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The Reports of Societies have recently occupied so much of our space as to exclude other matter. Now that our columns are again available for communications and correspondence, we shall be glad to receive such from our agricultural friends throughout the Province.

THE COMING CLOUD, AND ITS SILVER LINING.

The Tide of Commerce that has been flowing so freely around our coasts, with yearly increasing strength, is about to be disturbed in its course; whether its force will be lessened or merely its direction changed is at present the subject of anxious enquiry. Agriculture has been especially referred to as likely to suffer by the abrogation of the Reciprocity Treaty. Let us therefore, endeavor to ascertain what are our precise commercial relations with the United States as regards agricultural produce.

The Trade Returns for the year 1864 show that our gross exports of all kinds to all countries amounted to seven million dollars, and our imports to twelve millions, an excess of imports over exports of five millions. This

does not include gold produced and ships sold; and, inasmuch as the prices actually obtained in foreign markets for fish and other shipped goods, are usually in excess of recorded export prices, the apparent excess of imports over exports is to a large extent fictitious, not real. Yet it is obvious that we have at home a market for produce and manufactures that is but very partially met by our own producers. We are a buying rather than a selling people, as regards many kinds of produce and manufactures that might be produced in the country.

We have, in the same year 1864, sold to the United States *two and a half* millions' worth of goods, and have bought from them upwards of *four* millions' worth. It is not to be supposed therefore, that were we to cease to trade with the states we should simply lose a good customer for our produce. The case is rather that of our being turned away from a shop which we have been in the habit of largely patronizing, paying our bills partly with our own produce and partly with gold.

Our agricultural produce supplies very partially and imperfectly the daily increasing wants of our own people, a large proportion of whom are engaged in the fisheries and mine. Of agricultural productions

alone we have imported from all countries (during the year) to the extent of more than *two and a half* millions of dollars, and have exported less than *one* million. At present then we are, upon the whole, consumers of agricultural produce, not producers for other markets. It is true that our farmers, in certain counties, have found it convenient (encouraged by a foreign market) to raise potatoes, &c., for export; and individual inconvenience, as well as some loss, may be felt for a season, as is usually the case when a sudden interruption, or a radical change in the commercial relations of trading countries takes place; but we fail to see any national calamity in the closing of the United States markets against us as regards farm produce. We want to buy not to sell. When the man over the way becomes saucy, we may supply our wants at a neighboring store. Canadian flour may not continue to reach us by way of the American canals and railways, but the strong tide of the St. Lawrence sweeps down to our shores with a will for the burden.

Limiting our attention to the trade in agricultural produce with the United States, we find that they buy from us less than a *fifth* of a million of dollars' worth (in the year) and we buy from them ten times that amount,

more than two millions. A plainer way of stating it will be to compare the imports and exports, and show the balance. What are the principal items?

	Agricultural Imports from U.S.	Agricultural Exports to U.S.
Beef and Pork	\$220,219.00	\$371.00
Butter, Lard, Cheese	22,899.00	1,279.00
Eggs	-	2,849.00
Flour	1,785,818.00	232.00
Fruit (apples, pears, &c)	29,077.00	618.00
Grain	56,593.00	30,206.00
Hay	-	1,288.00
Hides and Skins	17,538.00	44,970.00
Veget. bls (potatoes, &c)	12,208.00	73,742.00
Wool	-	11,842.00

From the above statement it appears, deducting contra-imports, that the only actual exports of farm produce to the United States, are:—

Eggs	\$2,849.00
Hay	1,288.00
Hides and Skins	27,432.00
Vegetables, (potatoes, &c.)	61,516.00
Wool	11,842.00

Total - \$104,972.00

In round numbers a tenth of a million of dollars.

For every dollar that our farmers get from the States for produce we send back to the States for American farm produce more than ten dollars. That is a kind of reciprocity that a business people might well understand. Were we to take into account textile productions; flax, hemp, linseed, and their products, we should indicate even more fully the great extent of the uncultivated field that lies stretched out before our husbandmen.

Let us earnestly request the farmers of the Province to ponder well the figures that we have placed before them. Let not the fears engendered by a disturbance in commercial relations stay their hand; but let them apply themselves more vigorously than heretofore to wipe out the stigma that must ever attach to a country that possesses extensive tracts of unclear lands and is yet unable to provide food for its people. What is required is the application of more capital and more labor to the cultivation of the soil. Let us raise more bread and more meat. Let wheat be grown wherever it can be grown with profit; and, failing that, let us have barley-flour and oatmeal, that may be produced in abundance all over the province so that the vast sum of nearly \$2,000,000 annually sent to the States, for flour, may be saved.— Let our grazing grounds be extended, and the enormous sum of \$200,000 expended for American beef and pork be lessened. Let our farmers supply the \$20,000 worth of butter, lard and cheese that we have hitherto bought from the Americans.

Without an abundance of the necessaries of life at reasonable rates for our laboring population, neither fisheries, arts, nor manufactures can permanently prosper; and inde-

pendent of all considerations of mere profit and expediency, every well wisher of the Province must desire our being placed in a position of independence as regards foreign countries for the supply of the common food of our people. Should the abrogation of the Treaty lead to the ultimate attainment of all or any of the results we have indicated we shall have reason to be thankful that it has not proved an unmixed evil.

We have limited our attention to the subject in its agricultural bearings. The extent to which our shipping and coal trades may be affected it is difficult to estimate correctly at the present time. The channel of these will no doubt be partially changed, but fortunately for us our Canadian friends are as much in want of coal as we are of flour. As for fish, which is an essential article of food in all parts of the world, the ingenuity of our merchants may be more successful in meeting the occasion than some persons anticipate.

That new manufactures will arise, and already-established ones be encouraged, cannot be matter of doubt to any one who has watched attentively the effects of commercial restrictions upon a colony. Should there be discouragement on one hand, there will be encouragement on another; there is ample work for all the capital and labour of the country, and much more beside. There is, however, at the present time great room for the exercise of commercial wisdom.

Ominous forms loom up through the haze; but every cloud has its silver lining, and it is not unreasonable to expect that if freedom from pestilence and war be vouchsafed to us, the present cloud may break upon us as a fertilizing rain, spreading verdure over our fields, accelerating the speed of our mill-wheels, and arousing the energies of our people.

CULTIVATION OF MANGEL WURZEL IN NOVA SCOTIA.

BY JOHN NORTHUP, ESQ., OF BEL AIR.

[We have been favored by the following account of the results obtained by John Northup, Esq., in the cultivation of mangel wurzel. It will be recollected that samples of Mr. Northup's roots, of great size and beauty, were exhibited at the Horticultural Gardens last fall, and were afterwards sent to England by the Fruit Growers' Association. We hope that Mr. Northup's success will induce our farmers more generally to grow what the Germans call the "scarcity root," but which the French, with us, lively in appreciation of its merits, term the "root of abundance."—ED.]

Statement of the results of the cultivation of the mangel wurzel, and remarks upon the same, by Jno. Northup,

of Bel Air. The crop was raised from seed received by Gen. Doyle from his brother, Col. North of Ireland. "The seed was sown one foot distant, in drills two feet apart. Two different modes were adopted in the treatment of the plant, and both far exceeded expectation. Upon the spot selected, 8 feet by 9 feet, equal to 8 square yards, gave 280 lbs. of the mangel root, making at the same rate for an acre (4840 sq. yds.) 75 tons, 1 cwt. 1 qr.; this is exclusive of the green tops, which form a very large item. The treatment above alluded to was the usual mode practised in Nova Scotia farming, the manure being such as is known on the peninsula of Halifax. In a work alluding to the introduction of the mangel into England, it mentions the way it was treated, and there is no doubt if this mode were followed in Nova Scotia (from the shortness of the growing season) it would give very much larger results.

Treatment in England, viz.—It is propagated from seeds, one or two of which are deposited in the month of April or May (England is said to be nearly two months earlier for husbandry.) in holes dibbled at distances of from eight to eighteen inches, or under. Another way is to sow like cabbage; and to prevent injury to the fibres of the roots, the young plants must not be pulled, but dug up with a spade; they should then be transplanted on the same day (either in rainy weather or after sunset) on a rich, well-ploughed and manured soil, in rows from sixteen to eighteen inches apart, the roots to be hoed and stripped of the superfluous leaves every fortnight or three weeks; these leaves or stalks grow to the height of seven or eight feet, and the root weight from eight to twelve pounds. My mangels which were exhibited at the Dublin exhibition, averaged seven pounds each.— This variety of the "root of scarcity," as it is called, is the true mangel wurzel. In those countries where it is extensively cultivated, farmers prefer it to potatoes, turnips, carrots, and every other vegetable for feeding cattle, as both its roots and leaves are free from the depredations of insects; but it is acknowledged that the animals do not fatten so readily as on the vegetables above specified, but that it affords excellent fodder for cows, to whose milk and cream it imparts a delicious flavor: if so what effect would be communicated to the butter of Cumberland, and the cheese of Annapolis. That the climate of Nova Scotia must have a great influence on the growth of vegetation there cannot be a doubt. I have by me a scion cut from a branch (not a sucker) of a plum tree which grew from the bud last season, say from about the 21st May to 21st October, (five months,) which is 7 feet 3 inches in length; the tree from which it was taken was closely pruned the preceding year. In England the celebrat-

ed Thos. Rivers, of Sawbridgworth Herts, states that if the apple, pear, plum, &c., give new wood from eight to ten inches he considers the wood very healthy.— Now a question naturally arises, What can cause this great and rapid growth to maturity in Nova Scotia? I leave this to be answered by those who are more capable than one whose whole time has been occupied by the husbandry of life.

It would give me pleasure verbally to communicate my mode of treatment to any enquirer, as I could in that way give more satisfaction than by the pen." J. N.

NEW ICE COGS.

The London "Field" of 20th Jan'y, describes a new method of frosting horses' shoes, by means of moveable cogs that may be put on and taken off in a few minutes by the groom, without the inconvenience of sending the horse to stand, shivering for half a day at the door of a blacksmith's shop. The new invention consists of three sharpened conical cogs screwed into each shoe, one at each heel and one at the toe. The cogs are screwed into the shoe, the shoe of course being, when made, bored with three corresponding holes (converted into female screws) to receive the cogs. The tools required for fixing cost 6s. stg. in England, and the cogs 3s. per doz. At first chisel head cogs were tried, but were found to be apt to snap. The simple pointed cone now adopted is said to be quite free from this defect. The invention will prove a great convenience, especially in changeable climates.

MUSHROOMS — TOAD STOOLS — PEARLS OF THE FIELD.

"The TOAD, ugly and venomous,
Wears yet a precious jewel in his head."

And so do the TOAD-STOOLS; for altho' some are ugly enough and some are venomous enough (and the frequent cause of death when incautiously eaten) yet many are wholesome, delicious, and much more highly nutritious than any other form of food yielded by the vegetable kingdom.

So long as we leave precious minerals in the "pockets" of our rocks, and allow the pearls of our rivers to roll down unheeded in the slimy mud, we can derive no advantage from them. In like manner, many of us are apt to kick the toad stools out of our path as offensive slimy things, without reflecting that when properly cooked some of them form a dish fit for a king. Yet foreign ketchup, made from materials greatly inferior to our own, is yearly imported and relished as a thing above all praise.

Within the last few years three admirable books have been published on toad stools, elegant, philosophical and witty,—those of Mrs. Hussey, Dr. Badham, and Rev. M. J. Berkeley, and although we are not inclined, like Major Blackwood, the facetious editor of the Highland Society's Journal, to place

"over-confidence" in a "Hussey," yet the facts brought forward by all these authors are worthy of attention in Nova Scotia. It appears that a large quantity of valuable food is running to waste in all parts of the world.

We know from personal observation that that great delicacy the *Morchella*, which is imported into England from Italy, in a dried state, as a commodity of great value, is a native of our British American Colonies; we have been told on good authority, that the *truffle* is equally well suited to our soils and climate, and it is a matter of common notoriety among the intelligent classes of the community, that in Nova Scotia the common mushroom is exceedingly abundant and of very superior quality. More than thirty edible species of Fungi are known in Britain, and probably we have nearly as many here. But for one edible species, there are ten that are poisonous, and as we have in Halifax no "ispettere Dei funghi," as at Rome, every one must be his own botanist. In the Roman market regulations it is provided that: "the stale funguses of the preceding day, as well as those that are mouldy, bruised, filled with maggots, or dangerous, together with any specimens of the common mushroom detected in the baskets, shall be thrown into the Tiber." It is very singular that in Italy the common mushroom is poisonous, in Britain it is the one chiefly used; it is by far the most abundant species throughout Nova Scotia, and is especially fine in Cape Breton Island, and delicious, and perfectly safe, as an article of food. During the months of August and September it abounds in our pastures, and no lamb chop in the hands of the best French cook ever tastes half so delicious.

The common field mushroom is to be sought for in rich old pastures, and the connoisseur in champignons soon finds out their favorite haunts. The flat lands at Bedford recently converted into a rifle range have hitherto been prolific in mushrooms. Everybody knows a strawberry from a raspberry, yet not one in fifty knows an edible mushroom from a poisonous toadstool. The one is as easily known as the other, the peculiar pink gills of the white bonneted mushroom being very characteristic. The form of the *morchella*, with its hexagonal cells, forming a bee-hive-like head, is still more peculiar.

In Italy, Fungi form an important item of the people's food; they are likewise sent in little baskets as presents to patrons, fees to medical men, and bribes to lawyers. When will the Fungi of the Nova Scotian woods be economised in these various ways? Not that we wish to suggest a new and easy way of paying honest debts. But it would be gratifying to see our fungi rated at their true value.

Let us give a practical direction to our remarks. How can we better do so than by quoting a page from Alexis Soyer:—

"I here send you, Eloise, a most sumptuous relish. There is one dish which the Devonshire cottager can procure and enjoy better than even the most wealthy person. It is the mushroom. After having plucked them, perhaps on the road home for his breakfast, broiled them over a nice bright fire, seasoned with a little pepper and salt, and a small bit of butter placed inside of them; the flavor is then pure and the aroma beautiful. But by accident I discovered a new and excellent way to cook them. Being in Devonshire, at the end of September, and walking across

the fields before breakfast to a small farm house, I found three very fine mushrooms, which I thought would be a treat, but on arriving at the house I found it had no oven, a bad gridiron, and a smoky coal fire. Necessity, they say, is the mother of Invention, I immediately applied to our grand and universal mamma, how I should dress my precious mushrooms, when a gentle whisper came to my ear, and the following was the result.

I first cut two good slices of bread, half an inch thick, large enough to cover the bottom of a plate, toasted them, and spread some Devonshire cream over the toast. I removed all the earthy part from the mushrooms, and laid them gently on the toast, head downwards, slightly sprinkled them with salt and pepper, and placed in each a little of the clotted cream; I then put a tumbler over each and placed them on a stand before the fire, and kept turning them so as to prevent the glass breaking, and in ten to fifteen minutes the glass was filled with vapour, which is the essence of the mushroom; when it is taken up, do not remove the glass for a few minutes, by which time the vapour will have become condensed and gone into the bread, but when it is, the aroma is so powerful as to pervade the whole apartment.

The sight, when the glass is removed, is most inviting, its whiteness rivals the everlasting snows of Mont Blanc, and the taste is worthy of Lucullus. Vitellius would never have dined without it; Apicius would never have gone to Greece to seek for crawfish; and had he only half the fortune left when he committed suicide, he would have preferred to have left proud Rome and retire to some villa or cottage to enjoy such an enticing dish.

Therefore, modern governments, never fancy that you have tasted mushrooms until you have tried this simple and new discovery. Remember the month—the end of September or the beginning of October.

As Devonshire cream is not to be obtained everywhere, use butter, or boil some milk till reduced to cream, with a little salt, pepper, and one clove; when warm put in an ounce of butter, mixed with a little flour, stir round, put the mushroom on the toast with this sauce, cover with a basin, and place in the oven for half an hour. In this way all kinds of mushrooms will be excellent. They may be put into baking pans, cover with a tumbler as above, and bake in oven."

GENERAL STATISTICS OF FARM CROPS IN THE UNITED STATES IN 1865.

From the Report of the Agricultural Department, Washington.

Corn.—Our national crop; and never before so magnificent! The column of figures that records its greatness glows with a beauty that can be properly appreciated only by a farmer and a statistician. Every crib full to its utmost capacity, and every farmer seeking for stock to consume it. Ah! it would have been well if he had heeded our earnest appeals during the last two years to increase every kind of farm stock. How much does this nation now lose for want of an abundant hog crop to supply the demands for provisions that, at reasonable prices, would have come from Europe, now suffering from

have come from Europe, now suffering from the cattle plague!

But look at that crop. An increase over last year's of 173,846,430 bushels—nearly 33 per cent. Indiana and Illinois, under a favorable season have shown the character of their lands and of their industry. More than a third of this great crop has been raised by those States: Illinois makes a gain of 38,739,719 bushels, and Indiana, which has suffered so much from unfavorable seasons the past two years, now gains 41,784,953 bushels.—The gain of these two States is 80,524,670 bushels an amount equal to the entire corn production of Maine, New Hampshire, Vermont, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania. The Spirit of Hiawatha must certainly have its home in those two States.

Tobacco.—Many circumstances referred to heretofore, but more particularly the apprehension of an internal revenue tax on the leaf, have occasioned a decrease in the planting of this crop. The first part of the growing season was most unfavorable; but the late rains were so beneficial that the product is much beyond what it was supposed could be possible. The decrease of the present crop, compared with last year, is 12,151,276 pounds, and compared with the crop of 1863 it is 81,950,967 pounds. Missouri is the only State that has made a gain.

Buckwheat.—The amount sown of this crop was slightly in advance of last year. In New York it was 10 2-3 tenths; Pennsylvania, 10 1-9 Ohio, 9 3-5; Michigan, 11 3-11; and Indiana, 10 2-3. In the Western States the crop has increased; but is reduced in the eastern, and principally in New York and Pennsylvania. The whole crop of 1863 is 369,521 bushels below that of last year.

Potatoes.—The planting this year was greater in nearly every State, particularly the western. But the drought was unfavorable to it in the eastern States; and hence the entire gain is not as great as it otherwise would have been. But it is greater than expected; for the warm, moist weather caused rot in many places. The increase this year is 4,775,207 bushels over the crop of 1864, but it is 12,202,549 bushels less than the crop of 1863. The increase in Michigan is very large.

The above crops are those for which we have a basis upon which to estimate their amount in bushels or pounds; but the following are not thus estimated, and their amount is shown only in tenths. The figure 10 represents the crops of 1864, and 11 or 13½ mean one-tenth or three and a half-tenths greater than the crop of last year. So 9 means one-tenth less than the same crop.

Sorghum.—Referring to table A it will be seen that the increase of this crop is most gratifying. Minnesota is the only state that shows a slight decrease—a half of one-tenth. Some of its counties have made a large increase, but others have fallen considerably below last year's product; but in nearly all the States there has been a large increase, ranging from the third of a tenth to five-tenths. In another place we have noticed the quantity of the molasses, the increase in the sale of mills, and the progressing hope that the sugar will ultimately be made from the sorghum.

Cotton.—The season has been favorable, but it is not grown to any extent in the northern or western States. The long season

has added much to the opening of the pods; but with the exception of Kentucky and south Illinois and Missouri, this crop cannot be of profitable cultivation.

Peas and Beans.—These crops are favorable, but do not show any material increase.

Flaxseed and Lint.—In many localities the season was unfavorable; but while both are nearly equal to the product of last year, it is obvious that the growth of flax has not taken hold as was at one time expected it would.—The fact that flax-cotton has not as yet been a practical success leads farmers to give their chief attention to wool production as a means of supplying the want of cotton. With the return of cotton productions in the southern States there is more fear that this crop will be decreasing than hope of its increase.

Weather.—The month of October was highly favorable for the gathering of the crops.—saving of corn fodder, &c. The weeks of "favorable" weather have been almost equal to all others, and the "wet," "dry," and "frost" have had alternated with the "favorable" very advantageously.

A General summary.—In closing our "account current" with the crops of 1865 it is proper that we present them altogether, especially in view of the approaching thanksgiving. And truly may we rejoice and offer up thanks; for never before has the farmer's labor been so abundantly rewarded. Peace and plenty have crowned the year 1865.—May the pestilence that so fearfully destroy elsewhere be kept from this country. Henceforth the industrial masses will see that they are never again arrayed against each other in fraternal strife by those who would lead them. The labor shall save the country from famine; their political action will guard it from future civil strife; let those upon whom devolves the duty of shielding it from pestilence be equally as faithful to the trusts committed to their charge.

General summary of the crops of 1865 for the northern and western States, and not embracing the Southern.

Products.	1865.	1864.	1863.
Wheat . . . bushels.	148,522,829	160,695,823	175,405,036
Rye . . . bushels.	19,543,909	19,872,975	20,782,782
Barley . . . bushels.	11,391,286	10,632,178	11,368,155
Oats . . . bushels.	225,252,295	176,690,064	173,800,373
Corn . . . bushels.	704,427,853	530,581,403	530,967,359
Buckwheat . . bushels.	18,331,019	18,700,540	15,806,455
Potatoes . . . bushels.	101,032,095	96,256,888	100,158,670
Total bushels	1,298,501,282	1,013,420,871	953,248,632
Hay tons.	93,538,740	18,116,751	19,736,847
Tobacco pounds.	185,316,953	197,468,229	267,276,920

Quality of the crops of 1865.—In the August report the deficiency in the wheat crop was estimated at 26,241,693 bushels. This estimate embraces both the quantity and quality, for its object was to show the difference between the crops of 1864 and 1865. The

quantity alone makes a deficit of 12,172,994 bushels, and it is a low estimate to place the deficiency in quality between fourteen and fifteen million of bushels; for, in the heaviest producing States, the crop of this year is very inferior as to quality. Several commercial papers have made items of these two accounts, and, overlooking the differences in the estimates, have represented them as contradictory. As the crop of 1865, in bushels, will become a basis of next year's estimates, it was necessary to separate, in the final returns, the quantity from the quality.

The quality of the corn is as superior as in the amount over last year's product. It is certainly a fact that the average quality of the cereal crop of this year is much in advance of the quality of the crop of 1864. What more could be desired? In the amount, the cereal and potato crops of 1865 exceed those of 1864 by 215,071,411 bushels.

ON PLANTING TREES AND SHRUBS.

[The subject of planting trees and shrubs is one regarding which some difference of opinion prevails. The following paper, by the late Mr. Irons, may serve to elicit the views of some of our correspondents who can speak from experience.—Ed.]

As the season for planting trees and shrubs is approaching, there may be no harm in recommending to others what we have adopted as an improvement on our former practice in this department of rural embellishment.

Recent experiments and observation have influenced our opinion in favour of planting deciduous trees and shrubs in autumn, in preference to our former system of spring planting. The autumn-planted trees, having the earth well settled about their roots, have the advantage of the first excitement of the circulating sap before the frost will permit of planting with facility; consequently they are partly established and enabled to resist the effects of early summer drought, and, if the planting is judiciously performed, the plants are little retarded by removal,—they make young wood vigorously, and often blossom and sustain good crops of fruit. Spring planting can seldom secure such favourable results. It is generally late in the season before the frost is sufficiently out of the ground to permit the roots to be abstracted without mutilation, and the dry weather which often succeeds our spring months proves very detrimental to the emission of young roots, unless watering or mulching is resorted to.—These observations are self-evident, and nothing but blind adherence to old practice can prevent us from adopting autumn planting.

In planting evergreens, we have uniformly experienced most success from early summer planting. We have found that, in removing our native evergreens about the middle of June, the young roots (if carefully traced out,) will bring with them a sufficient portion of the fine earth to sustain them in their new situation till

the young fibres get hold of the new ground, which, at this period of the year, they do with no sensible detriment to the growth of the plant. In setting out trees, more especially evergreens, the common practice of planting deep is very reprehensible. In their primitive abodes, we find the roots which sustain the plants feeding near the surface; and, although many trees have large tap roots descending vertically into the sub-soil, we must regard these more as a provision of nature for keeping the plant steady, while it receives its pabulum of nourishment through the medium of the small fibres of the horizontal roots. We can seldom go wrong if we copy nature correctly. And in planting evergreens, with a view to success, we prefer planting no deeper than we find them in the forests. To secure them against the effects of storms, the office of the tap root is best supplied by a quantity of stones placed around the tree and over the horizontal roots, the stones can be removed when the plants are sufficiently established. We should also remember that stones perform very important offices in the economy of vegetable life. We often see gigantic trees growing upon the surface of rocks, which we term barren, although they are sustaining some of the most vigorous specimens of the vegetable kingdom. It has been found that the roots of trees have the power of decomposing the constituents of rocks which resist the action of the strongest acids, which shows that by the action of their vital functions, plants can gather part of their inorganic constituents from substances which we would suppose utterly inert, and ignorantly term barren.—Independent of the chemical virtues contained in rocks, the simplest student of nature knows that they exercise very beneficial mechanical effects on vegetation; the heat which they acquire during the day, while protecting the tender roots of plants from the direct influence of a scorching sun, is freely given out at night to preserve a uniform temperature, and protect the vital organs of the roots from the chilling influence of the night air.—Though we mention these facts in connection with trees, they apply equally to all plants, and we believe that as "nothing was created in vain," if stones were equally distributed over the earth's surface there would be superabundance in supplying the wants of man.

PHAROAH'S SERPENTS' EGGS.—The white powder forming the egg is sulphocyanide of mercury, Hg Cy S 2. Mr. Carpenter by analysis has found one to yield 64.9 per cent. of mercury; one seventh of the mercury was volatilized by burning. Specific gravity of the serpent

Agricultural Societies.

ABSTRACT OF REPORTS, &c. OF AGRICULTURAL SOCIETIES.

DIGBY COUNTY.

CLARE AGRICULTURAL SOCIETY.

The Clare Agricultural Society met agreeably to the terms of the act, on Tuesday the 5th of December, A. F. Comeau in the chair, and Ambrose Bourneot, Secretary. The annual report of the Board of Management was read and adopted. The office-bearers for the ensuing year are as follows:—*President*, A. F. Comeau; *Vice-President*, Ambrose Comeau; *Secretary*, A. M. Comeau; *Treasurer*, A. F. Comeau. *Directors*: Ambrose Bourneot, Peter Belvoux, Ustache Comeau, Augustin J. Comeau, and Peter F. Comeau.

The Treasurer's accounts were audited and reported correct, which are as follows:

Cash on hand from last year	-	\$64	40
Grant from government for 1864	114	00	
Subscriptions for 1865	-	64	00
Received for goods sold	-	162	46
Grant from Government for 1865	128	00	
		\$532	86

Expended.

For farming implements	-	\$121	44
Grass Seed	-	74	25
Freight, \$2.25, duty \$12.42	-	14	67
Secy's salary, \$4, postages 50cts	-	4	50
Cash on hand	-	318	00
		\$532	86

At the December meeting it was discussed the manner in which to expend the balance in hand, and it was unanimously agreed that it should be expended rather in the improvement of stock, seed, and farming implements, than in holding an Exhibition for the current year.

The crops in this district were very poor with the exception of hay, which was about twenty-five per cent. better than last year. Potatoes were exceedingly poor, and very inferior in quality. Grain in general was good in straw, but light in the head. Roots about an average crop. Fruit good.

A. F. COMEAU, *President*.
A. M. COMEAU, *Secretary*.

HANTS COUNTY.

WINDSOR AGRICULTURAL SOCIETY.

Windsor, 15th December, 1865.

I herewith enclose the Treasurer's account, showing the amount received and sums appropriated and paid by the Windsor Agricultural Society in the present year. Also, a list of prizes awarded at the cattle show in October last, with the

names of successful competitors. I am instructed by the President, officers, and directors of the society, to state that improved appearance of cultivated fields, systematic draining, and persevering application to the accumulation, economizing and application of manure from all sources within their reach, and increased care and attention to the selection of such animals of live stock for breeding purposes, as will be most likely to produce stock best suited to the wants of the country, climate and markets taken into consideration, afford evidence that the farmers of this district are exerting themselves to improve their circumstances and make the best use of their means and time. The neat cattle of the district are believed to be in no way inferior to those of any other part of the province of the same extent, and the present system of management gives promise of improvement.

Sheep are generally good; some flocks are thought to be nearly up to the standard, these would be most profitable for the wants and markets of the district; careful management and judicious introduction of new blood are most essential in keeping up this description of stock and making them profitable.

Pigs are good, and comprise some of most approved breeds, and the locality being considered more adapted to growing neat cattle and sheep, and more attention being given to the cultivation of grass than grain, very little pork is made for market.

The crop of the last season was a good average one; good upland fields and the best qualities of dyked marsh were better than usual, while there was a partial failure on the inferior quality of dyked marsh, owing to the excess of moisture in the spring, and in some places a considerable destruction by grasshopper.

The very general failure of wheat in 1864 prevented the sowing of anything like the usual quantity this year. Where sown the crop was fair and very slightly injured by the fly. Some very fine winter wheat was grown in the neighborhood, which has been an inducement to several farmers to give it a trial and a considerable quantity has been put in the ground this autumn.

Oats are but a middling crop and did not come up to what they promised; in July the greater part of the late crop was rusted in straw and gave a light yield on the threshing floor; oats sown before the 25th of May were well filled and a heavy crop.

The crop of barley was probably the best ever grown in the district. More than the usual quantity was sown, and the yield almost invariably good, while the grain was superior in quality.

Buckwheat and Indian corn not extensively grown, but where either was put in the returns were good.

The potato crop was below an average in quantity, partly from less ground being under crop, and the number of bushels per acre smaller than usual, but of good size and superior quality, generally free from disease and keeping well in the cellars.

Turnips, mangel-wurtzel, carrots, and parsnips came up unusually well, and gave promise of an extraordinary crop in the early part of the season, but were generally a failure from want of moisture in the latter part of the season.

The serious deficiency in the growth of after grass on mowing lands has been a great drawback to farmers independent of the heavy loss in dairy produce, and the extra hay which had to be fed to teams and cows before the usual season for stable feeding; the reduced condition of live stock in general, coming into the barns for winter, will be a serious item in the expense of putting through the winter, more especially when considered in connection with the failure of fruit crops.

At the annual December meeting of the Windsor Agricultural Society the following officers were elected for the year 1866, viz.:—*Pres.*, John Brown; *Vice-Pres.*, Sam. Mumford; *Sec'y.*, Sam. Palmer; *Treas.*, James Dill; *Directors.*, Jas. M. Geldert, Alf. C. Thomas, Peter Pellew, David Scott.

Jan. 3, 1865. To amt. paid Jas. Dill for keeping bull - - -	\$13 50
Oct. 11. To amt. for prizes, and expense, holding cattle show and fair - - -	113 80
To amt. paid for repr'ng threshing machine - - -	15 62½
Paid J. L. Barnaby - - -	4 00
	\$146 92½

Dec. 4, 1864. By balance in hands of <i>Treas.</i> - - -	\$133 05
By amt. received from members subscriptions - - -	98 00
Received for use of threshing machine - - -	8 30
Entrance fee at cattle show - - -	2 90
	\$242 25
	146 92½

Balance in hand of *Treas.* - \$95 32½
JAMES DILL, Treas.
SAM. PALMER, Secy.

[The Treasurer's account was made up to the day of the annual general meeting, at which date the amount appropriated to the Society by the Board of Agriculture had not been received by him for 1865.]

APPLE GAS.—The Abbe Moigno says the marc from the cider presses is now used to produce, by dry distillation, acetic acid, tar, and a large amount of gas of fair illuminating power.

RICHMOND COUNTY.

THE RED ISLANDS AGRICULTURAL SOCIETY.

Hay Cove, Red Islands.

February 12, 1866.

A society has been formed in the county of Richmond, called the "Red Islands Agricultural Society," consisting of forty members, and \$10 subscriptions. At a meeting held on the 5th ult., the following officers were chosen:—*Pres.*, Jas. Johnston; *Vice-Pres.*, Angus McLeod; *Sec'y.*, John McDonald; *Treas.*, Alex. Campbell; *Directors.*, Thomas Cash, Mich. McDonald, Anthony B. Mullin, Donald Johnston, John Johnston, Michael McKenzie.

Having been chosen Secretary of the above named society I deem it my duty to acquaint you of its formation. The subscriptions are not all paid in as yet; when so I will let you know.

JOHN McDONALD, *Sec'y.*

Vegetable & Flower Garden.

THE CABBAGE AND ITS VARIETIES.

It would seem that a somewhat remote antiquity is claimed for the Cabbage, for although the period of its first cultivation appears to be involved in obscurity, it can with certainty be traced back several centuries. It was extensively cultivated and much esteemed by the Romans while they inhabited Britain, and it is considered to be very probable, that like other productions, particularly fruit, some of the more improved varieties of the Cabbage (*Brassica oleracea capitata*, our common White Cabbage) were brought by these people and cultivated near their camps, from which they may have been diffused over the country.

The *Brassica oleracea*, or Wild Cabbage, grows naturally on the cliffs of Dover; in many places on the coast of Dorsetshire, Cornwall, and Yorkshire; and I believe on some of the sea coasts of the Highlands of Scotland. "It may be seen a wild plant with variously indented, much waved, and loose-spreading leaves of a sea-green color and large yellow flowers. In spring the inhabitants collect the leaves of this plant, and after boiling them in two waters to remove the saltiness, use them as a vegetable along with meat." From this have originated all the varieties of Borecoles, Cabbage, Savoys, Brussels Sprouts, Cauliflowers, Broccoli, and Kohl Rabi now in cultivation. Oliver Goldsmith, in his "Animated Nature," says that animals which have been longest under the care and protection of man, are those which have sported into the greatest number of varieties; and certainly few, if any, of our cultivated

plants have sported so extensively or differed from the original type, both in appearance and qualities, so much as the many varieties of *Brassica oleracea*.

I propose in this and a succeeding paper or two to notice some of the best varieties in each of the sections into which the *Brassica* tribe has been divided. Commencing, therefore, with the Cabbage, the first on the list shall be old Sugarloaf, now not so generally grown as it was 20 years ago. It has, however yet many admirers. Its peculiar growth makes it a very distinct variety; it is generally classed among the earliest, and is much esteemed when cooked.

Early Combe, Barnes' Early Dwarf, and Green's Early are now almost out of cultivation; the second is most frequently met with. They were dwarf and early varieties, and small in size.

Cotterill's, or Early Champion, is a capital dwarf early cabbage, forming good close heads. Sealey's Early is also an excellent dwarf early Cabbage, very similar to the foregoing.

Improved Matchless, raised by Mr. Harman, of Durham, near Uxbridge, is a very close and dwarf early variety of fine quality, but scarcely so dwarf as Sealey's and Champion. This is a great improvement on Atkins' Matchless.

Early York is later than the preceding dwarf, and very close headed; the leaves rib in a very peculiar manner, and are of a dark color.

Improved Nonpareil is a really first class early dwarf Cabbage, when a good stock of it can be obtained. It is very early, dwarf, and close-headed, and keeps well. Very similar to this is a Cabbage grown in Herefordshire, Cheshire, and one or two of the neighboring counties, called Downton Castle Early Dwarf. Many other excellent stocks of early dwarf Cabbages may be met with about the country, like that just mentioned, each having its own local reputation, and generally in the hands of some particular seedsman. Hence, nearly every seed dealer has his own early dwarf Cabbage, and all are invariably of excellent, though not very diversified character.

Pontefract Cabbage is a very fine early dwarf variety, grown largely by the market gardeners in that district. It has however found its way into the hands of one or two of the wholesale seed houses in London, and has no doubt been already catalogued by them.

Beck's Early Premier is a large-sized early Cabbage, and one greatly esteemed in the Midland districts, where large Cabbages are much sought for. It is comparatively new, and was sent out by Messrs. Beck, Henderson, and Child, of London.

Early Battersea, or Fulham, proved to be dwarfer but larger in size, and earlier than the old Nonpareil; it is a very fine

variety, which appears to be the same as Sheppard's Early Marrow. London Market is not unlike the foregoing in character, but is wider and looser in growth. Enfield Market, or Mitchell's Prince Albert, also greatly resembles the Early Battersea, but is generally considered to be larger and a little later. It has a world-wide reputation, and it is one of the staple varieties of the present day. Wheeler's Imperial is a well-known early Cabbage, but greatly resembles some of the foregoing. It is undoubtedly a first class strain.

Shilling's Queen is also a very early dwarf Cabbage, tender, juicy, and excellent in flavor; in the opinion of many gardeners, especially those of the old school, it has not yet been surpassed by any other sort.

East Ham or Vanack is a good dwarf sound early variety, short in the stem, and large in the head; in some districts it will grow to a very large size. It is highly recommended for a general crop.

Large York, Oxheart, or Heart-shaped, is a tall and some-what loose growing late Cabbage. Large American, or Imperial, is a very late tall variety, but strongly recommended for cottagers' gardens, as it is one that can be planted closely together.

Blenheim is a large second early, the foliage of which is of a light green colour but as it sometimes betrays a tendency to succumb to frost, it should not be planted in exposed situations. Early Plaw, or Emperor, is very much in the way of Blenheim, but the leaves cup more; it is a good second early variety.

Late Battersea and Drumhead or Scotch are very much alike, the former growing a little dwarfer than the last. They are generally employed for agricultural purposes, in common with the Thousand-headed, and the green and purple Kohl Rabi or Turnip-rooted Cabbage.

The Coleworts, known as the Green and Rosette, are used for bunching when young in early spring. They are very hardy, and soon form small heads.

Couve Tronchuda or Portugal Cabbage is a tall-growing variety, producing a large loose head, which, when cooked, is as tender and delicious as Asparagus. In the opinion of some it is the Asparagus Kale, and some London seedsmen send the Couve Tronchuda out for it. In the report of trials at the Horticultural Society's garden at Chiswick, as far back as 1852, appears the following passage:—"It may, perhaps, be useful to know that the 'Asparagus Kale' of some nurserymen's seed lists has proved here to be the Couve Tronchuda, or Portugal Cabbage, the white mid-ribs of whose leaves are prepared and eaten something after the manner of Seakale."

Cabbage has been well termed "a voracious vegetable." Blood and offal from

the shambles of the butcher, night-soil and the putrefying contents of the cess-pool, are not found to be too gross for its gormandizing propensities. This treatment may apply more properly to its cultivation in fields than in gardens, but every gardener finds it to be necessary to richly manure the ground on which he grows his Cabbages. All who wish to have tender and juicy Cabbages ought to trench or dig deeply, bestowing on the ground at the same time a liberal supply of manure with abundance of liquid manure and water during the prevalence of hot dry weather. It is of great advantage to Cabbages to be placed in shallow trenches, for the double purpose of shelter and convenience of supplying liquids; when the plants are earthed up the ground is level, and less liable to be injuriously affected in hot weather. The method of growing Cauliflowers in Cheshire, in deep trenches between raised beds of Potatoes, is a confirmation of this principle, the large heads thus obtained being much esteemed in the Liverpool and Manchester market.

It appears that the ancients placed great faith in the medicinal qualities of Cabbages. According to Daubeny's "Roman Husbandry," Cato valued them as a medicine both raw and cooked; and although he does not appear to have been aware of the mode of converting them into sour-kraut, of which Germans are so fond, yet he recommends them to be eaten raw with vinegar before a feast; for says he, if you wish to eat and drink freely, it removes all the evil consequences of excess. Such appears to have been the general opinion of the ancients. Thus Galen tells us that there is a natural antipathy between Vines and Cabbages, so much so that the one will die in places where the other has grown. Boiled in water, Cabbage acts, Cato says, as a purgative, and macerated in the same, alone if there be fever, or with wine if there be none, it is a cure for the colic. Similar statements may be found amongst the writings of the old herbalists, although we moderns do not attach much importance to the Cabbage in the way of medicine.—*Quo in Gardener's Chronicle.*

PROFESSOR OWEN'S MODE FOR MAKING FINE ROSES GROW IN DEFIANCE OF THORNS, GRASS, AND WEEDS OF A WILDERNESS.—"Large sewer tubes, rejected on account of flaws in the enamel-lining, were sunk vertically in the pure gravelly soil to within an inch or so of the surface, and filled in with loam and manure, and a rose planted in the centre of each. The soil in the tube was kept free from weeds, and the running Grass and other weeds outside were prevented making their way into such good quarters. To give the Roses extra vigour some manure water was given to them occasionally in the summer. The effect of Roses growing in the highest state of luxuriance in a wilderness

was most charming. The inside diameter of these tubes is 16 inches, their length 30 inches, so that they go below the roots of weeds, which would otherwise soon devour the rich compost in which the Roses delight.—*Gardeners' Chronicle.*

ANGELICA SATIVA, is cultivated for the large ribs of its leaves, and is cut in May or June to make a candied preserve, and it is also a medicinal plant in stalk, leaf, root, and seed. The seed must be sown as soon as it is ripe, for in spring it does not rise well. Prick out the plants when a few inches high at two feet asunder. It is a biennial, but if seed be not wanted, cut the stems down in May, and the plant will put out side shoots, and by adopting this practice every year, it may be continued long in the same place. A moist situation suits it best, on which account some persons plant it by ditches or ponds.—*Gardeners' Florist and Agriculturist.*

TOM THUMB LETTUCE.—This Lettuce first came into my hands some ten years back through a friend at that time residing in the Azores, but my stock being exhausted, and thinking the Laitue Gotte a *graine noir* of Vilmorin's trade list six years back might be the same, I sent for some seed and found it identical. I have not the "Bon Jardinier" with me to refer to, but I am much mistaken if you will not find this Lettuce alluded to in the volume for 1850 or '51. It is an excellent variety, especially for stewing, and cooks who have once tried it will not use any other kind; that at least is my experience respecting it.—*Gardeners' Chronicle.*

GLADIOLUS.—To grow this very handsome tribe of plants to perfection the bulbs should be planted in a light sandy soil; if very poor, a little leaf-mould may be added, but no dung. Where the above cannot be had, and the soil is a stiff loam, one half should be burnt and thoroughly broken to pieces, then mixed with the other; this will grow them well. The bulbs should not be planted earlier than the middle of April, nor later than the last week in May; and when ripe, which will be from the beginning to the end of October, they should be taken up and dried off rather quickly, else, like Onions, they are apt to turn mouldy at the roots; after which place them in thoroughly dried sand in a cool dry situation, away from frost, until planting time.—*Standish in Chronicle.*

"A STOLEN CROP."—The sugar loaf cabbage is a compact-growing early kind, and may be grown in intermediate rows with tomatoes or late (winter) cabbages. Early potatoes may be conveniently grown in the same way, in alternate drills with late maturing crops. This is what is called a "stolen crop." The practice is not uncommon in town gardens in Britain, where ground is valuable, and every inch occupied. With us the advantage is the small amount of labor required in culture.

DOG SHOW AT BIRMINGHAM.—The show of dogs is larger, better, and louder than ever, numbering about 1000 specimens, all activity, barking and howling.

Arts and Manufactures.

IMPROVEMENTS IN MANUFACTURE AND USE OF COAL GAS.

The production of coal gas, which was originally a simple mechanical operation for the "distillation of coal," is becoming more and more a precise process requiring chemical knowledge. It is well known that the richer coal gas is in hydro-carbons the more brilliant will be the flame produced by its combustion. An English clergyman has invented an apparatus to increase the illuminating power of inferior coal gas, which has been applied with success in the city of London. The means employed is to introduce carburetted hydrogens, rich in carbon, into the flame, and the apparatus consists of a gas-tight metallic vessel in which they are held, and which has an inlet connected with a gas supply, and an outlet connected with the burner. The gas in its course passes over the heated hydro-carbons which are carried along with it in vapour and greatly enrich the flame. By adding 31½ grains of naphthalin vapour to each foot of gas, the light-giving value is raised to between seven and eight candles per foot. A gallon of oil, sold retail for 50 cents, is capable of producing, with 1000 feet of London gas, more light than is given by 4000 feet of gas, or \$1.10 and 50 cts. against \$1.50 gas alone. These are London prices. In Halifax the difference in favor of the new process would, no doubt, be more considerable.

Within the last few years gas has come into use extensively as a source of heat as well as light. Recent improvements have enabled it to be employed with great success and economy in glass works, potteries, iron forges, and other manufactories which used to be a nuisance on account of the black smoke they produced. In this way waste coal may be used up in a most economical manner.

ALLOYS OF MANGANESE.—In Germany M. E. Prieger has commercially prepared alloys of manganese with iron or copper possessing valuable properties, and the applications of which are constantly improving in number and utility. To prepare the alloys of iron and manganese (ferro manganese) he made a mixture of pulverised oxide of manganese, charcoal dust (corresponding in quantity to the oxygen of the oxide) and of metallic iron sufficiently broken up, such as minute grains of cast-iron filings, or turnings of iron or steel, &c.; the mixture was put into a graphite crucible, which would hold from 30 lbs. to 50 lbs., and covered with a coating of charcoal dust, sea salt, &c., then heated for a few hours at a white heat. After cooling there was at the bottom of the crucible a metallic

homogeneous mass, containing but very insignificant quantities of foreign bodies. Of these alloys the most important are those containing 2 equivalents of manganese to 1 of iron, and 4 equivalents of manganese to 1 of iron, and corresponding to 66.3 per cent., and 79.7 per cent. of manganese. Both are harder than tempered steel; they are capable of receiving a very high polish, they melt at red heat, and can be easily poured; they do not oxidise in the air, and even in water only superficially; their white colour is of a shade between steel and silver. Alloys of copper and manganese are similarly obtained; they resemble bronze, but are much harder and more durable. Alloys of tin are very fusible, durable, and easy to work; in colour and brilliancy they may be compared to silver. The iron and manganese alloy furnishes a very simple means of adding to iron or steel a given amount of manganese; by the addition of from 1-10 to 5 per cent. very satisfactory results are obtained.—*Chemical News.*

Miscellaneous.

DOMESTIC RECEIPTS.

(Selected from various sources.)

NEW ENGLAND CHOWDER.—Have a good haddock, cod, or any other solid fish; cut it in pieces three inches square; put a pound of fat salt pork into the pot, set it on the hot coals and fry out the oil; take out the pork and put in a layer of fish, over that a layer of onions, and so on alternately until your fish is consumed; mix some flour with as much water as will fill the pot; season with black pepper and salt, to your taste, and boil it for half an hour. Have ready some crackers soaked in water till they are a little softened; throw them into your chowder five minutes before you take it up. Serve in a tureen.

TOMATO SAUCE.—Mrs. G. Dowdeswell, begs to mention a very simple mode adopted by herself for some years past, by which she can have tomato sauce prepared by the cook as required, fresh at any time. The tomatoes are gathered perfectly ripe, free from cracks or bruises, and are gently wiped with a soft cloth, and placed in a wide-mouthed jar. Some vinegar, having been boiled and allowed to stand until cold, is then poured over them, sufficient being used to entirely cover them. The jar is then covered with wetted bladder, and the tomatoes keep perfectly fresh and good until those of the following season come in. The peasantry in the south of France keep the tomatoes in this simple manner. Their mode of making sauce Mrs. Dowdeswell, unfortunately, has not perfectly; but the toma-

atoes in the manner described, can be made as required into sauce by any cook.

TURNIPS.—Peel them, and boil in plenty of water, in which has been put some salt; boil till tender, and serve either whole or mashed.

CARROT.—This root varies quite as much as the potato; some are quickly done, even in twenty minutes, and some require two hours. They should be scraped, and boiled in water and salt; serve out in quarters lengthways.

EGGS AND SAUSAGES.—Boil four sausages for five minutes; when half cold cut them in half lengthways, put a little butter or fat in the frying pan, and put the sausages in and fry gently; break four eggs into the pan, cook gently and serve.

SWEET CIDER.—A. M. Ward, Hartford Co., Conn., writes; "After years of 'fussing' with cider to 'make it good' I have this season found the short road to perfection. Took cider direct from the press, heated nearly to a scald over the fire, returned it to a barrel, and have made daily use of it with great satisfaction."—*American Agriculturist.*

PRICES OF CATTLE KEPT UP.—A lot of frozen mutton has been sent to Liverpool as an experiment; also a sample of fresh beef. Little is doing in the Corn Exchange. Hucksters are on a strike and have shut their shops, owing to the law preventing their purchasing country produce before eleven o'clock.—*Canada Pap.*

SHEEP STOCK BOOK.—The editor of the *Agricultural Gazette*, after referring to the great benefits derived from the stud book and herd books in England, deploras the want of a sheep stock book. Here is a worthy object for the contributions of the wealthy, and for the surplus funds of agricultural societies.

TO CORRESPONDENTS.

Literary Communications are to be addressed to Dr. Lawson, Secretary of the Board of Agriculture, Dalhousie College, Halifax. All lists of subscribers and remittances of subscriptions are to be sent to Messrs. A. & W. McKinlay, Publishers, Granville Street, Halifax.

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