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Published under direction of the Board of Agriculture of Nova Scotia.

Omniium rerum, ex quibus aliquid acquiritur, nihil est agriculturæ melius, nihil uberius, nihil homine libero dignius.—Cicero : de Officiis, lib. I, cap. 42.

VOL. IV.

HALIFAX, N. S., JANUARY, 1883.

No. 30.

AGRICULTURAL EDUCATION.

To the Editor Journal of Agriculture :

DEAR SIR,—The subject of agricultural education, in a practical and systematic form, is at present attracting considerable attention from those interested in the advancement of our farming interests, and from educationists in different sections of our Province. This is a step in the right direction, and, if the very tough problem of how to float a scheme for the extension of a higher agricultural collegiate education can be solved by having the subject thoroughly ventilated through the public press, a service will be rendered the country that will be without a parallel in the educational annals of Nova Scotia, within the last decade.

A few months ago the subject was agitated by a progressive educationist, in one of our local papers, and occasioned an amount of comment and discussion from various quarters. But this, like all previous attempts in the same direction, was unfruitful of the good results which were so earnestly advocated, and which were so heartily encored by a large number of men interested in this connection. It is a matter of regret that the opportunity of striking the iron while it was hot was not availed of and means taken for the establishing of a college for the purpose of improving the ideas and adding to the scientific knowledge of that class of our people who deserve much more in the way of education in the particular pursuit that occupies their attention, than any other class of our people. The solid

advantage, both national and individual, that would accrue from such a course can scarcely be estimated by the most zealous enthusiast. It is sufficient to study the progress of agricultural colleges in America, and to look closely into the results that have been so honestly achieved by those who have made themselves of the opportunities afforded by these colleges of procuring a thorough training in those branches that are sought to be inculcated in the students mind, to enable one to be satisfied of the importance and necessity of having similar institutions wherever the science of farming can be counted among the leading industries of a country. The results have in all cases been so satisfactory and the consummation of those plans, which was so ardently looked for by the promoters of these enterprises, been so completely realized, that it is a matter of surprise that the people of our province have not awakened from the lethargy in which they have been encompassed for so many years, and followed in the foot steps of those other States that have been so largely benefitted by the founding of such institutions within their limits. The necessity of such a college is manifest on every hand. Let any one at all conversant with scientific agriculture who desires to become personally convinced of the truthfulness of the above, take the surest way to make their convictions a certainty, by taking a trip to any section of our province and making it a special point to examine closely into the ways and means of the farming inhabitants of that district, and I think they would no

longer hesitate to take the affirmative side on an argument concerning the necessity of having an agricultural college in Nova Scotia. In the present days of progress "knowledge is power" in farming as well as in every other industry, and the man that best understands his business both theoretically and practically, will be the one to take a front seat in the particular department in which he may be engaged.

In view of these things, it behooves our farmers to seriously consider whether it would not be decidedly to their advantage to advance the interests of this all important question by doing all within their power to endeavor to bring about those results that are so anxiously looked for by all interested parties. The historic reasons "why" we ought to keep pace with other countries in the acceptance of the more enlightened ways and means of bringing about an improvement in the condition of our agricultural population, are so obvious and reasonable as not to necessitate special enumeration, for every one knows that our province, as a whole, is alarmingly behind in improved farming methods of those other countries and States that have had the veil of ancient bigotry lifted from their eyes, and embraced with an enterprising spirit all the latest improvements in agricultural education that have been so numerous invented within the last quarter of a century. When we take into consideration that upwards of 150,000 of our inhabitants are engaged in farming pursuits, the importance of the subject becomes at once apparent, not only to the

interests of the farmers themselves, but to the furtherance of the well-being of all other classes of our people that enjoy the fruits of old Acadia's mother earth, and are blessed with the happy desire of casting their tents within the boundaries of the little province by the sea. When we reflect for an instant on the wholesale advantages to be derived by those means, I doubt the impropriety and inaccuracy of the statement, that the ultimate results that would be attained by such an institution would not be rivaled by the benefits which are being continually bestowed upon the young men of our province, by the unceasing efforts of those in charge of our various Provincial collegiate institutions. This may be a seemingly extravagant assertion, but in my opinion is in strict accordance with the laws of reason. For when we consider that this link is all that is necessary to make the complete chain of educational institutions in our province, the importance of filling the gap by this veritable "missing link" remains an unalterable fact. And if we should judge by the results that have been gained where progressive views have outwitted selfish motives, and the foundation of agricultural colleges have been made a permanent reality, such an institution would be the most potent factor in aiding the future prosperity of our country, which is one day to be fully realized if our people awake from their lengthy slumber and practically acknowledge the necessity of more active operations in the promotion of our agricultural interests, upon the progress of which depends to a large extent, the future welfare of our people, and the permanent foundation of national greatness. It is a fact only too true that our agriculturists have not, in the past, been as zealous in advocating the interests of this subject—by endeavouring with their united energies, to make an actual realization of those invaluable ideas that have been so eminently and universally successful wherever adopted—as the exigencies of the case demanded. The very fact that the subject has, time and again, been brought before the reading public, and the advantages that would be derived therefrom been so plainly and minutely set before the people, that there is no acceptable reason that our farmers can bring forth, as to why they have not, prior to this late date, agitated and pushed with ever-increasing vigor, the claims to which they are so undeniably entitled as the mainstay and prop of our constitutional government. There has already been too much tardiness displayed, but let our agriculturists lose no more valuable time, but be up and doing all that lies within their strength to make successful preparations for the inauguration on our native soil of a fully equipped and properly organized agricultural college,

that will be a never-failing source of gratification and pride to every individual that participates in the laying of its foundation. The time has arrived, if it is our farmers' ever expect to have a leading agricultural college for the training of their sons, to acquire a complete and finished education in all subjects appertaining to their business, to take a sudden leap in advance and thoroughly advocate the interests of the present subject.

There are hundreds of young men annually going abroad for the express purpose of recruiting their depleted pockets and to swell the population of our neighbouring Republic. These young men have, to a large extent, been brought up on farms and acquired a few of the fundamental principles of farming. But as for having such a practical education as an agricultural college can impart, in the form of those sound principles that underlie the foundation of successful farming, is a question of a somewhat distinct nature, and I think it is safe to assume that not five per cent. of them have such a rating as the above standard implies. It is this want of knowledge of the scientific branches of agriculture that leads so many of our young men to think that they were not made for farmers,* but that they were created for a more elevated socialistic position, and that all that is necessary for the fulfilment of their idealisms is to leave the country and enjoy the imaginary bliss that awaits them in a new position that they think is awaiting their individual presence. The falsity of such egregious ideas does not require to be pointed out, suffice it to say that these same young men would, if the opportunity, was afforded them, very largely avail themselves of the privilege of becoming educated farmers. Those erroneous ideas would thus be obviated and a healthful desire created for the following of farming as a life business.

That a stimulus is required in the advancement of our farming interests, appears to be an acknowledged fact by those acquainted with the subject. That some means whereby our agriculturists may become more thoroughly versed in their art, so that they may be enabled to pursue their particular industry with a more perfect and scientific acquaintance of the subject is incontrovertible. Sufficient testimony is at hand to warrant the confession that our agriculturists have not become pre-eminent for assiduity in the adoption of progressive views, or for unhampered eagerness in accepting the latest improvements that have been tested and proved to be powerful acquisitions to the scientific knowledge of the agricultural world. This lack of necessary enterprise and the want of a more advancing spirit is one of the fatal drawbacks to the realization of a thorough agricultural prosperity. Now, I think it will

be found, if closely investigated, that these unpleasant facts are, to a large extent, attributable to the absence of such an institution as I have named. Or at least it is quite a reasonable supposition, and in fact the only satisfactory reason forthcoming. It is, then, only fair to assume that the accuracy of the above is beyond dispute, and that if this great and important want were satisfactorily filled, that the above disparagements would, in the future, be discreditable to the originator. It will thus be seen that it is absolutely necessary that this requirement of the country should take a practical form, and immediate steps taken for the filling of the vacancy.

The agriculturists of our province ought to arise in their might and demand from the Governments—Provincial and Federal—in which they form such a prominent feature in the way of supporting, a first class agricultural college situated within our province, that will be in every respect suitable for the promulgation of all those new ideas and doctrines that have found their origin in the last few years, and which have proved so profitable to the more enterprising and progressive agriculturists in the countries where they have been advocated and applied. The claim is a just and righteous one, and deserves recognition by those who have it in their power, of laying the cornerstone of such a college in our midst. The only perceptible avenue whereby the requisite means can be procured—unless some philanthropic and whole-hearted individuals would take sufficient interest in the scheme to give it a substantial push into active operation—is, to place before our respective governments a petition bristling with the signatures of our most influential agriculturists, petitioning for the granting of a sufficient amount to place the undertaking on a proper footing. The results attending such a measure would, I feel convinced, be instrumental in attaining the desired ends; the proposition at least deserves recognition and a thorough trial by whoever may take the matter in hand. If our farmers imagine that they would not, separately, be sufficiently strong to make the required plunge, then let them enlist in their sympathies and marshal to their aid educationists of whatever denominational complexion they may be, and from all others who could be found willing to grapple with the subject in a manly form, and with an earnest desire to terminate their labors with success. The amount required would by no means be such as to be without the pale of our Dominion treasury, and possibly our Provincial. All the outlays that would be essential to the establishing and the maintenance of an agricultural college would be returned—indirectly—in the shape of greater general prosperity, owing to the

advancement of our agricultural interests. All knowledge-dispensing institutions are a source of solid income to the country in which they flourish, and are the true basis of civilization and progress. An agricultural college would be no exception to the above, but, on the contrary, would undoubtedly outdo all other educational institutions in its intrinsic value to our country and in aiding the establishing of an agricultural millenium. A college for the purpose I have named would not only be a benefit to our younger agriculturists in enabling them to procure a scientific education of subjects relating to their calling, but it would also be an attraction for that very large class who would like to be farmers if they could only procure a correct knowledge of the different branches of agriculture by a collegiate course, in preference to becoming farmer's apprentices for a number of years, which would result in procuring only a very limited knowledge of its more beautiful and instructive principles. It would also be a two-fold advantage in the form of educating our farmers to a higher intellectual standard in all things connected with their pursuit, and by instilling into their minds new impulses to increased exertions in appropriating new inventions and discoveries that are peculiarly applicable to the advancement of their interests, and also as a fresh incentive to that much-needed push and enterprise, the lack of which, no matter how great the natural resources of a country may be, retard its material progress to an extent understood by but a small portion of our people.

Trusting that every one interested in the welfare of our country, and the farming population in particular, will lend a helping hand to a ready pen for the promotion of any schemes which may be hereafter concocted for the purpose of giving birth to an agricultural college for the benefit of the industrious tillers of good old Scotias soil, and that the ball once started, will gather at every revolution substantial aid for the triumphant culmination of any plan that may be adopted, whereby the actual demonstration of the establishing of the required institution may find its origin and a permanent home.

Believe me, Sir,

Yours very truly,

Halifax.

CHRIS. P. McLENNAN.

IMPORTANT EXPERIMENT.

To the Editor of *Annapolis Journal*:

SIR,—I have been much interested in the experiment with Maize as a winter food for farm stock, which was conducted by Mr. F. C. Johnson, of Parrshoro, on his farm in Horton, Kings Co. The locality of this farm is in one of the finest

sections of the Province. For fruit and the dairy it stands unrivalled.

Experiments in preparing and feeding fodder of various kinds have been in progress for some time in different parts of Europe. Mr. Auguste Goffurt, of Burton, Franco, has the honor of originating and establishing a system by which Maize and other fodder crops are preserved fresh for feeding from the time they are cut in the green state, until the succeeding crop is ready for the knife. On Monday last I visited Mr. J.'s farm for the purpose of inspecting this new method of preserving fodder. To me it appears as a simple process, much after the manner that a Dutchman would prepare his winter's kroust. In this case green corn was sliced up instead of cabbage. At present this farm is under the superintendence of Mr. Wm. Fitch, one of our prominent young men; courteous, obliging, and apparently well up in matters pertaining to the farm, especially the orchard. (To show a new departure in apple culture, I will mention here that the number of grafts of the Nonpareil russet variety of fruit, inserted by him last spring in different orchards, for the purpose of changing fall varieties into winter fruits, was over ten thousand.) As I have pronounced this method of preserving green fodder to be a simple process, you will, no doubt, expect me to show what constitutes the method.

This is the famous ensilage system, of which a good deal has been written and said in favor and disparagement. Mr. J. had proposed, or caused to be constructed last summer, a pit or silo, in connection with his barn, and housed it over. The dimensions of this silo are 30 feet in length, 15 feet deep and 12 feet wide. The sides and ends are built up of masonry; upright walls of brick are laid in cement, and impervious to air or water, its capacity two hundred tons. A moveable partition or division wall of planked scantling is erected for the purpose of regulating a section to the quantity of fodder to be stored. Three acres of fairly good soil produced between twenty-five and thirty tons of corn fodder. This quantity was considered much below the usual rate of production, owing to a failure of seed, which deferred the replanting for some weeks, in consequence of which the crop did not attain a full growth. Seventy-five tons of this was cut by a fodder-cutter driven by horse-power, cutting very rapidly. The cut fodder was stored in the section prepared for it, and trampled down hard, excluding as much air as possible. The surface was covered with plank and weighted with a pressure sufficient to reduce the mass to a capacity of two-thirds of a ton to the cubic yard. A cubic foot weighed 49 lbs., a bushel basket level full, with-

out pressure, 65 lbs. with the basket. (I have been somewhat particular in these proportions, as I wished to know the weight required to reduce the mass to such density.) Twenty-four head of cattle, from yearlings to oxen, and a small flock of sheep, consumed daily between 700 and 800 lbs. of this fodder. A feed of hay was given the first thing in the morning to regulate the system. The cows and large cattle would eat from fifty to seventy pounds daily; they drank sparingly. The sheep were fed outside, the ensilage placed in troughs arranged by the side of the silo, which afforded great protection from cold winds. The fodder was eaten with great relish. It was cut fine in half inch sections; the color, olive green, with a pleasant, vinous odor—the whole preserved in perfect order.

Mr. Fitch remarked that the stock would not consume all the ensilage before it was time to send to pasture, and that up to the present time very little had been required.

THE APPEARANCE OF THE STOCK.

I was much surprised at their superior condition and healthy appearance, especially at this season of the year. It is very much a practice with some farmers to permit their stock to decline in condition when first put upon dry feed. They are said to lose their appetite, or as some have it, "off their feed." The usual remedy is to turn them out and permit them to roam the bare pastures all day to pick up an appetite. I attribute the superior condition of Mr. J.'s cattle in part to their comfortable quarters, with an abundance of food, his animals are, in the full meaning of the term, house-fed.

Those who practice soiling or house-feeding are cognisant of the fact that green corn does not contain sufficient nutriment to supply fully the requirements of the dairy, or fit animals for the shambles any more than good hay; both are required to be supplemented by some concentrated food. Farmers are frequently admonished by agricultural journalists to grow corn fodder as an addition to a dry pasture. It is a valuable fodder for autumn, it should be quite as much so in the winter when properly canned, for a silo is simply an expanded system of canning green fodder. The cost of ensilage throughout the process, including feeding, is at the rate of two dollars a ton. Two tons and three quarters of green corn fodder are equal in feeding value to one ton of medium quality hay, and much better than the fodder usually fed out to the young stock of the country.

Well prepared land should produce on an average, forty-five tons to the acre of corn fodder, equal in feeding value to the product of six acres of ordinary

mowing land. This great yield may appear incredible, but a ton to four square rods is not an unusual occurrence in Nova Scotia.

The necessity of providing a more generous food for the stock of the province is quite apparent, and it has been shown by this experiment that green fodder of various kinds can be preserved for a long period by a process both easy and profitable. Of late years a very great change has been effected from good to better in the stock of the province. The strict regulations of the Board of Agriculture, precluding the use of animals other than thorough-bred, by Societies receiving the Provincial *putance*, have been instrumental in bringing about this very desirable change. This good to better innovation makes it imperative on a certain class of stock growers to change their peculiar method of feeding, likewise to control the nomadic instinct of their animals.

The greater part of the fodder fed during the winter months, is expended in merely keeping the animals on their feet, and the gain of summer is only so much fuel stored up to be consumed in the winter. Feeding poor, indigestible fodder is one great cause of lost condition. There is no necessity for this state of things. Stock may be kept increasing in weight throughout the winter if properly cared for and fed with plenty of palatable and digestible food.

In all our agricultural practice there is great room for improvement, especially in the saving of labor and the disposition of the acres. The great advantage in the silo system is that it embraces both, and is applicable to all parts of the province where the artificial grasses can be cultivated. It is not limited to acres, the occupier with only half an acre of ground at disposal can keep a cow the year round with the addition of a little provender. Neither is it requisite that a silo should be such a formidable undertaking. A pit 9 feet long, 6 feet wide and 7 feet in depth, 6 feet below the surface, and 3 feet above, to allow for shrinkage, will hold twelve tons. It is immaterial the size of the can, so long as it is made air-tight.

To ventilate this silo business would occupy too much of your valuable space. If any doubts are entertained with regard to these statements, a visit to Mr. Johnston's farm, or to Mr. Starr's, in Cornwallis, will convince the most sceptical.

Wolfville.

W. HALIBURTON.

To the Editor Journal of Agriculture :

SIR,—Will you kindly publish in the current issue of the JOURNAL, the Prospectus of the Nova Scotia Immigration Society, and allow me at the same time to point out to my brother farmers in Nova Scotia, the advantage of this scheme,

which, if taken hold of by them and adopted, cannot fail to be productive of good results to our agricultural and industrial interests :

Whereas, at the present time a large immigration, which is likely from various causes to continue, is coming forward to America from the different countries of Europe; and as it is evident that the prosperity of this Province would be materially and substantially advanced if a portion of that stream could be directed and attracted to this part of Canada; and it being further evident that the varied and valuable resources of this Province offer to immigrants opportunities for the profitable investment of capital and labor equal to any found elsewhere in America: and, for the purpose of making known to intending emigrants the said opportunities and advantages,—it is hereby proposed to establish and organize an institution which shall be known as the NOVA SCOTIA IMMIGRATION SOCIETY, having a head or Principal Office in the City of Halifax, with a Branch Society in each County of the Province, the whole being subject to such Rules, Regulations and By-Laws as shall hereafter be devised and adopted for the proper management of the same.

Therefore be it known, that we whose names are hereunto annexed, recognizing the important advantages that may be secured to this Province by at once commencing the work as set forth in the premises above stated; do hereby pledge ourselves to the advancement of the same by paying the sum of One Dollar each, upon the understanding and condition that the payment of said sum shall constitute each and all who now, or may hereafter sign the same—Life Members of the said Society, with full power to vote at any general or special meeting that may be held by the Branch Society of the County in which we or they may severally at the time reside. And further, we do hereby recommend that the following detailed plan of operations be at once entered upon :

First. That a competent person be employed to visit the several Counties of the Province to canvass for members, and to aid and assist in organizing in each County a Branch Society.

Second. To collect and compile such items of information respecting the resources and products of said Counties as shall form the subject matter of the intended Pamphlets.

Third. To obtain a list and accurate description of the farms and farming lands that are for sale in each County, and obtain a paid advertisement of the same to be inserted in the Pamphlets and Circulars before mentioned.

THE object of this Society shall be to aid and encourage, by all fair and legitimate means, such as the publication and free distribution in Europe of Pamphlets and Circulars, setting forth and truthfully describing the natural and acquired advantages of Nova Scotia as a promising field for immigrants; and also of employing one or more practical Farmers from Nova Scotia in the capacity of Foreign Agents to distribute the Pamphlets and to give to intending emigrants such information and advice as may be necessary to assist them in coming to this Province.

It is not, however, the intention of this Society to aid or encourage a needy or pauper immigration, but its exertions shall be used to influence the better class of Tenant Farmers to emigrate to this Province, who as a rule have sufficient means to buy farms and settle themselves comfortably. Also, young, industrious and able-bodied domestics, of both sexes, and to assist them in obtaining suitable situations and employment after arrival here.

In reference to the above, the urgent necessity of an organization of this kind has for a long time been forcing itself upon the attention of our people. The absence of any effort by our Local Government in that direction, joined to the want of success unfortunately attending their past endeavours, all tended to suggest that any scheme of this nature to succeed must originate from and receive its first impetus from the people. From these convictions and this want the Nova Scotia Immigration Society is the legitimate outcome, and thus far it has been taken hold of in a manner that, to say the least, is very encouraging to its future prospect and its ultimate success.

At the present moment the central or head Society is being organized in Halifax. In the three counties of Hants, Kings and Annapolis, branch societies have been formed; the remaining counties will be visited in due order, with the view to establish in each branch societies similar to those referred to above. When this is accomplished we shall possess a thoroughly equipped system or organization, backed up and supported by practical business men. This much being done by the people, a strong appeal will be made to both our Local and Dominion Governments for sufficient aid to enable the society to carry out the work as outlined in the Prospectus. The first duty of the society is to make our varied resources better and more accurately known abroad. It is well known that immigrants follow immigration literature, in this particular we are unknown and unrepresented, except in the fact of being misrepresented by unjust and unfavorable comparisons with so called (only in name) more favoured countries. To refute these libels on the fame of our fair Province, we need accurate and comprehensive pamphlets setting forth the advantages we have to offer to immigrants of the right class. Owing to our conditions and peculiar surroundings we cannot absorb into our population a promiscuous and indiscriminate horde: such an influx would be unwise and disastrous, but with this society to aid and direct immigration, we can secure and attract to our shores such a class as will be a valuable addition to our population, and who would be largely benefitted themselves by coming hither. But I must come to the point for which I started, viz., to point out how our

farmers might be largely benefitted by this scheme, but I have already taken up so much of your space that I shall defer the intended particulars until your next.

FARMER.

LITCHFIELD 15TH. A. J. C. C. H. R. 5802.

The gift by Mr. F. R. Starr, of Echo Farm, Litchfield, Conn., to the Government of this Province, of the above Jersey Bull, sired by the famous Centennial Prize Bull, Litchfield, prompts the question, "What is to be done with him?"

The demand for Jerseys in the United States so far exceeds the supply that their value has gone on steadily advancing, until now the average price at auction sales, in New York, Philadelphia, and elsewhere, is far ahead of prices obtained for any other breed, amounting to an average in some instances of \$500 each on herds and collections of over one hundred animals, while bulls and cows of noted butter families bring readily several thousand dollars each.

But to be of value for American Breeders, all animals must be registered in the American Jersey Cattle Club Herd Register.

About a year ago I received a letter of enquiry as to pedigrees and prices of my Jerseys, from a breeder in Augusta, Maine. I had then ten head, six females and four bulls. I gave pedigrees in full and prices for each animal, from \$150 for a two months old cow calf, up to \$1500 for what I considered my best cow; agreeing to keep any bought until a suitable season for shipment in the spring. On the price of two animals I made a discount of \$25 each, accepting \$125 each for a cow calf two months old, and for another eight months old. They were shipped in June, and the purchaser affirmed that these two, probably the first A. J. C. C. Jerseys ever exported from this Province to the United States, were "the very best he had ever seen," and he was acquainted with many of the leading herds. I had orders at once from other parties in Maine for anything more I had to sell, or should have in future. I speak of this in evidence that we can raise at least as good Jerseys in Nova Scotia as can be raised anywhere. One of my cows, Nabritza 5820, weighs to day 1520 lbs., and yet some people call Jerseys "rats."

Later in the season, a breeder in Portland, Maine, bought several animals from a New Brunswick breeder, but neither in New Brunswick nor in Nova Scotia are there any A. J. C. C. Jerseys to supply this demand, and in Canada breeders are only making a beginning.

The obvious answer as to the disposal of L. 15th. is, "Place him where there are A. J. C. C. cows to be served," so,

with registry of the calves, will be established a sure source of rapidly multiplying wealth.

In 1878 there were six Jersey cows and cow calves and two bulls imported by the Board of Agriculture; these were sold at Truro, and the progeny from all of these, if bred to A. J. C. C. Bulls, was eligible to American registry. With the natural increase to this date, there should be now twenty cows and seventeen bulls—but, except the herd owned by Mr. Edward Blanchard at Truro, there are not enough together any where to make an Exhibition Herd, Mr. Boggs' herd at Bedford, having been sold at Truro in June last, and it does not appear as if a single transfer of these has been recorded, so American registry from them will be barred.

To illustrate "the constructive value" of a single Jersey cow, I have made some calculation as to the first one owned here, one of the Sir Gaspard LeMarchant importation, imported from the Island of Jersey direct, and what is true of her may be inferred as to some of the other cows of that lot. This cow was bought by the late Thomas Killam, at the auction sale of the stock in Halifax in 1856, a two year old, in calf. She dropped a bull calf that season, which was raised, kept for service for several years, and got a large number of valuable cows, some of which nearly equalled his dam in butter yield.

Had the original cow been bred to her own son in 1857, as she ought to have been, and the progeny inbred, preserving the purity of the blood, so that all might have ultimately been registered in the A. J. C. C. H. B., the total number to this date would be 4592, say half each, cows and bulls, allowing an equal number of each to be dropped, and cows to breed up to 15 years.

The Centennial Prize of \$250 was awarded to a cow 19 years old, and "Old Grannie," a famous Polled Angus cow, lived to the age of 35, and was even then killed by lightning, having dropped 29 calves, 24 cow calves and 5 bull calves, so that, in assuming breeding to continue up to 15 years, I am quite within a reasonable limit.

In the summer of 1860 the Killam cow was carefully tested for butter, her only feed being abundance of good grass; her butter yield for seven days was nineteen pounds eight ounces, the milker, churner, and weigher, Mr. Frank Killam, late M. P., is still here to attest to that weight. It is not unreasonable to assume that with extra feed, shorts or meal, this cow would have yielded over twenty pounds of butter in seven days. Note that among the 2296 cows so inbred, and descended from her, there would have been large numbers of cows not surpassed in butter yield by any of the famous cows of to-day, and that

the whole family would have been of almost incalculable value.

As one instance of present value in Jerseys, Mr. Charles F. Mills, of Springfield, Illinois, offers this season for calves (bulls or heifers) out of 19 lb. cows, sired by his Royalist 3rd, 4500, A. J. C. C. \$1800 each. My calculation gives out of our 19 lb. cow in 1882, 1252 calves at \$1800—\$2,253,600. For service of Royalist 3rd, Mr. Mills charges \$100 for 11 lb. cows, up to \$1000 for 20 lb. cows, advancing one hundred dollars for each additional pound per week, and offering double the service fee for the calves.

Assuming all the bulls from the Killam cow and descendants to have been kept for service to the common cows of the country, for five years or less, as we come down to the latest dates, and allowing only 50 calves per year, there would have been 248,150 calves of various grades, say half females, and worth when two years old, \$50 each, which is only half what they have been sold for here, 124,075 at \$50—\$6,203,750. The 124,075 grade bull calves we will make of no account, as grade bull calves should not be raised.

It would be a reasonable value to say that the whole progeny of full blood, of such an ancestress, would be worth \$500 each, 4502 at \$500—\$2,296,000. As to the butter yield, there would be 4556 years, say 300 lbs. only per year, and 25 cents per lb., one quarter the value of Jersey butter—\$341,700.

Mr. Killam was one of the largest and one of the most successful shipowners in Nova Scotia, but if he had dropped shipbuilding and looked after this one Jersey cow, it would seem from the above figures, not only that his estate would have been considerably larger at the time of his death, but that the Province of Nova Scotia would have been pretty well supplied with a strain of Jerseys fitted to compete with the most distinguished herds of our friends in the United States.

CHARLES E. BROWN.

Yarmouth, N. S., 19th Dec., 1882.

A SURE PREVENTIVE OF CHICKEN CHOLERA.

To the Editor Journal of Agriculture:

SIR,—Several experiments have been made during the past five years, by different parties, for the purpose of preventing the spread of Chicken Cholera, by inoculation or vaccination. We have, during the past two years, vaccinated the fowls in different yards where the cholera was prevailing badly, and in each yard we left some common fowls not vaccinated, and they all died; but, of the 2,000 vaccinated only eleven died, although they were in the same yard with those not vaccinated that were dying daily by the

scores. We have every reason to believe that this chicken vaccination is as effective in preventing cholera among fowls as vaccination is in preventing small-pox among the human family. Vaccinate a hen and in eight days her system will be thoroughly inoculated, then cut off her head, and in some vessel catch all the blood, then pour the blood out on paper to dry, a half drop of this blood is sufficient to vaccinate a fowl, and the blood of one hen will vaccinate your whole flock. Catch the fowl you wish to vaccinate, and with a pin or knife make a little scratch on the thigh (just enough to draw the blood) then moisten a little piece of the paper with the dried blood on, and stitch it on the chicken's leg where you scratched it, then let the fowl run and you need have no fear of chicken cholera. As the result of my many experiments, I have now dried blood enough I would suppose, to vaccinate ten thousand fowls, for which I have no use, as I do not sell patent medicines. If any of your readers are enough interested in poultry to try this preventive, by writing to me I will send free of any charge enough dried blood to start with, all I ask is that they send immediately before the blood loses its strength, and report the result of their experiment to your many readers.

W. H. GRIFFITH,
Zanesville, Ohio.

ANNUAL SOCIAL OF "VALLEY" AND "LORNE" GRANGES.

Since the organization of "Lorne" Grange some four or five years ago the members of "Valley" Grange and ourselves have paid each other an annual visit.

The object of these visits is two fold. First, the advancement of our order, which means more successful farming. Secondly, the cultivation of the social element and the revival of that hospitality and friendliness which characterized our forefathers. On the evening of January 4th the members of Valley Grange—by invitation—paid their up-the-river friends a visit. As usual the roads were only fair and the day cold—yet notwithstanding these obstacles a large number of our Middle Stewiacke friends came to make us happy and encourage us by their presence. This was the first social in the new hall (which was beautifully decorated with overgreens and pictures) and all hands were apparently as happy and comfortable as if "eternal summer" were reigning outside, instead of "Jack Frost."

The meeting was called to order by the W. Master, Robert Gammell, and the pleasing announcement was made that the first thing on the programme was tea—enough for all and to spare. After the

wants of the inner man had been fully satisfied the W. M. in a humorous speech bade the members of our sister Grange welcome to our annual social, and gave many reasons why the people of the Upper and Middle settlements should be on more intimate terms than at present. He spoke of the work to be done by the Granges, and of our claims on the government for a railroad. He was responded to by Clark Brenton, W. M. of "Valley" Grange, who thanked the members of "Lorne" Grange for their kindness and hospitality. This speech was full of fun and sense. He advised the Grangers to be united, standing up manfully for their rights, to try to improve intellectually as well as socially. Brother Jas. Creelman followed in a short speech, contrasting the present with the past, regretting that the warm friendly feeling between families were fast dying out. He spoke of how in the olden times when a death occurred in the valley, work ceased and all the people mourned and sympathized with the bereaved, how when a pair were united in marriage the whole community joined in congratulations and good wishes. He hoped these socials would do much towards reviving this feeling among neighbors.

Geo. Campbell, lecturer of Valley Grange with his usual eloquence denounced the present system of farming, maintaining that many of our farmers began operations too early in the spring while the land was wet and cold making it impossible to raise good crops. He was in favor of draining our land, and thought the first and second crop would repay the expense of draining. The speaker made light of our farmers selling *bones* instead of *beef*, advising them to kill half their cattle and feed the other half. His experience had been "the fewer cows the more milk," and thought it more profitable to pay more attention to the feeding of cows and less to the breed, as a cow was only a machine for converting food into milk.

The Hon. S. Creelman was called upon and spoke in the first place of the improvements of the present age. In no part of the world had there been such rapid strides as in America. The Hon. gentleman gave an account of a stock exhibition he had visited while in England, where he saw the same breeds of cattle and sheep as the people of Canada are now importing. Comparing the stock he saw there with our Canadian stock he said there was more difference in young than old cattle. The high price of beef in England and the consequent scarcity of it compelled the farmers to force the growth of cattle while young by heavy feeding. They could not keep their cattle to the age we do in

Nova Scotia. In view of the prospects of finding a market in the old country for our surplus beef and feed, he advised us to begin now to make preparations for exportation. The large number of manufactories there makes it impossible for the English farmer to supply the demand. Speaking of the Silo built at Round Bank last summer, Mr. C. thought the investment a good one. The ensilage had kept in good condition, stock of all kinds were fond of it, and he found the cows had doubled in their flow of milk in ten or twelve days after commencing to feed. He considered the raising of ensilage more profitable than roots.

The labour in raising, storing and feeding was much less than with roots, and the feed much better. The speaker drew the attention of Grangers to the poverty of their pasture lands, saying that sooner or later they would be compelled to cultivate and manure their pasture.

Speeches were made by D. McG. Johnson, S. F. Creelman, Geo. Bates, and R. Creelman, but space will not permit a report of their speeches.

The several speakers thought the great want of Upper Stewiacke at the present time is a railroad, and that our demand for one was not at all unreasonable, and hoped at an early day the iron horse would be seen travelling our fertile valley. A choir under the leadership of S. C. Cox, (with Janet Gammell at the organ) favored the meeting with excellent music.

At ten o'clock our party broke up, and we all retired feeling that an evening had been pleasantly and profitably spent. The only thing that marred the pleasure of the occasion was the recollection of the fact, that since our last social, death had entered our ranks and cut down one of our young and promising members. Before the snows of winter had disappeared under the warming influences of the spring sun we had followed to the grave the remains of brother Eben Gammell, one of our best members. In early Autumn we were again called to lay down our implements of work for a time, and with heavy hearts to form the "dead march" and pay our last tribute of respect to our brother—the Rev. J. C. Meek. He was an earnest active member of our order, in the front rank when *work* was the order, never behind in adding to the amusement of the grange meetings, and those who attended our socials in past years can well remember his happy way of adding to our amusement, nor do they forget his kind advice, his words of encouragement, and although our brother has laid aside the armour of life, and his voice is no longer heard among us, his influence is not ended. Many years will

come and go before he will be forgotten, and it is no wonder that at our social on Thursday evening just four months from the day we buried our brother—many a one was heard to say “how we miss Mr. Meek.”

F. G. C.

Upper Stewiacke, Jan. 5th, 1883.

—From Colchester Sun.

THE DOMINION EXHIBITION, proposed to be held in St. John this year, is thus discussed in the *Maritime Farmer* of Fredericton:—

The unpleasant feeling in St. John over the preliminary arrangements for the Exhibition has seemingly subsided, or is very much abated, and the better spirit is on the ascendant. It is certainly time for anything like jealousies or hard feeling to disappear, and for the people of St. John and everywhere in the Province, to work harmoniously together to insure the success of the great Centennial and Dominion Show. An immense deal has to be done, as was shown at the meeting of the Citizen's Executive Committee lately, for, with the exception of the Finance and Building Committee, the other committees, the manufactures, arts, agricultural, had done nothing since the last meeting of the Executive Committee, on Nov. 11th, 1882. It is satisfactory to know that one decided step has been taken by the acceptance of E. J. Lawlor & Co's. tender for the new building. This building will be 200 ft. long by 80 ft., and annex, and the price is \$13,000, and the Messrs. Lawlor have commenced preparing work to carry out their contract. It is to be hoped that the meeting gave exhibition matters an impetus forward, and that the resolutions passed thereat, will pass into action. The manufacturers' committee will have to take steps at once to ascertain the mind of the manufacturers and mechanics on the question, whether money prizes or diplomas should be given. Considering the restricted amount of money at the disposal of the general management; the large amount that money prizes would take out of it for the whole manufacturers and mechanics list, which yet would give but a small unsatisfactory sum for each individual prize, and considering the preference shown by the parties most interested to diplomas, at the last Exhibition held at St. John, we can hardly suppose that the manufacturers and mechanics will do otherwise than reject the cash and decide on the written testimonials of merit.

The resolution moved and seconded by Messrs. McNichol and Lewis, and passed, shows the line of action which the Executive Committee thinks advisable to adopt to work up an interest in the Exhibition, namely, that the departmental committees shall appoint sub-

committees to solicit exhibitions. If such sub-committees do their work faithfully no better line we fancy could be adopted. It is to be hoped that the proposition in which Sheriff Harding takes great interest to have the buildings and grounds lighted by electricity, will be carried out. It will cost money of course, but considering that common gas for the same purpose will cost between \$800 and \$1,000, the novelty attraction and superior brilliancy of the electric lights, would be well worth a hundred or two dollars extra. It will never do for St. John to be behind the other cities in the Dominion in this respect. A wide interest we have no doubt will be created in the Exhibition. Fullest information concerning it will be freely circulated throughout the Dominion, and the advertisement will, or is already published in Hamilton, Toronto, Montreal, Quebec, Kingston, London, Belleville, Stratford, Halifax, Charlottetown, and in other places where, it is thought, exhibits can be obtained. Sheriff Harding mentioned that there is a reasonable probability of a loan of works of art being had from the South Kensington Museum, London. This would be a specially attractive feature in the exhibition. When next the Citizen's Executive Committee meets we hope that the attendance will be more numerous and enthusiastic, than that of last meeting, and that the chairmen of the different committees, will be able to report great and harmonious progress.

The following account of the Flour Mills of James Goldie, Esq., Guelph, Ontario, will be read with interest as affording an insight into the process of Flour manufacture as it is carried on in the Upper Province. Mr. Goldie is well known both by our business and scientific men in Nova Scotia:—

It may not be known to the public that during the past summer extensive alterations have been going on for the purpose of doubling the capacity of the People's Mills, but more particularly with the view of greatly improving the quality of the flour. Knowing that citizens are proud of the manufacturing industries of the community, and learning that the mill was again in successful operation, our reporter called to inspect the *modus operandi* and ascertain the extent of the improvements made. The improvements were begun about the first of last May, and from the first of August until the middle of December the mill was completely stopped, being in the hands of a large staff of competent and skillful millwrights and carpenters, under the efficient supervision of Mr. Walter McEwan, whose ability and experience as a millwright have given him a Provincial reputation. The alterations are now completed with the exception of a few minor details. The proprietor expects to run the mill at its full capacity, day and night, which is estimated at not less than 500 bls. per day of 24 hours, requiring from 2,000 to 3,000 bushels of

wheat. The wheat is received from both the farmer's waggons and the cars, the track running close alongside the mill, the wheat being discharged directly from the cars to the weigh scales of the mill.

The driving power of the mill consists of four 40 horse power turbine water wheels and one 25 horsepower under a head of 18 feet, together with a 200 horse power automatic cut-off condensing engine, manufactured by Goldie & McCulloch, of Galt. The reporter was shown through the engine room by Mr. George Barlow, the Engineer, who explained the work in his department. It was a pleasure to see that every comfort was provided for the men employed in the establishment.

Retracing his steps through the engine room the reporter passed into the packing room which is situated in the basement of the main building, and is furnished with 3 patent packing machines with ingenious appliances for packing is done with surprising rapidity, and so convenient is the arrangement that the barrels when filled are immediately conveyed by an elevator into the cars which stand ready to receive them. Here an opportunity was afforded of inspecting the branding department, in which two men are constantly employed in stamping on the ends of the barrels various brands so well and favourably known among flour merchants, viz “People's,” “Ayrshire Rose,” “Gilt Edge,” and “White Pigeon.” On this floor may also be seen the main shafts and belts for driving the rollers and other machinery in the other part of the mill; also the water wheel, shafting and spur gearing for the millstones. On the same floor are two cockle separators and a Craig wheat scourer. The inventor of the latter machine claims for it complete success in ridding the wheat berry of all impurities, and judging from the quantity of refuse removed from the wheat it would seem that the claim is well founded.

Passing from this room next comes the basement of the south wing, 58x48, five storeys high, used for storing flour and feed in barrels and sacks. In this apartment was seen a feed elevator of ample proportions by which the feed is conveyed to the cars without handling, being first weighed and then carried directly into the cars by machinery, thus dispensing with a vast amount of manual labour which was formerly necessary. Going up stairs the room is reached where all the wheat that enters the mill is weighed. This department is under the charge of Mr. Duncan. From this room passing again through the main building into the north wing are found two wheat cleaning machines busily engaged preparing the grain for the separators before mentioned. The storage capacity of the two wings is over 60,000 bushels.

Returning, that part of the mill is reached in which the interest of the spectator chiefly centres, for here the most noticeable features of the “new departure” are to be seen, or what is known in modern milling as the “Gradual Reduction Process.” The new rollers are all on this floor, and the imposing array of machines, all in motion, is not only an impressive sight but affords some idea of the vast amount of work done. Mr. Packham, the head miller in charge, exhibited the nice adjustment of the rollers, and explained the intricate and delicate process by which the gradual reduction of the wheat is accomplished, which is the chief characteristic of

the new system. It certainly appears, even by a cursory observation, to be a great advance on the old method.

Passing to the next floor, all the available space seemed to be literally studded with machinery, and yet the arrangement is so perfect that the millers seemed to have no difficulty in reaching every machine so as to adjust it to perfect working order. The absence was noticeable of what in the old stone mill seemed a necessity, viz, a dust room. With the new arrangement dust catchers of the latest patent are used. They do their work so effectually as to do away with the clouds of dust so common in the generality of mills.

Ascending another flight of stairs the bolting floor is entered. The workmanship here displayed is an interesting sight, and reflects great credit alike on those who designed and those who constructed the machinery. Everything appeared to move in perfect harmony. There are 25 bolting reels, as well as centrifugal bolting machines which are coming so much into fashion lately in all first class mills. Mr. Packham said that he considered the bolting chests the best he had ever used or in fact had ever seen, and he has had many years' experience. On the upper storey were found various short reel chests for the treatment of various portions of the product from the different reductions. Access is had from this storey to the north and south wings.

In descending, the room where the smut-ting is done is passed through. On the upper floor is a smut machine which received the wheat from the Craig scourer. From this the wheat passes to the floor below where it enters a "wheat brush cleaner." From this it passes to another brush machine, and from this at once into the rollers to be comminuted and gradually converted into flour.

In this description nothing has been said of the immense number of elevators, conveyers, belts shafts, &c., required to move the products to and from the various machines, as it is impossible to include everything in so brief a summary. One cannot avoid being struck with the clock-like precision with which everything moves, and it is a credit to Mr. McEwan, who is devoted to his profession, and who may be justly proud of his success in remodelling two first-class mills, owned by two of the largest and most prominent millers in the Dominion, the mill of Mr. James Goldie here and that of his brother, Mr. David Goldie, Ayr.

Mr. Packham has been in the employ of Mr. Goldie 16 years, and under the old system always kept his flour up to the highest mark, and having made a special study of the subject is determined to make the flour under the new system, take a leading place in the flour market of the world. He is ably assisted in his work by Mr. James Goldie, jr., Mr. S. Schwalm, a miller of many years' experience; Mr. Roswell Goldie, Mr. Arthur Snyder and others, making an efficient staff of able, intelligent and active men.

The machinery, excepting the special machines mentioned, is from the well-known establishment of Goldie & McCulloch, Galt.

At present Mr. Goldie's sales are in Britain and throughout the Dominion, and we have no doubt that the spirit and enterprise manifested in this large outlay in introducing and perfecting the machinery to adapt it to the new process, and the con-

tinued energy and active management displayed, will command an extensive sale for his flour, and that our city will feel proud of the presence of so important an industry within its limits.

The advanced state of Agriculture in the Province of Ontario is due in a very large measure to the hearty and assiduous way in which its Legislature has at all times striven to promote improvement. The members have spared themselves no labour in their efforts to ascertain the real wants of the country in this respect, and they have spared no expense in carrying out measures that they felt were for the country's good. Their assiduity has alike ensured the growth of Agriculture and prevented those abuses that are so apt to grow up under the patronage of Governments. The *Maritime Farmer* calls attention to the recent speech of the Governor at the opening of the Ontario Legislature:

"The first, longest and most important paragraph was devoted to Agriculture. It noted the extremely gratifying progress of this great industry in the Province, during the past twelve years, the important services rendered it by the work of the Agricultural Colleges and Experimental Farm, and the Report of the Agricultural Commission, and to very important advantages which have already been secured by the Bureau of Statistics established last year. 'The statistical and other information relating to the agricultural interests,' His Honor added, 'collected by the Bureau strikingly exhibits the magnitude and importance of the material resources. In the production of cereals, especially, it is now ascertained that Ontario holds a foremost place when compared with the most favorable regions of this continent. A system which, besides its other objects, provides for annually publishing carefully gathered statistics of the farm, the forest and the factory is a valuable agency for exhibiting the growth and capabilities of the Province, and cannot fail to prove of essential service in attracting wealth and emigration from other lands.' Ontario is, even if there was no other reason, worthy of the title of 'leading Province,' for the interest taken by its people and legislature in the development of its agricultural capabilities. The Agricultural College at Guelph, that attracts students from all parts of the Dominion, is doing a great work, and the Agricultural Commission, in their elaborate report, present to those who study its volumes a most instructive view of the condition of agriculture, and most invaluable suggestions on all matters of 'general farming,' and subsidiary subjects.

New Brunswick may well follow the example of Ontario in developing and encouraging the interest which is 'the basis of a nation's wealth.' An Agricultural College for the Province, or the Maritime Provinces combined, will probably be established in the near future. The present Stock Farm will then be expanded into an experimental station, and form an adjunct to such an institution. In the meantime, by the establishment of the Stock Farm, the Legislature, through the Board of Agriculture, have laid the basis of solid improvement."

In the bitter waves of woo—
Heaten and tossed about
By the sullen winds that blow
From the desolate shores of doubt—
While the anchors that faith has cast
Are dragging in the gale,
I am quietly holding fast
To the things that cannot fall.

I know that right is right;
That it is not good to lie;
That love is better than spite,
And a neighbor than a spy.
I know that passion needs
The leash of a sober mind.
I know that generous deeds
Some sure reward will find;
That the valers must obey;
That the givers shall increase;
That duty lights the way
For the beautiful feet of Peace;
In the darkest night of the year,
When the stars have all gone out,
That courage is better than fear,
That faith is truer than doubt.

And fierce though the fiends may fight,
And long though the angels hide,
I know that truth and right
Have the universe on their side;
And that somewhere beyond the stars
Is a Love that is better than fate.
When the night unlocks her bars,
I shall see Him—and I wait.

Advertisements.

Resolution of Provincial Board of Agriculture,
3rd March, 1882.

"No advertisements, except official notices from recognized Agricultural Societies, shall be inserted in the JOURNAL OF AGRICULTURE in future, unless PREPAID at rate of 50 cents each insertion, for advertisements not exceeding ten lines, and five cents for each additional line."

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