Meeting of the Board, which took place on the 18th March—finding from the report of the Committee appointed to ascertain if lime could be obtained here for spring use, that it would be impossible to purchase any quantity, at such a price as farmers could afford to pay, the Board resolved, 1st—That the sum of *Seventy Five Pounds* of the funds of the Society be applied to the purchase and importation of *Guano* and *Bone Dust*, for spring use; two thirds of the sum so appropriated to be applied to the purchase of *Guano*, and the remainder to *bone dust*. 2nd—That *Forty Pounds* be appropriated to the purchase in Britain, of *garden and clover seeds, vetches, &c.*

It being impossible to obtain lime for farming operations last spring, at anything like reasonable prices, the Board deemed *Guano* and *Bone Dust* the best substitute they could select.

These substances were sold a few days after their arrival, and realized prices varying for *Guano* from 18s. 9d. to 20s. per bag of 13-4 cwt., and for *Bone Dust* from 5s. to 7s. per cwt.

So far as your Committee have ascertained, the *Guano* and *bone dust* proved of excellent quality, and their good effects will no doubt be visible for years to come.

The garden and clover seeds, vetches, &c., came to hand a few days too late for spring use. They are, however, fresh, and otherwise in excellent condition, and will be ready for next spring. The Society's Agent at Chatham, for the sale of these seeds, is Mr Daniel M'Larren. At Newcastle, D. Witherall.

The Committee appointed to visit Petit Roche, having reported that lime could not be purchased there at less than 2s 6d per barrel; and the committee appointed to ascertain whether a lime deposit was to be found, as reported, on the North-West, being unable to submit any information of a definite kind, a long and animated discussion took place on the subject, "what measures ought this Society to prosecute in order to secure lime for spring of 1857."

The following resolution, to which an amendment was offered, was carried by a small majority, viz:—That a Committee of five persons be appointed to ascertain it, and on what terms, lime may be got from the North-West, to be made available for Agricultural purposes; and be authorized to make the best arrangement for a supply from there, or else-

where, as they deem best; and further, that the sum of one hundred pounds be placed at their disposal. This resolution, as was predicted by its opponents, has effected no good. The opinion of those who opposed it, and supported the amendment, was, that the surest and best method of securing lime for the coming season (spring of 1857) was to advertize forthwith, for tenders from parties disposed to supply the Society, with a given quantity of lime, deliverable seasonably, at Newcastle, Douglastown, and Chatham. The tenders to be opened about midsummer.

Time would thus have been afforded, before opening the tenders, for maturing the views of parties disposed to compete; and subsequently for procuring the lime by the period subscribed. There was a strong feeling on the part of the board, to afford encouragement, or rather pecuniary aid, to any respectable party, who would undertake to erect a kiln, and furnish lime at the deposit, which was believed to exist on the North-West; but it was argued, that to do this, would incur the risk, that lime so provided by the Society, might cost higher than the price at which farmers could purchase it elsewhere; whereas, if a fair competition took place, any party disposed to work the North-West deposits, could compete with others, and if successful, secure the patronage of the Society, as effectually by this method as any other. Although the Board thus differed in opinion regarding the best means of insuring to farmers a supply of lime for next spring, yet all were alike, actuated by an anxious, honest wish to adopt that method, which appeared to them respectively, as the most preferable, or that which was most likely to insure success; men often differ in opinion who do not differ in principle. Whether by advertising for tenders last winter, persons would have been found disposed to furnish the required quantity of lime, on such terms as the Board could accept, it is impossible to say; but it is submitted, whether the adoption of such a plan for the future, would not be the most likely one to lead, to a consummation of the Society's wishes, respecting a subject which has long and eagerly engaged its attention.

THE CROPS OF LAST YEAR, POTATO DISEASE, &c.

Finer weather for the Farmer than prevailed all last summer and autumn could not have been desired, yet the potato crop in many parts of this County, and indeed throughout this Province and Prince Edward Island was a complete failure.

The exceedingly fine, warm, moist weather, which caused a heavy yield of other root crops,* and of Oats, Barley, &c., seems to have had, in some places, a pernicious influence on the potato while forming, and on the wheat crop while filling. Until about the middle of August the potato fields gave indication of a heavy crop, the stem being healthy-looking and luxuriant; but about that time, a field here and there began to look sickly—to send forth an offensive smell—and at length, to rot away. The effect produced on the forming tubers by this gradual destruction of the stems, appears to have been two-fold. In some instances it occasioned rot, and a total cessation of the growth; in others it produced a paucity of vines and tubers; hence some complained of having raised a crop of *rotten potatoes*, while others complained of having dug little more than the seed they had planted.

The potato disease has been ascribed to various causes; some have imputed it to an unhealthy condition of the atmosphere. They say *the disease was in the air*; but, if so, how came many fields to escape, while the adjoining and intervening ones were destroyed. If the atmosphere had been impure, *animate* objects would have suffered as well as *inanimate*, but instead of being unhealthy, last summer was remarkable for the absence of every kind of epidemic. During the period when the *cholera morbus* prevailed, there was an absence, both in America and Europe, of the natural, or usual amount of electricity in the common atmosphere; nor was this deficiency confined to the districts where the cholera raged, but was experienced over all parts of these countries, thus occasioning less thunder and less blustery weather than is usual. During that period of human misery, the potato suffered so dreadfully from disease, that it was feared it would be totally annihilated; but no such phenomenon as that just named, was observed in this County last summer, either in the character of the weather, or the condition of the common atmosphere.

Others, with greater plausibility assert, that the potato of this County, and indeed the potato generally, has become so weak and degenerate from the effects of disease and repetition, that in all cases where it has been producing and reproducing itself, *without change of climate or soil*, it is now incapable of propagating its species, healthily or vigorously. It is, moreover asserted, in proof of this, that, under such circumstances, the plum will not produce a healthy potato; indeed that for some years past the plum has been gradually disappearing; that twenty or thirty years ago, any kind of potato, cut it as you pleased, never failed in good ground, to yield abundantly; but that, recently, the coming crop has depended greatly on the selection of the seed, and the method of cutting it.

Whether these views be correct or incorrect, one thing is certain, it is this: however far beyond the grasp of human

* On the fifth of an acre of ground near his residence, the Hon. J. M. Johnson raised 72 barrels carrots, which is equal to 360 barrels per acre.

science, it may have pleased the Omnipotent, to place the natural cause of the potato malady, a natural cause there must be; not only so, but that cause must be a great one, for it were a paradox to assert, that small agencies are the cause of great results. One of the first principles of human thought is that there can be nothing in the effect that has not been in the cause, that every result must have a sufficient agency to account for it.

This Society has been for years past urging upon its members, and the community at large, the wisdom of experimenting on Agricultural subjects, but up to this moment not one solitary fact, the result of investigation, has reached your Secretary, upon which he might ground an opinion, or any doubtful point. Now, surely nothing could be more likely to arrest the farmers attention—nothing more worthy of his consideration—for nothing would be more likely to advance his pecuniary interests than the discovery of truths bearing on the mystery of the potato disease, or such as would probably lead to its removal. A few facts brought together and generalized, might afford such light as would produce this result.

It is very probable that the potato disease might be cured, even were its natural cause to remain a mystery for ever. How frequently are diseases of the body cured, when the medical man is ignorant of the violation of the organic laws, or the natural cause of the malady. The appearance of the patient, and the symptoms of his complaint, being carefully examined, the remedy is at once applied, and health restored. Now, who is prepared to assert that good potatoes, imported from some distant soil and climate, (say Canada West) and substituted as seed for the potatoes of this country, might not have the effect of removing the evil; or in other words, who can tell but that the cause of the failure of the potato crop, is to be found purely in the spent strength, or exhausted condition of the potato itself. A circumstance bearing favourably on this view of the subject has lately been under the notice of the Board, which is deemed of sufficient importance to be communicated to the Society.

Mr William Henderson, of this place, a practical horticulturalist and farmer, and a gentleman on whose statements the utmost confidence may be placed, having had occasion to visit Upper Canada during the fall of 1854, selected while at Kingston, two *Marino* potatoes, and half a gallon of Chinese Wheat. On his return the following spring, Mr Henderson brought these samples with him in order that he might ascertain their adaption to our soil and climate. On arriving at the Point, (South-West) he was prevailed on to place the two potatoes and half-a-gallon of Wheat in the possession of Mr John Wilson, who promised to plant the potatoes, sow the wheat, and carefully preserve the produce of both. This promise Mr Wilson faithfully fulfilled. With the yield of the two potatoes, he planted last spring, a full drill of his potato field; and with the yield of the half gallon of Wheat, he sowed a full ridge of a four acre field, prepared for his wheat crop.

The ground into which Mr Wilson put his wheat and potatoes was by no means heavy or in good heart, the return was therefore, in point of quantity, no better than might have been expected. Every drill of the potatoes was early and fatally struck with the prevailing blight, *except the one row of Canadian Potatoes, which continued fresh and green until killed by the frost*; and every part of the 4 acre field of wheat was partially destroyed by rust, with the exception of the *Canadian Wheat, which remained uninjured by rust, or any other disease.*

However fair the inference might be considered, it would certainly be illogical to argue, that if all our fields had been planted last spring with Canadian potatoes, we should have reaped a plentiful crop, instead of a tithe of one; but unquestionably the simple fact that *one drill of potatoes which were brought from a remote soil and climate, manifested not the slightest symptom of a malady, which destroyed not only the greater part of the crop throughout the County, but every other drill in the same field in which they were planted* was surely, to say the least of it, a convincing proof that a change of seed would be advantageous. Now, as a large quantity of potatoes will be required next spring for seed, your Committee conceive the Society would be acting wisely, did they provide a supply from Western Canada as early in the spring as possible.

Previous to the year 1840 or 1845, the quantity of potatoes annually imported into this country, was never less than the quantity required for seed, so that until that time there were very few of our farmers who had not occasion to purchase their seed-potatoes at short intervals; but during the last 12 to 15 years the quantity produced has equalled the consumption and furnished seed also. Every farmer has had in his cellar during winter, plenty of potatoes for seed the following spring. Thus situated, very few, if any, have thought of the impropriety of cropping so long from the same stock, or the necessity of obtaining a change of seed from a distance. These facts, while they render it the more obvious that a change of seed is necessary, may account for the failure of last year's crop.

Some experiments have lately been made, as to the best mode of cutting potatoes for seed, one of which was as follows:—"Last spring," says a correspondent of the "Granite Farmer," I planted four rows of equal length side by side, with two varieties of potatoes; in one row I planted none but the seed ends, including about one-third of the potatoes; and in the next row I planted the butt end of the same potatoes. I had one row of seed-ends, and one row of butt-ends of a variety called Peach Blows. The yield of these four rows