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

VOL. IV.

HALIFAX, N. S., FEBRUARY, 1883.

No. 31.

THE Annual Meeting of the Central Board of Agriculture will be held on Tuesday, 6th March.

### FRUIT EXHIBITION.

MASONIC HALL, HALIFAX, MARCH 6TH-7TH, 1883.

At the April Meeting of the Fruit Growers Association and International Show Society of Nova Scotia, it was resolved to hold an Exhibition of Fruits in the City of Halifax at some convenient time during the meeting of the Legislature, and that we devote the sum of \$150.00 to a prize list. And at the same time exhibit the Collections which may be received from the District Exhibitions in return for the Special Prizes offered by the Society.

In accordance with the foregoing resolution the Council have prepared a prize list to be competed for under the following regulations.

Sec. 1. All fruits must be grown by the exhibitor, except under section one and two.

2. Every Exhibitor must give to the Secretary a correct list, or entry paper, of his exhibits, with his name and P.O. address at the bottom of the page. This entry should be made one week previous to the Exhibition, if possible, but will be received at any time before the articles are placed on the table.

3. After articles are received and arranged, they will be under the exclu-

sive charge of the Council, and shall not be removed until the Exhibition is closed, when they will be delivered to the owners by properly authorized persons.

4. No fruits will be entitled to a prize unless they possess points of superiority; and it will be the duty of the Council to exclude from the Exhibition all inferior and unsuitable specimens.

5. The Council would suggest to intending exhibitors that size is not the first requisite. In Fruits, perfection of form, color, and freedom from defects and blemishes, will be looked for.

6. No person shall enter for exhibits more than one specimen, or required quantity, in any one section.

7. The awards of the Judges, in regard to premiums, must be considered final, and no persons shall be allowed to interfere with the performance of their duties. Any information or explanation required will be made through the proper officers of the Association.

It is proposed to hold a Convention of all persons interested in the growing, marketing and exporting of fruits, and papers and addresses from Experts, Pomologists and scientific men are expected.

A. H. JOHNSON, Sec'y

### PRIZE LIST.

#### Section.

1. Best and largest collection of Apples grown in the Province of Nova Scotia; six of each, named and labelled. The fruit must be grown in the Province, but may be the growth of several orchards, credit being given to the several growers on the labels. 1st, \$10; 2d, \$6.

#### Section.

2. Best and largest collection of Apples grown in any County in the Province, except Kings, Hants and Annapolis: one doz. each, named and labelled. The fruit must be grown in the County, but may be the growth of several orchards, credit being given to the several growers on the labels, but only one Prize to be awarded to each County. 1st, \$4; 2d, \$3.50; 3rd, \$3; 4th, \$2.50; 5th, 2, 6th, \$1.50.

3. Best collection of Apples, not more than six varieties, one doz. of each, named and labelled. 1st, \$2; 2d, \$1.75; 3rd, \$1.50; 4th, \$1.25; 5th, \$1.

4. Best collection of long keeping Apples, not more than four varieties, one doz. of each named and labelled. 1st, \$2; 2d, \$1.75; 3rd, \$1.50; 4th, \$1.25; 5th, \$1.

5. Best bbl. of Baldwins for the English market, selection, package, method of packing, and marking to be taken into consideration. 1st, \$3; 2d, \$3.

6. Best collection of sweet Apples for domestic use throughout the season, with description of quality, season of ripening, &c 1st, \$3; 2d, \$2; 3rd, \$1.

7. Best doz. Gravensteins, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

8. Best doz. Ribston Pippins, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

9. Best doz. Golden Russets of W. N. Y., 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

10. Best doz. Nonpareil, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

11. Best doz. King of Tompkins Co., 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

12. Best doz. Blenheim Pippins, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

13. Best doz. Baldwin, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

14. Northern Spy, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

15. Yellow Bellefleur, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

16. R. I. Greening, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

17. Empress-Spitzenburg, 1st, \$1; 2d, 75c; 3rd, 50c; 4th, 25c.

18. Best doz. Rox. Russets, 1st, 75c; 2d, 50c; 3rd, 25c.

19. Stonewall Jackson, 1st, 75c; 2d, 50c; 3rd, 25c.

20. Best doz. Fallwater, 1st, 75c; 2d, 50c; 3rd, 25c.

## Section.

21. Best doz. Hubbardson's Nonsuch, 1st, 75c; 2d, 50c; 3rd, 25c.  
 22. Best doz. Blue Pearmain, 1st, 75c; 2d, 50c; 3rd, 25c.  
 23. Best doz. Pomme Grise, 1st, 75c; 2d, 50c; 3rd, 25c.  
 24. Best doz. Grime's Golden, 1st, 75c; 2d, 50c; 3rd, 25c.  
 25. Best doz. Ben Davis, 1st, 75c; 2d, 50c; 3rd, 25c.  
 26. Best doz. Swayzie Pomme Grise, 1st, 75c; 2d, 50c; 3rd, 25c.  
 27. Best doz. Emperor Alexander, 1st, 50c; 2d, 25c.  
 28. Cayuga Redstreak, 1st, 50c; 2d, 25c.  
 29. Best doz. Herefordshire Pearmain, 1st, 50c; 2d, 25c.  
 30. Best doz. Broadwell, 1st, 50c; 2d, 25c.  
 31. Best doz. Cornish Gillsflower, 1st, 50c; 2d, 25c.  
 32. Best doz. Fameuse, 1st, 50c; 2d, 25c.  
 33. Best doz. Newton Pippin, 1st, 50c; 2d, 25c.  
 34. Best doz. Wagner, 1st, 50c; 2d, 25c.  
 35. Best doz. Clyde Beauty, 1st, 50c; 2d, 25c.  
 36. Best doz. Bishop Bourne, 1st, 50c; 2d, 25c.  
 37. The sum of five dollars is put in the hands of the Council for new and approved sorts not in the foregoing list.  
 38. Best dish of Pears not less than five, 1st, \$1.25; 2d, \$1; 3rd, 75c.  
 39. Best collection of Grapes not less than four varieties, 1st, \$2; 2d, \$1.50.  
 40. Best dish of Grapes, 1st, \$1.25; 2d, \$1; 3rd, 75c.  
 41. Best dish of Cranberries, three prizes 50c each.  
 42. Best sample of evaporated Apples, not less than 5 lbs., 1st, \$2; 2d, \$1.50; 3rd, \$1.  
 43. Best collection of dried fruit, 2 dishes of each variety, 1st, \$2; 2d, \$1.50; 3rd, \$1.  
 44. Best collection of Canned fruits, 1st, \$5; 2d, \$4.

The Winter Exhibition of the F. G. A. will be held in Masonic Hall cor. Granville and Salter Sts., on Tuesday and Wednesday, March 6th and 7th.

Fruit will be received on Tuesday morning and must be arranged by 2 p.m. Doors open to the public at 3.

The Exhibition will close on Wednesday at 10.30 p.m., unless considered advisable to continue open another day.

Tickets of Admission 10 cts., for sale at the Bookstores and at the door.

The proposed Convention will be held in the Hall during the time named, further notice of which will be given.

By order,

C. R. H. STARR, Sec'y

Port Williams, Feb. 10th, 1883.

## NOVA SCOTIA FRUIT GROWERS' ASSOCIATION.

ANNUAL MEETING, MUSIC HALL, WOLFVILLE,  
9TH JANUARY, 1883.

The Secretary's Report for the year was read and ordered to lie on the table for future reference. The Secretary said the historical portion of the contemplated Report of the Association was ready for the press, but owing to circumstances he had been unable to have the work completed. The financial statement showed a balance of about \$630 in the funds of the Association.

Mr. T. E. Smith, delegate to the Antigonish and Cape Breton Exhibitions,

made an extended report. At Antigonish the fruit exhibit was very small. He had procured a few dozens of apples for the winter exhibition, but owing to the carelessness of railway employees they had been mislaid some weeks, and he feared they would not show to very good advantage in consequence. The fruit, considering the attention and cultivation it received, was very fair, but the knowledge of fruit culture in this district is very limited indeed. Scarcely any one knew one variety from another, and some dozens were made up from two sorts; yet there seemed to be a general desire for information. Some varieties were better than those grown in King's County, viz., Red Astrachan, Duchess of Oldenburg, Cayuga Redstreak and crab apples. Plums looked very fine, but all complained of black knot. Some fine clusters of ripe grapes of the "Champion" variety were exhibited. Mr. Smith took a small collection of fruits, which attracted much attention, and served a good purpose as samples to name from, &c.

At North Sydney there was quite an extensive exhibit of fruit, but owing to the arrangement and want of light they did not show to as good advantage as they might have. Apples were exhibited under every conceivable name. Even Magnum Bonum plums were labelled Yellow Crabs. There was a fine exhibit of crab apples. There were three entries for the F. G. A. prizes. The fruit awarded prizes were carefully packed for the winter exhibition. With the right varieties and proper cultivation Cape Breton may become a favored fruit growing district.

C. R. H. Starr made a verbal report of the competition for the F. G. A. prizes at Annapolis, where there was but one entry and prize awarded to T. H. Parker, of Berwick.

The Secretary said the report from the delegate to Truro and Yarmouth had not been handed in, but would be forthcoming. The Secretary read the award of the special prize of £5 offered by Messrs. Nothard & Lowe, of London, for the best ten barrels of Ribston Pippins, as follows:—

20, TOOLEY STREET, LONDON, }  
December 31st, 1882. }

To the Secretary of the Fruit Growers' Association:

DEAR SIR,—The time having expired for the arrival of any lots of Ribston Pippins that were sent for competition for the prize we offered, we have the pleasure of handing you our award. We must mention that we are very disappointed that our offer has not resulted in more interest being taken in the matter on your side, as we thought it would give an impetus to and cause an improvement in the method of packing. We intended making the prize an annual one, changing the sort of apple each time, but we think

unless you are of opinion otherwise, that it would be useless offering it further, as so little interest is taken in the matter. We award the prize to the Rev. F. J. H. Axford, the ten barrels he sent were splendidly packed, the fruit one level size throughout, colour good, and the method of packing we consider the best, that is, hard wood barrels with four flat hoops, with a little fine white shaving on the top. There was only one other entry, Mr. T. H. Parker's. His fruit was packed in a straightforward, honest manner, and was of good colour, and we feel justified in awarding him an extra prize of £1, for which you will find our draft enclosed.

Your obedient servants,

NOTHARD & LOWE.

Mr. Longley said the reason for so little competition was that it was not generally known, and moved the following resolution, which passed unanimously:

"Resolved, That the thanks of the Association be conveyed to Messrs. Nothard & Lowe, of London, for the generous prize of £5 stg. offered for the best ten barrels of Ribston Pippins, which they have awarded to the Rev. F. J. H. Axford, of Cornwallis; also for the extra prize of £1 awarded to Mr. T. H. Parker, of Berwick, and would take this opportunity of expressing the hope that these gentlemen may be induced to continue the prize for at least another year, and we feel assured that the competition will be general, when the orchardists of the Valley are made aware of the continuance of the offer."

The President said he thought a mistake had been made in the method of distributing the prize lists.

Secretary Johnson said Messrs. T. W. West & Co., of London, had made an offer of £7 10s. to be expended in such a way as the Association may direct for the better packing of fruit for the London market. A special committee, consisting of R. W. Starr, A. H. Johnson and Avard Longley, was appointed to consider the proposal and report before the meeting closed.

Later, the above committee made the following report:—"Divide the £7 10s. in three prizes, viz., First £3 10s.; Second £2 5s.; Third £1 15s., for the best lots of ten barrels each of the following varieties, viz., Northern Spys, Baldwins and Nonpareils. The ten barrels need not necessarily be of one variety. To be consigned to Messrs. West & Co., and to arrive in London on or before the first day of April. Competitors must make their entries with the Secretary of the Fruit Growers' Association on or before the first day of March, together with a written statement of the method of picking, packing, marking, etc." The consignees will award the prizes, making their report to the F. G. A. for publication. The fruit to be sold for the benefit of competitors, and the proceeds remitted as ordered.

The report was received and adopted, and the Secretary requested to convey

the thanks of the Association to Messrs. West & Co.

Mr. Axford read his report of the method of handling and packing the prize fruit, as follows:—

THE RECTORY, CORNWALLIS, }  
November, 1892. }

According to the request sent by advertisement for competitors for prize offered by Nothard & Lowe, of London, England, to best ten barrels of Ribston Pippins, I forward you a brief statement of my method of packing and marking apples for market.

**Picking.**—The fruit is hand picked from off the trees singly and carefully into baskets which are carefully emptied into apple barrels close at hand, in the orchard (excluding all wormy fruit, to prevent good fruit being defaced by the worms in fruit bin.) Thence they are taken to the fruit room, and carefully placed in the fruit bins, where they are allowed to sweat and remain until required to be put up for the market.

**Packing and Marking.**—I secure, if possible, air-tight barrels, believing that the more the air is excluded from the fruit the better it will keep anywhere, and especially as freight in a vessel. Having obtained the barrels, I number the bottom and sides before I remove the bottoms, to secure the right ones when heading up. I then nail the heads and edge hoops securely, taking care that no nail points are exposed inside the barrel. I then place a thin layer of excelsior shavings inside on the head of the barrel, line it with white paper, placing some upon the excelsior, and proceed to pack the fruit, marking in pencil the intended quality on each barrel to avoid any mistake when labelling. When sorting fruit I choose some of the brightest and best for heading with, so that when it is opened it may appear desirable, and ask to be poured out for inspection. I lay the first two layers of fruit with the stems down, (they show up when the barrel is opened) placing them in tightly, after which I carefully put in the best from the basket, putting in perfect fruit in form, and of uniform size for the first quality; shaking the barrel occasionally that the fruit might settle. When full I put in some of smaller size to fill up the spaces, and place a layer of white paper over all, before I put in the bottom of the barrel, or as it is termed, head up, which operation I perform with the screw header (M. C. Bacon's, Falmouth,) which took the prize at the Kentville Exhibition, where I bought it. Having got the bottom in place through steady pressure and gentle tapping of sides of barrel all round, and otherwise shaking the barrel to get apples solidly in place, I put the hoops on and secure by nails, using stout shingle nails for bottom hoops, and either large tacks or small lath nails, as the hoops may require, for the bilge. After which they are marked by stencil plates with the name and quality of fruit, name of grower, and locality of growing, and forwarded to market, seeking for as good a price as is going.

FRED. J. H. AXFORD.

This report induced considerable discussion. Mr. Longley said he believed apples were best packed immediately in the barrels from the tree, being assorted from the picking baskets. They look much fresher when spread than when

placed in bins or heaps, and particularly the more tender varieties as Native Spys or Bellefleurs.

Mr. A. A. Pineo endorsed the views of Mr. Longley. He had tried this plan and found it very satisfactory.

Mr. Isaac Shaw said apples should be headed at once, and not left in the bin to sweat, as it is called.

C. R. H. Starr approved of packing directly in the barrels when practicable, but when there were hundreds of barrels to be gathered, it could not be done to advantage on account of the time required. They must be housed as rapidly as possible, and could be sorted during weather not propitious for gathering. He celledared apples in both hard and soft wood barrels, and found the soft wood barrels all had to be re-filled, while those in hardwood remained full and fresh.

Mr. Parker's report was read and favorably commented upon. The above reports were ordered to be placed on file for further reference.

It was resolved that the time for holding the Winter Exhibition be left with the executive, with the understanding that it be held during the meeting of the Central Board of Agriculture.

The election of officers was proceeded with. The President intimated his desire to be relieved of the duties of the position; and the Secretary said, as he expected to be absent from the Province for some months, it would be wise to appoint some one in his place. The following named were then elected:—

**President.**—Avard Longley, Paradise.

**Secretary.**—C. R. H. Starr, Port Williams.

**Vice-Presidents.**—Kings—T. H. Parker, Berwick; Annapolis—F. S. Whitman, Annapolis; Hants—G. C. Wiggins, Windsor; Digby—Dr. Morse, Weymouth; Yarmouth—C. E. Brown, Yarmouth; Queens—I. H. Dunlap, Liverpool; Lunenburg—Judge Des-Brisay, Lunenburg; Colchester—Isaac Longworth, Truro, Pictou—T. M. McDonald, Durham; Cumberland—Charles Atkinson, Maccan; Cape Breton—J. B. Jackson, North Sydney; Shelburne—W. F. McCoy, M. P. P.; Antigonish—T. M. King, Antigonish; Guysborough—James A. Fraser, M. P. P.

**Standing Committee on Fruit.**—R. W. Starr, C. E. Brown, A. H. Johnson, C. R. H. Starr, Isaac Shaw, Benjamin Starratt, Robert Marshall.

**Committee on Publication.**—Prof. Higgins, Avard Longley, R. W. Starr, A. H. Johnson, C. R. H. Starr, Revs. J. R. Hart and F. J. H. Axford.

**Auditors.**—George V. Rand and George Wallace.

**Resolved,** That in the estimation of this Association, the time has arrived when it is absolutely necessary that a frost-proof warehouse should be provided in connection with the railway at Halifax, for the better protection of perishable produce, more particularly that designed for export during the winter months.

There was an animated discussion upon this resolution, which passed unanimously, and a special committee, consisting of the President, Secretary, W. H. Allison, M. P. P., W. H. Blanchard, Windsor, Rev. Mr. Axford, Cornwallis, was appointed to take it in charge.

The Secretary asked for information upon Quince culture. R. W. Starr said he thought they required surface culture. Dr. McLatchy said much depended upon the soil; they require moist soil. T. E. Smith said he had transplanted his quince trees from light soil to black mud, and they were doing well now. William Sutton said he had grown quinces for thirty years upon light sandy loam, manured on the surface. He considered them a profitable crop. Had sold them at auction in Halifax for 35 cents per dozen. Rev. Mr. Hart said he had seen the best success when rock weed was used for mulch. A. H. Johnson said he attributed Mr. Sutton's success to his having raised his own trees.

T. E. Smith asked for information as to the best varieties to graft in his nursery. A. H. Johnson said graft Ribston Pippins, but don't sell Ribstons to be planted in light soil, Baldwins, Nonpareils, Golden Russets, King of Tompkins and Blenheim Pippins.

The Secretary endorsed the last speaker's views, excepting as to Baldwins; they fruited too irregularly.

R. W. Starr alluded to the difficult growing of Nonpareil and Ribston Pippin trees satisfactorily, and advised planting a portion of Gravensteins in every orchard.

Rev. Mr. Axford said his Nonpareil trees in the shelter of the pines were full of fruit, while those in the open had few.

Mr. Longley said he found Blenheim Pippins a very fine apple, but recommended growing Gravensteins and Nonpareils for profit. Orchardists were prone to plant too many kinds; four or five varieties were enough.

Mr. Rand said it was the duty of the nurserymen to guide the purchaser in the selection of suitable sorts to meet the adaptability of their soils. It was great folly to plant too many kinds.

Mr. Smith recommended planting a portion of Gravensteins.

Mr. Longley asked for information as to when apples should be picked for foreign shipment. He thought it best to pick them a little green. There was danger of leaving Ribstons on the trees too long, but Baldwins should be kept on trees as long as weather would permit.

Some discussion upon pruning ensued. Late spring pruning was recommended to set trees bearing.

The Secretary spoke of the danger of sprouts from trees not grafted below the

crown, and hence the liability of budded trees to throw out sprouts.

A. H. Johnson said at Font's Nursery they double worked some kinds, first grafting and then budding.

Rev. Mr. Hart asked for information as to the progress of the reports. R. W. Starr replied they had failed to get the work done last winter, and no one had time to do it in summer.

Some discussion arose upon the charge made by Mr. Randall for the work done by him.

*Resolved*, That the publication committee be called together by the Secretary for the purpose of compiling the report; their expenses to be paid by the Association.

### "GREEN FODDER."

To the Editor of the Journal of Agriculture:

SIR,—I notice in your January issue a re-print of my communication to the *Annapolis Journal* on Maize, and its use as an article of food for all animals included under the head of farm stock. The past year has been full of ensilage literature, in the leading agricultural journals of the neighbouring Union. Various communications and remarkable statements are given by zealous and successful farmers to prove its great value as an article of food—in the barn—for dairy stock especially. It is a pleasure to report that Nova Scotia, on the Silo question, is not in the background. King's County farming has fully settled the question of ensilage being a cheap and nutritious fodder. Some persons conversant with the process express surprise that this method has not been more generally adopted. The farmer usually is tardy in adopting any innovation likely to change his accustomed routine of work, he must calculate results, and much talk and time is consumed before a decision is arrived at favourable to a new project; but ensilage is becoming an interesting subject of enquiry. The construction of silos, the method of filling, and the best forage plant to grow for the purpose, are matters of interest to the enquiring mind. The peculiar advantages attending the silo method of preserving a year's supply of fodder when fully understood are obvious. The construction of the silo is not so formidable and expensive an undertaking as was generally affirmed. Experience has proved that cheap silos are equally available as more expensive ones, if constructed on the air-tight principle, although they are not so durable as a concrete structure in the long run. We have several silos in this vicinity, and the owners express great satisfaction at the results. Corn is grown for the purpose, although Mr. C. R. Starr, of Cornwallis, is not averse to a heavy growth of clover, and is enthu-

siastic over a good stand of rye in bloom. I am of the opinion that Mr. Starr would, at the right period of growth, ensilage all available green fodder from salt grass to sainfoin. One advantage of a silo is that it is not necessary to study the almanac to ascertain the probable state of the weather. Waiting for certain stages of the moon is all "moonshine." When ready for action you proceed to work, rain or shine. Last autumn, when Mr. Johnson was charging his silo, I came to the conclusion that a rainy day was advantageous. To be sure, it was not so comfortable for men and teams, but the work progressed with amazing celerity. Neither does it appear now that the ensilage was injured by being siloed on a rainy day. The centrifugal force of the two horse-power cutter would jerk the water out of the corn and send it off at a tangent,—it was mystifying.

There are three things just now to the agricultural mind a perplexity,—nitrogen, cotton-seed meal, and ensilage. No doubt before long some fellow will turn up prepared to prove that the true secret of farming lies in the silo. Silo—ensilo—ensilage. Well, what is it? It is nothing more nor less than green fodder stored in an air-tight compartment. Careful experiments in feeding have shown that, with this food and a ration of two quarts of grain daily, cows will give ten per cent. more milk than with the best of English hay and six quarts of grain daily, and, furthermore, that the cost of feeding is reduced nearly one-half. I am of the opinion, with the experience I have had with siloing cows, that one acre of land in ensilage will keep a cow the year round, and I doubt if any farmer in Nova Scotia can show one acre of land which, by the old stereotype system, will support a cow half that time.

A short description of this green fodder process, perhaps, would interest some readers of the JOURNAL. Southern corn, *alias* horse-tooth corn, white or yellow, or any other variety that will give a large yield answers the purpose for seed. Caution,—test the vitality of the seed before planting. Well prepared ground, made fine either by drag or roller, drilled three feet asunder, four kernels of corn to a foot in drill, harrow or cultivate before weeds make headway, and as frequent after as convenient. If planted in June, the plants in ninety days should average a pound in weight, which will give upwards of thirty tons to the acre. Mr. Johnson overran that, although it was greatly retarded by the drouth. As regards quantity and quality per acre of green fodder, Nova Scotia can show up on a par with, if not better than some localities supposed to be more favored in climate.

When the importance of ensilage is better known, and the method of preserving fodder in a green state better understood, our farmers will not be slow to adopt the silo practice. The great drawback to the agriculture of the period is "fogyism." Farmers are so wedded to ancient practice or prescribed rules that they are unwilling to admit the truth of modern science. In the fruit districts the question of manure is becoming more important each successive year. To supply the annual demand of a ten-acre orchard is no small tax on the manure-pit, and if farm fertilizers are withheld the tax reveals itself in some other form. The aim of good farming is to increase the product of the land. This is best accomplished, not by adding to the area, but rather by increasing the product of the area. More manure and a more thorough cultivation are the requisites, and nothing meets these requirements so well as ensilage. Hay is a most expensive fodder, and the stock of a farm is governed by the food supply. The product of an acre on an average of years is not over 1½ tons of hay, and that barely of medium quality. An acre of land planted to fodder corn will give a very much greater amount of fodder. Two crops can be taken in a year. Sod land, manured on the surface, ploughed and sown to fall rye, will be ready to cut in June. Planted to fodder corn, the crop will be ensilaged in September, in time for rye and clover. The clover ploughed under will restore the lost fertility, and the process can be repeated. Now that ensilage has ceased to be an experiment, practical experience shows that silos can be made in the ground or above it, of any desired capacity and convenient material. Large silos can be divided into small ones by temporary partitions. Any plant good for cattle food can be preserved in a silo for an indefinite period. Maize yields the greatest weight per acre. Rye is considered superior to corn in feeding value, but the product is less. The day of old style farming is passing away; science and art are introducing changes in all branches of productive labor, and Agriculture, the greatest and most important pursuit of man, is not destined to a back seat.

W. H.

Wolfville, February 15th, 1883.

TRURO, Feb. 5th, 1882.

To the Editor Journal Agriculture:

In the January number of the *Journal*, you have transferred to its pages, from the columns of the *Annapolis Journal*, a letter from Mr. Haliburton regarding Ensilage.

Mr. Haliburton makes the statement, that the cost of Ensilage, from fodder corn,

fully prepared and stored, is two dollars per ton, and that in nutritive value 2½ tons of this preparation are equal to a ton of hay. It would have been more satisfactory if the grounds upon which these conclusions were reached had been stated, because there are persons who are slow to believe that green-fodder corn possesses any such value, and who, therefore, refuse to accept unquestioned a bald statement to that effect. They have an idea that Swedish turnips and mangels are not inferior to fodder corn, and argue from this, that, as 4½ tons of Swedes are not more than equal to a ton of hay, the estimate of 2½ tons of Ensilage is too low. This may be all wrong, but, if so, it is important that analyses, if made, should be published, as well as experiments bearing on the point mentioned, that the ignorance of these people may be enlightened.

Mr. H. says, "Ensilage alone does not contain all the ingredients required to put flesh on an animal." Will ensilage and straw succeed, or has the experiment been tried? We know that turnips and straw have been largely and successfully used in the fattening of cattle, and that sheep will thrive on turnips alone, as proved by the practice in Britain of hurdling on the unpulled crop.

The fact that stock fed partly on Ensilage look well, is no argument in its favor, unless we know what other feed has been supplied, and in what quantities in proportion to the amount of Ensilage, and likewise the amount of the whole to an amount of a given weight. Mr. H. says, "a feed of hay was given to the cattle in the morning to regulate the system;" but he does not say how much, nor whether any meal or other concentrated food was added, although that is implied. If so, it would have been of consequence to know the quantity.

I have made these remarks, not from any hostility to Ensilage, but solely for the sake of obtaining more light on the subject; because, if Ensilage from corn-fodder is all that its advocates claim for it, it is quite time that farmers generally realized the fact and were more alive to its importance. COLCHESTER.

#### Editor Journal of Agriculture :

SIR,—In your January issue I commented upon the prospectus of the Nova Scotia Immigration Society, and pointed the necessity that obviously exists in this Province for a work of that kind, and promised to follow the matter up still further in a future issue. The subject of immigration has a very direct bearing upon, and is closely allied to, our agricultural interests. Since nothing is produced without labor, it follows, that upon this basis must be reared the structure that truly represents our material wealth and

progress. It must be admitted by all farmers, that the scarcity of agricultural laborers throughout the rural districts of our Province is a great drawback and hindrance to the carrying on successfully and profitably the cultivation of our farms and the proper development of our farming industries. Our farmers in general are awakening to the fact, that, in order to secure competent farm laborers through the summer months, when of course they are most needed, they must in the future be willing to make yearly engagements in hiring. Although the help through the winter months cannot, as a rule, be so profitably employed as during the more important working seasons of spring, summer, and autumn, the manifest advantages of having on hand, at all times, trained and reliable helpers who are bound to yearly engagements, are so far superior to the uncertainties of chance-hiring, and the consequent risks of obtaining the help at the critical time wanted; for instance, when the sweep of the whole season's operation depends upon the harvesting of a crop at just the right time. Now, as it is evident to our farmers from sad experience, that such help is not, as a rule, to be now obtained in this Province, the question naturally arises, from where can it be obtained? I think, with the aid of the Nova Scotia Immigration Society, that question can be satisfactorily answered, and not only in the matter of farm laborers, but also as regards female domestics, of which there is throughout the whole Province a great scarcity, causing an undue burden of hard work and household cares to rest upon the patient and overworked wives in numberless households.

With a practical farmer from Nova Scotia, as agent abroad, the wants above indicated could be supplied, and a reliable trained class of help could be engaged, and sent out as wanted under yearly engagements. This is one of the many advantages the Society is calculated to confer upon the patrons. Another is the improvement of the unoccupied lands and farms that are year by year sadly deteriorating in value and productiveness. There are several such in each district, and the fact is prejudicial to and detracts from the value of the adjoining farms that are better tilled and properly cultivated. To have these neglected farms and lands occupied by a class of farmers who have made agriculture a study, and who know by practical tests whether a theory is sound or otherwise, would add untold wealth to our Province, by proving, as has been done in some instances that could be quoted what can be accomplished by the intelligent application of science to agriculture. As the scheme progresses, I may again point out further reasons why it should receive the hearty support of our farmers. F.

We have to acknowledge a package of Flower Seeds from the firm of James Vick, Rochester, N. Y. State. The late Mr. Vick was the most enterprising Flower Seedsman of his time, and the business appears to be carried on by his sons with unabated energy.

Mr. H. A. STEWART, Secretary of the Hamilton Farmers' Club of Prince Edward Island, has sent to Mr. Rennei, seedsman, of Toronto, some samples of grain, clover, and other seeds grown on the Island from seeds purchased last year from Mr. Rennei. The samples are very fine, the timothy seed, the white clover wheat, and the oats are especially good. Mr. Stewart is strongly in favour of importing seeds from Ontario for use in Prince Edward Island.

## HISTORY OF THE PICTOU CATTLE DISEASE.

### No. VI.

*Preliminary Report on the Disease of Cattle at Pictou, Nova Scotia, and adjoining Districts, addressed to Hon J. H. Pope, Minister of Agriculture, by D. McEachran, F. R. C. V. S., Inspector of Stock.*

(Continued from October Number.)

DALHOUSIE COLLEGE, HALIFAX, }  
October, 1881. }

SIR,—In August last you were pleased to entrust to Dr. McEachran, Veterinary Inspector of the Department of Agriculture, and myself, a mission of enquiry in relation to the Cattle Disease of Pictou County. I have now the honor to submit the results of that portion of the investigation assigned to me.

In accordance with your letter of instructions of 17th August, I proceeded to Pictou in company with Dr. McEachran, visited with him farms in the infected district around the Town of Pictou and neighborhood, examined the soil, water and herbage, and collected samples of the same, which were taken to Halifax and subjected to chemical and microscopical analysis.

The prevailing soil of the district consists of a light surface loam resting on a clayey subsoil. In natural pastures, the surface loam is frequently very thin, and varies in character from a fine sandy loam to a compact clayey loam. In low lying wet places this is covered with a dark deposit containing much vegetable matter. The formation of swampy places and stagnant water holes in the pastures is favoured by the impervious character of the subsoil. The soil is everywhere coloured more or less by iron, which is washed out and deposited in pools and ditches. Manganese also occurs; there is but little lime. The soils of the Pictou pastures do not differ materially, either



in mechanical character or chemical composition, from the prevailing soils over a large portion of Nova Scotia. As the pastures become old they decrease in productiveness, partly from exhaustion of fertility and partly from excessive growth of weeds that are avoided by cattle.

The cattle are watered in the various ways usual in country places,—in summer time at springs, woods, swamps or waterholes in the pastures or by the roadsides, and in winter usually at wells in or near the farm or house yard, or at neighbouring springs. Numerous watering places were examined, and samples of the water taken from such as were ascertained to be actually used for the watering of cattle on the infected farms.

A. Alexander Fraser's farm, Beeches Road, Bayview :

Four cows lost by disease this season. Pasture soil light loam, with black mud in lower marshy portions and along course of brook. Water of brook clear and sweet. Pasture very weedy, much Toad flax (*Linaria vulgaris*), Senecio Jacobaea, Lobelia inflata, Hypericum, Ranunculus acris and other weeds left untouched by the cattle. In the swampy parts Eupatorium perfoliatum (Bonaset), Iris, Carices, Scutellaria, &c. The hay in Mr. Fraser's barn was found to be much mixed with senecio in a black, soft state (its herbage does not dry into a stiff hay). In the woods adjoining the pasture there were several species of Boletus, Polyporus, Agaricus and other fungi.

Water sample No. 1, from brook in Mr. Fraser's pasture. The brook originates from a spring in the woods above, and crosses main road.

#### Laboratory Analysis.

Water of good lustre and taste, no odour, considerable sediment.

Total solids, grains, 2.5 per gallon.

On incineration, residue becomes dark brown . . . black, and then easily clears up.

Chlorine, gr., .85 per gallon.

Ammonia, free or saline :

Grains, .01582 per gallon.

M.G., .226 m. g. per litre.

Ammonia, organic or albuminoid :

Grains, .01456 per gallon.

M.G., .208 m. g. per litre.

Metals—Iron, trace.

Hardness = 8 degrees.

Nitrates, nil.

#### Microscope.

Veg. Epidermis, wings and scales of insects, diatoms, Infusoria, Desmudææ, Acarina, Anguillula, Conferva, Rhizopods, Euglypha, Mineral particles.

Water sample No. 2, from spring in pasture, some distance below Mr. Fraser's house :

Water of good lustre and taste, no odour, considerable sediment.

Total solids, grains, 3 per gallon.

On incineration, residue became darkish brown, wavy, clearing slowly, (loss .5 per gallon). Fixed residue, 2.5 per gallon.

Chlorine, grain, .8 per gallon.

Ammonia, free or saline :

Grains, .0056 per gallon.

M.G., .08 m. g. per litre.

Ammonia, organic or albuminoid .

Grains, .00476 per gallon.

M.G., .068 m. g. per litre.

Metals—Iron, slight trace.

Hardness = 2.5 degrees (Clark).

Nitrates—nil.

#### Microscope.

Conferva, Cladocera, Cyclops, Diatoms, Monas, Vegetable debris (straw), Nais, Hydra.

Water sample No. 4. Tank for winter watering.

Yielded considerable sediment, but, after subsidence, clear, good lustre and taste, no odour.

Total solids, grains, 3 per gallon.

Fixed do 2 do

On incineration, residue at first becomes black, and then clears.

Chlorine, grains, .9 per gallon.

Ammonia, free or saline :

Grains, .00742 per gallon.

M.G., .106 per litre.

Ammonia, albuminoid or organic.

Grains, .0112 per gallon.

M.G., .16 per litre.

Hardness = 16 degrees.

Metals—Iron, trace.

Nitrates, nil.

#### Microscope.

Conferva, wings and scales of insects, Infusoria, Diatoms, Sea-weed, Acarina.

The above three analyses of the waters used on Mr. Fraser's farm show that the waters are of good quality as regards lustre, taste and absence of odour; also in the total solids being only 2½ and 3 grains per gallon, in the chlorine not exceeding nine-tenths of a grain per gallon (although near the sea-shore), and in total absence of nitrates. On the other hand, the amount of albuminoid ammonia in sample No. 1 is rather high, and so is the free or saline ammonia; but the whole facts do not justify us in assuming that there is any notable contamination from animal matter, even in this sample. The other two must be regarded as fair samples of drinking water.

B. Acadia Farm, owned by Donald Fraser, Esq. :

Cows at present all healthy, and have been since great mortality in 186, when three precautions were adopted, and have been rigidly observed, viz. ; (1) Not to

yard cows at night in the manure yard ; (2) to keep the pastures free from weeds ; (3) to prevent cows from browsing near exposed carcasses or graves of animals.

This farm is in a high state of cultivation, free from weeds; the cattle and sheep do not range beyond its bounds.

No analyses made.

C. Farm of William McDonald, West River. Soil light sandy loam on surface, clayey beneath; pasture pure, few weeds; water rather stagnant; one cow ill; several deaths this season, eight have died within the year. In seven years, twenty-six head have died. Of five now in pasture, two are sick.

Water sample, No. 6, from brook running through Mr. McDonald's farm (running also through Mr. Logan's, where no disease is known.)

Water slightly turbid, of good lustre, slight yellow tint, no odour, considerable sediment.

Total solids, 20 grains per gallon.

Fixed do 11 do do

Residue became black.

Chlorine, 9.25 grains per gallon.

Ammonia, free or saline :

Grains, .0336 per gallon.

M.G., .48 per litre.

Ammonia, albuminoid or organic :

Grains, .01862 per gallon.

M.G., .266 per litre.

Hardness = 4 degrees.

Metals—Iron, slight trace.

Nitrates, nil.

#### Microscope.

Portions of insects, Anguillulæ, Rotifers, Acarina, Infusoria, Rhizopods, Vegetable fibres, Diatoms, Confervæ, Larvæ, Mineral particles.

Water sample No. 7, from pool on Mr. McDonald's farm.

Water slightly turbid, but of good lustre, very light yellowish tint, no odour. (One bottle of the water emitted odour (focal?) after keeping.)

Total solids, 4.5 grains per gallon.

Fixed do 1 do do

Residue light brown; became quite black and cleared with difficulty.

Chlorine, grains, .25 per gallon.

Ammonia, free or saline :

Grains .0056 per gallon.

M.G., .08 per litre.

Hardness = 3 degrees.

Metals—Iron, minute trace.

Nitrates, nil.

#### Microscope.

Entozoastraca, Desmudææ, Bacteria, Infusoria, Rhizopods.

The first of these waters, No. 6, is remarkable for the large amount of solids, twenty grains to the gallon, of which

portion appears to be vegetable matter; but the amount of chlorino is also remarkably large, upwards of 9 grains, and the albuminoid ammonia amounts to .266 parts per million.

No. 7 shows much less of solids, 4½ grains per gallon, 3½ of which are organic and volatile matter; the chlorino amounts to only a quarter of a grain per gallon; but the albuminoid ammonia is high, .69 to the million. These waters are not pure, the first containing an excess of free ammonia and the second of albuminoid.

(To be continued.)

LORD CARNAVON is urging the English farmers to feed their sheep liberally if they wish to obtain any profits from them. The same principle runs through every department of agriculture. The profit comes out of the liberal hand, whether in field crops, calf-raising, cattle feeding, or any other operation. We have argued all this over and over again in years that are past, and we hope not entirely without effect. Lord Carnarvon puts the matter, as regards sheep, in a very simple, sensible way, and we reprint his remarks as equally applicable to all other animals of the farm, especially in this climate, and at this particular season:

"The plain moral, therefore, of what I have now said is this—that those who desire to avoid any great loss and to make considerable profit, must spare no expense in feeding their ewes now. With a slight verbal alteration one may say, as the Father of Agricultural Poetry has well sung eighteen hundred years ago:—

"Now minister the cake with bounteous hand,  
And open let the stacks all winter stand."

The temptation to economise in these small matters is greater than would be supposed. I have seen many sheep kept, and their food stinted; I have seen on neighbouring land, and under identical conditions, a few sheep kept and generously treated. In the first case there has been heavy loss; in the second, large profit.

Of course money spent on feeding, without general good management, will be money wasted. There is no magic in food if it is not judiciously used and seconded by other precautions. Moreover, they who have let their sheep go down may find it too late now to bring them into a satisfactory condition.

I have of late had some experience of what I am now writing about, and have had interesting illustrations of the truth of what I say; and, simple and commonplace as the observation may seem, I am convinced that generous feeding at this season is one, at least, of the secrets of successful sheep-farming; and that for want of it more money is sometimes wasted than is supposed. This is my

excuse for stating what to many will appear a self-evident truth."—CARNAVON, Highclere Castle, Jan. 11."

### COST AND PROFIT OF RAISING WHEAT.

*Eds. Country Gentleman.*—In a talk with one of the most intelligent farmers in this vicinity, not long since, he remarked that the great difficulty in the way of improved farming, or larger crops (he was speaking of the wheat crop in particular), is that generally farmers are unwilling to believe that there is any more net profit in the large crop than in the small one. In other words, they think the extra crop raised will no more than pay for the extra labor, care and manure that it takes to produce it, leaving them no better off at the end of the year in the one case than in the other.

This is all wrong. As well might a railroad company, having a good track and plenty of cars, say it would not pay them to increase their gross receipts by paying out more money for brakemen, engineers and coal. Capital invested in labor and manure, on the farm, will pay as large a net profit as the same capital would invested in any other legitimate business, provided it is under as skilful management in the former case as in the latter. The truth of the matter is that there is not much net profit in farming, railroading, manufacturing, or any other business that is only run to half its capacity. If a man raises thirty bushels of wheat per acre, under good management, there will be more net profit in the last fifteen bushels than in the first. But mere assertions amount to little; let us try and get some facts to back them up.

A writer in the last Ohio Agricultural Report says that, according to carefully collected reports of official figures of the Agricultural Department in Washington, and the single States, and of reliable practical farmers, the cost of production for one acre under wheat is to the average American farmer—

To plowing, harrowing, &c.....	\$2.00
Manure, or higher expenses on the rent of land, taxes, &c.....	2.00
Seed .....	1.50
Sowing .....	.50
All harvest work, threshing and marketing.....	2.50
Land rent .....	2.00
	<hr/> \$10.50

He also states that the last agricultural report of Illinois, Indiana and Ohio concur perfectly with him in these estimates, and that the average yield from 1870 to 1880, inclusive, on one acre under wheat, in all the States of the Union, has been fixed at thirteen bushels, and that the average price for the same time was about \$1.06. The money value, then, of an average acre of wheat in the United States for ten years has been \$13.78.

Take from this the cost of production, and we have a net profit of \$3.28 an acre.

But there are many thousands of good farmers in the United States who are applying manure and labor freely to their wheat land, and raising much more than an average crop. If their crops were taken out of the general average, it must be evident to every one that there are millions and millions of acres, which, even at the very low estimate given above for labor and rent, would show no net profit at all. I have searched agricultural reports, books and papers in vain, to find any statements of cost of production and net profits that covered a series of consecutive years, where labor and manure were applied so as to raise a crop two or three times as large as the general average. There are plenty of statements showing the net profit for a term of years on the same farm. In the absence of any other figures, I will give some from my own farm, although they do not cover as many years as I wish they did. The average cost of raising an acre of wheat, for the last four years, has been—

Plowing.....	\$1.50	
Working land:		
6 harrowings, Thomas harrow, \$1.38	} 3.50	
4 cultivatings.....		2.00
2 rollings.....		.50
Seed.....	1.84	
Harvesting.....	2.69	
Drawing in.....	2.15	
Threshing.....	2.16	
Manure.....	5.00	
Use of land.....	6.00	
Use of barn.....	1.00	
Marketing.....	1.41	
Interest.....	.50	
	<hr/> \$29.16	

The average yield for the four years has been 35½ bushels. The average price, sold right from the machine (no speculation), was \$1.17. I have found no difficulty in getting \$8 an acre for straw by feeding it out with grain, but as some has been used for bedding I will put it in at \$6 an acre, which is less than it has actually brought. We have, then, the average yield in dollars for one acre, for the last four years—

Wheat.....	\$41.24
Straw.....	6.00
Total.....	\$47.25
Cost of production.....	29.16
Net profit.....	<hr/> \$18.08

In these figures hand labor is counted at cost, and a man and team at \$3 per day, which covers cost, use of tools and depreciation. There is no charge for drilling, as the seed is sown by an attachment to the cultivator while working the land. No manure was applied directly to the wheat crop, but a fair proportion of what was put on preceding hoed crops is charged. So then we have the bulk of the wheat crop raised at little or no profit. In an average crop, by taking a very low price for our labor and use of land, we can squeeze out a net profit of \$3.28



an acre; while, with a crop of thirty-five bushels per acre, we can pay our help liberally and not overwork them; get a good round price for our team work; enough rent for our land so that we can afford to improve it, and still have \$18 cash left in our pockets as the net profit from each acre. *Take your choice!*

You may think that I should not have made any account of the straw in my table, as there was none made in the average table. In the latter case some other things are left out also, such as use of barn and interest, which would go toward balancing the value of the small quantity of straw that an average crop of wheat produces. Again, if I had to harvest, draw in, thresh and market an acre of wheat for £2 50, I should certainly want the straw thrown in. There are few farms in the Eastern or Middle States where the straw from a large crop of wheat, cut early and fed with grain, cannot be made to bring at least \$8.00 per acre. Even if the straw is used only for bedding and manure, it has a value for this purpose, and if we charge the wheat crop with the manure it uses, it should certainly have credit for the straw.

I consider the items given in the table under the head of "Working Land," as among the most important essentials for a large crop of wheat. The good book says: "As a man sows so shall he reap," and this is emphatically true of wheat-raising. I have succeeded in one instance in increasing the yield on the same land from twenty-three to thirty-three bushels, and in another from twenty-three to thirty-five bushels, by thorough working of the land alone, no manure having been applied to the land between the two crops, except to half an acre. Good seed put in early also helps one to raise a large crop without manure. In the *Country Gentleman* for Dec. 28th, W. J. F., in an article on the available supply of nitrogen, says "ammonia is of less moment to very early sown fall wheat," and goes on to give the scientific reason. He hits the nail squarely on the head, as usual. By the way, that article alone is worth the price of the paper for a year.

Summit Co., O. T. B. TERRY.

#### THE ARMY-WORM IN 1882.

The damage to crops from the army-worm in the more northern States, which we predicted in the June number of the *Naturalist*, while not nearly so great as in 1880, has still been marked in certain localities, notably in Saratoga County, N. Y. The year 1882 will, however, be a disastrous army-worm year in many of the southern States. Never before in the history of its appearance has the worm been so general south of Mason and Dixon's line. The first week in May it appeared in force in the northern

counties of Alabama, and shortly afterwards in nearly all the southern counties of Tennessee. Later, alarming accounts were received from Kentucky, North Carolina, Virginia and Maryland, and in June some fields of grain in the District of Columbia were badly damaged. The first week in August a correspondent in Avoyelles Parish, Louisiana, sent us genuine northern army-worms, with the report that they were greatly injuring the corn crop, but were not so numerous as they had been in May and June. Moreover, Dr. Charles Mohr informs us that the hay crop around Mobile, Ala., was completely ruined by an army-worm which, from all accounts, seems to be the true *Leucania unipuncta*.—C. V. Riley, in *American Naturalist*.

#### 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."

## SEEDS

MY ILLUSTRATED CATALOGUE FOR 1883 containing description and prices of the choicest kinds of Field, Garden, and Flower Seeds mailed free to all intending purchasers upon application. It is the handsomest Catalogue published in Canada and is available to all who wish to buy PURE FRESH SEEDS. Special attention given to supplying MIXED GRASSES for PERMANENT PASTURES. Prices and full particulars will be found in Catalogue. WM. RENNIE, Seedman, TORONTO.

feb

#### Polled Angus or Aberdeen. FOR SALE.

HIGHLAND CHIEF, a beautiful pure bred young Bull, 10 months old, weighs about 800 lbs.

Sire—"Chivalry," 1765, Eng. Dam—"Fame I," 4536, Eng., by "Waterside King," 870, Eng. G. Dam—"Fern," 1483, Eng., by "Juryman," etc., etc., see Register.

"Fame," with others, was imported by the Board of Agriculture, and sold by auction last spring to J. E. Chipman. This calf "Highland Chief" was dropped a few days after the sale; he is probably the handsomest young bull of this breed in Canada, is registered in Nova Scotia Register, and is only offered for sale to prevent in-breeding. Apply to

CHIPMAN BROS.

feb, 2ias.

#### FOR SALE, THE THOROUGH-BRED AYRSHIRE BULL, "LORD CANNING,"

THREE YEARS OLD last September, Registered Pedigree, No. 22; Girt, 6 ft. 5 in.; length from behind his horns to butt of tail, 6 ft. 6 in. Docile and sure stock-getter.

feb

D. H. COFFIN, Kentville.

#### FOR SALE.

SHORT-HORN BULL, "King of the Valley," No. 152, New Stock Record. Colour red and white. Seventeen months old. Also, Ayrshire Bull "Kenehin," No. 27, New Stock Record.

J. W. MARGESON,  
Chipman's Corner, Cornwalls,  
Kings Co., N. S.

feb

## How We Test Seeds.

Probably from the fact that our long experience as Practical Gardeners, make us realize the necessity to be strongly than most seed dealers, we very early in our career as seedsmen inaugurated the practice of testing all seeds before selling. From the small tests begun in 1872, this practice has extended as I become so systematized that the past season it required the entire use of one of our largest greenhouses for our seed tests during the fall and winter, and afterwards in spring in the open ground we had set out many thousand plants, representing the stock in vegetable seeds alone of over 500 growers. All these tests are carried on under the personal supervision of PETER HENDERSON, and as the author of "Gardening for Profit" has had as long and as varied an experience as most men in operations connected with the soil, it will be seen that we are placed in a position to judge, not only as to the germinating properties, but what is of far more importance, the purity of and the kinds of seeds best suited for all gardening purposes. If therefore you can buy seeds as cheaply from us, and we think if you will compare prices you will find that you can—it will certainly be to your interest to do so. Our Catalogue for 1882 of Everything for the Garden is now ready, and will be mailed free on application.

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